Savitribai Phule Pune University

Circular No.159 of 2023

Dates of Commencement and Conclusion of the Academic Year 2023-24 for Affiliated Colleges and Institutes.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of Courses, under the faculty of **Science & Technology**, for the academic year 2023-24 shall be as under:

Term – I

Sr. No.	Course, Programme, Year	Commencement	Conclusion	Tentative Commencement Exam	Vacation	
					From	To
1	B.E. - I /B.Tech.- I	07/08/2023	16/12/2023	19/12/2023	18/12/2023	06/01/2024
2	M.E. I /M.Tech.- I	14/08/2023	09/12/2023	11/12/2023	11/12/2023	31/12/2023
3	M.Arch. - I	07/08/2023	30/11/2023	04/12/2023	01/12/2023	20/12/2023

Term – II

Sr. No.	Course, Programme, Year	Commencement	Conclusion	Tentative Commencement Exam	Vacation	
					From	To
1	B.E. - I /B.Tech.- I	08/01/2024	04/05/2024	06/05/2024	06/05/2024	16/06/2024
2	M.E. I /M.Tech.- I	01/01/2024	30/04/2024	02/05/2024	01/05/2024	09/06/2024
3	M.Arch. - I	26/12/2023	20/04/2024	25/04/2024	25/04/2024	02/06/2024

NOTE :

In case, the Head of the college requires to give additional holidays in exceptional circumstances, he/she may do so by compensating the same by keeping the college working on holidays.

Ref. No. PGS/3416
Date: 04/08/2023

Deputy Registrar
(P.G.Admission)

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Board of Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University

Circular No. 92 of 2023

Dates of Commencement and Conclusion of the Academic Year 2023-24 for Affiliated Colleges and Institutes.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of Courses, under the faculty of **Science & Technology**, for the academic year 2023-24 shall be as under:

Term – I

Sr. No.	Course, Programme, Year	Commencement	Conclusion	Tentative Commencement Exam	Vacation	
					From	To
1	Science	20/06/2023	31/10/2023	01/11/2023	01/11/2023	21/11/2023
2	B.E.: II	10/08/2023	04/12/2023	06/12/2023	07/12/2023	25/12/2023
3	B.E.: III IV	10/07/2023	04/11/2023	07/11/2023	11/11/2023	02/12/2023
4	M.E.: II	10/08/2023	04/12/2023	06/12/2023	07/12/2023	25/12/2023
5	B.Arch.: II	14/08/2023	04/12/2023	05/12/2023	05/12/2023	18/12/2023
6	B.Arch.: III IV V	12/07/2023	04/11/2023	28/11/2023	20/11/2023	10/12/2023
7	M.Arch.:II	04/09/2023	06/01/2024	08/01/2024	08/01/2024	22/01/2024
8	B. Pharm: II	04/09/2023	30/12/2023	05/01/2024	17/01/2024	06/02/2024
9	B.Pharm:III,IV	12/07/2023	04/11/2023	28/11/2023	20/11/2023	10/12/2023
10	M. Pharm: II	04/09/2023	30/12/2023	05/01/2024	17/01/2024	06/02/2024

Term – II

Sr. No.	Course, Programme, Year	Commencement	Conclusion	Tentative Commencement Exam	Vacation	
					From	To
1	Science	22/11/2023	30/04/2024	01/05/2024	02/05/2024	15/06/2024
2	B.E.: II	01/01/2024	30/04/2024	06/05/2024	04/05/2024	11/06/2024
3	B.E.: III IV	11/12/2023	30/04/2024	06/05/2024	04/05/2024	11/06/2024
4	M.E.: II	01/01/2024	30/04/2024	06/05/2024	04/05/2024	11/06/2024
5	B.Arch.: II	26/12/2023	27/04/2024	29/04/2024	06/05/2024	16/06/2024
6	B.Arch.: III IV V	26/12/2023	04/05/2024	13/05/2024	16/05/2024	23/06/2024
7	M.Arch.:II	23/01/2024	20/05/2024	23/05/2024	24/05/2024	30/06/2024
8	B. Pharm: II	15/01/2024	30/05/2024	05/06/2024	01/06/2024	15/07/2024
9	B.Pharm:III,IV	26/12/2023	04/05/2024	13/05/2024	16/05/2024	23/06/2024
10	M. Pharm: II	07/02/2024	05/06/2024	10/06/2024	06/06/2024	15/07/2024

NOTE :

1. The dates of commencement and conclusion of the all those courses whose admission is made under Common Entrance Test (CET) conducted by Government of Maharashtra / Savitribai Phule Pune University will be declared separately.
2. In case, the Head of the college requires to give additional holidays in exceptional circumstances, he/she may do so by compensating the same by keeping the college working on holidays.

Ref. No. PGS/2453
Date: 30/05/2023

Deputy Registrar
(P.G.Admission)

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Board of Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

सावित्रीबाई फुले पुणे विद्यापीठ
(पूर्वीचे पुणे विद्यापीठ)

परिपत्रक क्र. ६९ /२०२३

विषय: शैक्षणिक वर्ष २०२२–२३ च्या सत्र समाप्तीची मुदत वाढवून, सुट्टीचा कालावधी व शैक्षणिक वर्ष २०२३–२४ चे सत्र आरंभ बाबत...

मा. प्राचार्य, सर्व संलग्नीत महाविद्यालय/मा. संचालक, मान्यताप्राप्त संस्था यांना कळविण्यात येते की, शैक्षणिक वर्ष २०२२–२३ च्या वेळापत्रकातील काही किरकोळ बदल व द्वितीय सत्र समाप्तीच्या तारखा विचारात घेवून शैक्षणिक वर्ष २०२३–२४ चे सत्र आरंभाच्या तारखा खालीलप्रमाणे निश्चित करण्यात येत आहेत.

१. कला, वाणिज्य व विज्ञान या पारंपारिक/अव्यावसायिक अभ्यासक्रमांच्या सन २०२२–२३ या शैक्षणिक वर्षातील द्वितीय सत्राच्या समाप्तीची तारीख ही दि. ०४/०५/२०२३ अशी आहे. परंतु अपवादात्मक परिस्थितीमुळे द्वितीय सत्रातील अध्यापन विलंबाने सुरू झाल्याने परीक्षा देखील विलंबाने होत आहेत. या संदर्भात गठित करण्यात आलेल्या विविध समित्यांच्या शिफारशी विचारात घेवून शैक्षणिक वर्ष २०२२–२३ च्या द्वितीय सत्रातील समाप्तीची तारीख दि. ०४/०५/२०२३ ही वाढवून दि. १३/०५/२०२३ अशी निश्चित करण्यात येत आहे. तसेच दि. १४/०५/२०२३ ते दि. १९/०६/२०२३ हा सुट्टयांचा कालावधी म्हणून जाहिर करण्यात येत आहे.

२. शैक्षणिक वर्ष २०२३–२४ चे कला, वाणिज्य व विज्ञान या पारंपारिक/अव्यावसायिक अभ्यासक्रमांचे प्रथम वर्षाच्या प्रथम सत्राचा आरंभ १२वीच्या निकालानंतर म्हणजेच दि. २०/०६/२०२३ असा राहील.

३. अपारंपारिक/व्यावसायिक अभ्यासक्रमांचे शैक्षणिक वर्ष २०२२–२३ च्या द्वितीय सत्र मौखिक, प्रात्यक्षिक, लेखी इ. परीक्षा दि. ०६/०६/२०२३ पासून आयोजित करण्याबाबत परीक्षा विभागाचे परिपत्रक क्र. ८४, दि. ०६/०२/२०२३ अन्वये प्रसिद्ध करण्यात आले आहे. त्यामुळे या शाखांसाठी दि. २१/०५/२०२३ ते दि. ०५/०७/२०२३ हा उन्हाळी सुट्टयांचा कालावधी म्हणून जाहिर करण्यात येत आहे.

उपकुलसचिव
शैक्षणिक प्रवेश

गणेशखिंड, पुणे ४११ ००७
संदर्भ क्र. शै.प्रवेश/ २१३७
दिनांक : ०२/०५/२०२३

प्रत माहिती व योग्य त्या कार्यवाहीसाठी :–

१. मा. प्राचार्य, सर्व संलग्नीत महाविद्यालये, सावित्रीबाई फुले पुणे विद्यापीठ
२. मा. संचालक, सर्व मान्यताप्राप्त संस्था, सावित्रीबाई फुले पुणे विद्यापीठ

सर्व संबंधितांच्या निदर्शनास आणून द्यावे, ही विनंती.

Savitribai Phule Pune University
(formerly University of Pune)

Circular No. 07 of 2023
Important Notification

Revised Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2022-23 for Affiliated Colleges / Recognised Institutes.

In view of changes in the dates of commencement and conclusion of First Term and commencement of Second Term in the academic calendar for the academic year 2022-23, it is observed that some dates are not suitable. Therefore, considering the issue, the earlier circular issued by the University bearing no. 484 dated 29.12.2022 revised as per below:

Sr.No.	Name of the Courses, Faculties & Year	2022 - 2023			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	B.Engineering : I	04/11/2022	06/03/2023	01/04/2023	22/07/2023
	B.Engineering : II	17/08/2022	10/12/2022	06/02/2023	31/05/2023
	B.Engineering : III & IV	18/07/2022	30/11/2022	23/01/2023	20/05/2023
	B. Arch. : I	22/11/2022	25/03/2023	10/04/2023	29/07/2023
	M. Arch. : I	22/10/2022	25/02/2023	13/03/2023	01/07/2023

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 390
Date: 18/01/2023

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No.484of 2022

Dates of Commencement and Conclusion of terms for the Academic Year 2022-23 for University Department / Affiliated Colleges / Recognised Institutes.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2022-23 shall be as under as per DTE & CET Cell admission notification:

Sr No	Name of the Courses , Faculties & Year	2022 - 2023			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	B.E./B.Tech : Ist Year	04/11/2022	20/02/2023	20/03/2023	15/07/2023
	M.E./M.Tech : Ist Year	27/10/2022	20/02/2023	20/03/2023	15/07/2023
2	**Commerce & Management**				
	M.B.A. : Ist Year	10/11/2022	03/03/2023	20/03/2023	15/07/2023
	M.C.A. : Ist Year	09/11/2022	03/03/2023	20/03/2023	15/07/2023
3	**Humanities**				
	L.L.B. : Ist Year (3 Years)	13/12/2022	04/04/2023	24/04/2023	12/08/2023
	L.L.B. : Ist Year (5 Years)	13/12/2022	04/04/2023	24/04/2023	12/08/2023
	L.L.M. : Ist & IInd Year	03/10/2022	28/01/2023	20/02/2023	17/06/2023
4	**Inter-disciplinary Studies**				
	B.Ed. : Ist Year	19/12/2022	12/04/2023	24/04/2023	12/08/2023
	B.P.Ed. : Ist Year	12/12/2022	04/04/2023	24/04/2023	12/08/2023
	M.Ed. /M. P. Ed.	14/12/2022	04/04/2023	18/04/2023	05/08/2023
	Fine Arts	12/12/2022	04/04/2023	24/04/2023	12/08/2023

NOTE :

1. In case, the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.

29/12/2022

Assistant Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 6275
Date:29/12/2022

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.

The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University

(Formerly University of Pune)

Circular No. 302 of 2022

Important Notification

Revised Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2022-23 for Affiliated Colleges / Recognised Institutes.

In reference to the earlier circular issued by the University bearing no. 173 dated 10.06.2022 the dates of commencement and conclusion of First Term and Second Term in the academic calendar for the academic year 2022-23, for the following courses are being revised as under.

Sr No	Name of the Courses , Faculties & Year	2022 - 2023			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology				
	Science	20/06/2022	30/11/2022	26/12/2022	04/05/2023
	B.Engineering : II	17/08/2022	10/12/2022	02/01/2023	29/04/2023
	B.Engineering : III IV	18/07/2022	30/11/2022	02/01/2023	29/04/2023
	M.Engineering : II	18/07/2022	12/11/2022	09/01/2023	06/05/2023
	B.Architecture : II	08/08/2022	04/12/2022	19/12/2022	04/05/2023
	B.Architecture : III IV V	20/06/2022	08/11/2022	30/12/2022	15/05/2023
	M.Architecture:II	19/09/2022	07/01/2023	23/01/2023	20/05/2023
	B. Pharmacy: II III	01/08/2022	10/12/2022	02/01/2023	10/05/2023
	B. Pharmacy: IV	15/07/2022	03/12/2022	02/01/2023	10/05/2023
	M. Pharmacy : II	01/08/2022	10/12/2022	26/12/2022	30/06/2023
2	Commerce & Management				
	Commerce	20/06/2022	30/11/2022	26/12/2022	04/05/2023
	MBA II (Including SIP project of 8	01/09/2022	30/01/2023	15/02/2023	26/05/2023
	MCA II	01/09/2022	16/12/2022	02/01/2023	15/04/2023
	BHMCT II III IV	01/09/2022	16/12/2022	02/01/2023	15/04/2023
3	Humanities				
	Arts	20/06/2022	30/11/2022	26/12/2022	04/05/2023
	Mental Moral and Social Sciences				
	L.L.B. II	31/10/2022	31/01/2023	06/02/2023	15/05/2023
	L.L.B. III	04/07/2022	12/12/2022	08/01/2023	15/05/2023
	B.A. L.L.B. II	31/10/2022	31/01/2023	06/02/2023	15/05/2023
	B.A. L.L.B. III IV V	04/07/2022	12/12/2022	08/01/2023	15/05/2023
4	Inter-disciplinary Studies				
	Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	Physical Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	B.Lib & M.Lib	15/07/2022	30/11/2022	02/01/2023	04/05/2023
	Fine Arts & Performing Art	20/06/2022	30/11/2022	26/12/2022	04/05/2023
	Journalism PG	15/07/2022	30/11/2022	02/01/2023	04/05/2023

NOTE :

1. The dates of commencement and conclusion of the University concerned Department / Affiliated Colleges / Recognised Institutes for the Academic year of all those courses whose admission was made under Common Entrance Test (CET) conducted by Government of Maharashtra / Savitribai Phule Pune University will be decleared separately.

Ganeshkhind, Pune-07
Ref. No. PGS/4929
Date: 15/10/2022

Deputy Registrar
(P.G.Admission)

Copy to: for Information and necessary action

The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
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The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University

(formerly University of Pune)

Circular No. 173 of 2022

Important Notification

Dates of Commencement and Conclusion of terms for the Academic Year 2022-23 for Affiliated Colleges / Recognised Institutes.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2022-23 shall be as under :

Sr No	Name of the Courses , Faculties & Year	2022 - 2023			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology				
	Science	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	B.Engineering : II	17/08/2022	10/12/2022	02/01/2023	29/04/2023
	B.Engineering : III IV	18/07/2022	05/11/2022	02/01/2023	29/04/2023
	M.Engineering : II	18/07/2022	12/11/2022	09/01/2023	06/05/2023
	B.Architecture : II	08/08/2022	04/12/2022	19/12/2022	04/05/2023
	B.Architecture : III IV V	20/06/2022	08/11/2022	19/12/2022	04/05/2023
	M.Architecture:II Architecture II	19/09/2022	07/01/2023	23/01/2023	20/05/2023
	B. Pharmacy: II III	01/08/2022	10/12/2022	02/01/2023	10/05/2023
	B. Pharmacy: IV	15/07/2022	03/12/2022	02/01/2023	10/05/2023
	M. Pharmacy : II	01/08/2022	10/12/2022	26/12/2022	30/06/2023
2	Commerce & Management				
	Commerce	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	MBA II (Includes SIP project of 8 week)	01/09/2022	30/01/2023	15/02/2023	26/05/2023
	MCA II	01/09/2022	16/12/2022	02/01/2023	15/04/2023
	BHMCT II III IV	01/09/2022	16/12/2022	02/01/2023	15/04/2023
3	Humanities				
	Arts	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	Mental Moral and Social Sciences				
	L.L.B. II	31/10/2022	31/01/2023	06/02/2023	15/05/2023
	L.L.B. III	04/07/2022	08/11/2022	05/12/2023	15/05/2023
	B. A. L.L.B. II	31/10/2022	31/01/2023	06/02/2023	20/05/2023
	B. A. L.L.B. III IV V	04/07/2022	08/11/2022	05/12/2023	15/05/2023
4	Inter-disciplinary Studies				
	Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	Physical Education : II	15/09/2022	06/01/2023	17/01/2023	10/05/2023
	B. Lib. & M. Lib.	15/07/2022	25/11/2022	02/01/2023	04/05/2023
	Fine Arts & Performing Art	20/06/2022	08/11/2022	05/12/2022	04/05/2023
	Journalism PG	15/07/2022	25/11/2022	02/01/2023	04/05/2023

NOTE :

1. The dates of commencement and conclusion of the University concerned Department / Affiliated Colleges / Recognised Institutes for the Academic year of all those courses whose admission was made under Common Entrance Test (CET) conducted by Government of Maharashtra will be decleared separately.

2. In case, the Principal of the Affiliated Colleges requires to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/230
Date: 10/06/2022

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University concerned Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 92 of 2022

Important Notification

Revised Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-22 for Affiliated Colleges / Recognised Institutes.

1. The dates of commencement and conclusion of First Term and commencement of Second Term shall remain same as notified in the circular no. 134 of 2021 dated 14/05/2021 for UG/PG courses in the **faculties of Humanities, Commerce and Science.** The revised dates of conclusion of Second Term shall be **25/05/2022** for UG/PG courses in the **faculties of Humanities, Commerce and Science.** Commencement of academic year 2022-23 shall be **20/06/2022** for **Humanities, Commerce and Science faculties.**

2. The dates of commencement and conclusion of Affiliated Colleges / Recognised Institutes for the Academic year 2021-22 of all those courses whose admission was made under Common Entrance Test (CET) conducted by Government of Maharashtra shall be as under :

Sr. No.	Name of the Faculty	Name of the Courses	Year	2021 – 2022			
				First Term		Second Term	
				Commencement	Conclusion	Commencement	Conclusion
1	Commerce & Management	MBA	I	10/12/2021	18/04/2022	02/05/2022	16/08/2022
		MCA	I	10/12/2021	18/04/2022	02/05/2022	20/08/2022
		MCA	II, III	15/11/2021	03/03/2022	18/04/2022	06/08/2022
2	Science & Technology	B. Pharmacy	I	03/01/2022	30/03/2022	01/04/2022	15/06/2022
		M. Pharmacy	I	27/12/2021	30/03/2022	01/04/2022	15/06/2022
		Engineering	I	13/12/2021	06/04/2022	11/04/2022	30/07/2022
		Engineering	II	20/08/2021	11/12/2021	03/01/2022	15/05/2022
		B.Architecture	I	10/12/2021	25/03/2022	04/04/2022	23/07/2022
		M. Architecture	I	10/12/2021	31/03/2022	04/04/2022	23/07/2022
4	Inter-disciplinary Studies	Physical Education (M.P.Ed.)	I	10/01/2022	30/04/2022	02/05/2022	30/09/2022
		B. Ed. (Annual)	I	14/02/2022	--------		31/08/2022
		M. Ed.	I	10/01/2022	30/04/2022	02/05/2022	30/09/2022
		B. P. Ed.	I	14/02/2022	07/06/2022	08/06/2022	26/09/2022
		B. Lib. / M. Lib.	UG/PG	25/10/2021	21/02/2022	07/03/2022	25/06/2022
		M.A. (JMC)	I, II	11/10/2021	25/01/2022	01/02/2022	25/05/2022
		M.S.W.	PG	15/11/2021	11/03/2022	20/05/2022	30/09/2022
		M.F.A.	PG	25/10/2021	24/01/2022	03/02/2022	03/05/2022
		B.F.A.	UG	25/10/2021	21/02/2022	07/03/2022	25/06/2022

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NOTE :

1. The Principals and Teachers are requested to complete the theory and practical syllabus of current term of the academic year 2021-22 within stipulated period.
2. It is to be informed that circular issued by the University bearing no. **74 of 2022 dated 28.03.2022** stands cancelled.

Deputy Registrar
(P.G.Admission)

Ref. No.PGS/ 2344
Date : 30/04/2022.

Copy for favour of necessary action to :

1. The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
2. The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy for favour of information to :

1. The Members of the Management Council, Savitribai Phule Pune University, Pune.
2. The Registrar, Savitribai Phule Pune University, Pune.
3. The Deans of Faculties, Savitribai Phule Pune University, Pune.
4. The Director, Board of Examinations & Evaluation, Savitribai Phule Pune University, Pune.

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सावित्रीबाई फुले पुणे विद्यापीठ

(पूर्वीचे पुणे विद्यापीठ)

परिपत्रक क्र. ३०६/२०२१

विषय : शैक्षणिक वेळापत्रकाच्या अंमलबजावणीबाबत...

संदर्भ :
१. विद्यापीठ परिपत्रक क्र. १३३/२०२१ दि. १४/०५/२०२१
२. विद्यापीठ परिपत्रक क्र. १३४/२०२१ दि. १४/०५/२०२१
३. विद्यापीठ परिपत्रक क्र. २७७/२०२१ दि. २९/०९/२०२१
४. विद्यापीठ परिपत्रक क्र. २७८/२०२१ दि. २९/०९/२०२१
५. विद्यापीठ परिपत्रक क्र. २९१/२०२१ दि. १९/१०/२०२१

कृपया वरील संदर्भीय परिपत्रकांचे अवलोकन व्हावे. त्या अनुषंगाने मा. विभागप्रमुख, सर्व शैक्षणिक विभाग, मा. प्राचार्य, सर्व संलग्नित महाविद्यालये, मा. संचालक, सर्व मान्यताप्राप्त परिसंस्था यांना या परिपत्रकाव्दारे कळविण्यात येते की, विविध विद्याशाखांच्या चालू शैक्षणिक वर्षाच्या शैक्षणिक वेळापत्रकाच्या संदर्भात यापूर्वी विद्यापीठाकडून निर्गमित केलेल्या वरील संदर्भीय परिपत्रकान्वये जाहीर केलेल्या सत्रांत व सत्रारंभाच्या तारखांमध्ये कोणताही बदल नसला तरी कोव्हिड–१९ च्या अभूतपूर्व आघाताच्या पार्श्वभूमीवर विद्यापीठ व शासनाने विद्यार्थ्यांच्या आरोग्यसुरक्षेसाठी तसेच अत्यंत तातडीचे शैक्षणिक कामकाज पूर्ण करण्यासंबधी दिलेल्या मार्गदर्शक सूचनांचे विद्यापीठ शैक्षणिक विभाग व सर्व संलग्नित महाविद्यालय/परिसंस्था यांनी पूर्णपणे पालन करावे.

उपकुलसचिव
शैक्षणिक प्रवेश

गणेशखिंड, पुणे ४११ ००७)
संदर्भ क्र. शै.प्रवेश/४०३०)
दिनांक : २८/१०/२०२१)

प्रत माहिती व योग्य त्या कार्यवाहीसाठी :–
मा. विभागप्रमुख, सर्व शैक्षणिक विभाग, सावित्रीबाई फुले पुणे विद्यापीठ, पुणे
मा. प्राचार्य, विद्यापीठाशी संलग्नित सर्व महाविद्यालये
मा. संचालक, विद्यापीठाच्या मान्यताप्राप्त सर्व परिसंस्था

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Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 278 of 2021

Revised Dates of Commencement and Conclusion of Engineering, Architecture and Pharmacy for the Academic Year 2021-2022
For Affiliated Colleges/Recognised Institutes

It is hereby informed that, the revised dates of commencement and conclusion of the Courses, under the faculty of Engineering, Architecture and Pharmacy for the academic year 2021-22 shall be as under :

Name of the Faculty	Name of the Courses	Year	Revised 2021 - 2022			
			First Term		Second Term	
			Commencement	Conclusion	Commencement	Conclusion
Science & Technology	Engineering	TE, BE	02/08/2021	30/11/2021	03/01/2022	26/04/2022
	B.Architecture	III, IV & V	15/06/2021	04/12/2021	03/01/2022	30/04/2022
		II	20/08/20201	10/12/2021	03/01/2022	30/04/2022
	B. Pharmacy	III & IV	17/08/2021	18/12/2021	03/01/2022	10/05/2022
		II	23/08/2021	18/12/2021	03/01/2022	10/05/2022
	M. Pharmacy	II	23/08/2021	18/12/2021	03/01/2022	15/05/2022

NOTE

1. **All Programmes shall be conducted in Online Mode until further notice.**
2. **In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra from time to time.**

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 3578
Date: 29/09/2021

Copy to:
The Heads of all University Departments, Savitribai Phule Pune University, Pune.
The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy to: for information
The Members of the Management Council, Savitribai Phule Pune University, Pune.
The Registrar, Savitribai Phule Pune University, Pune.
The Deans of Faculties, Savitribai Phule Pune University, Pune.

Savitribai Phule Pune University

(Formerly University of Pune)

Circular No. 277 of 2021

Important Notification

Dates of Commencement and Conclusion of I[st] Year of PG Courses for the Academic Year 2021-2022
For University Departments

It is hereby informed that, the dates of Commencement and Conclusion of I[st] Year of PG Courses for the Academic Year 2021-2022 University Courses, under various faculties shall be as under :

Sr. No	Name of the Courses and Faculties	2021 - 2022			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**	05/10/2021	25/01/2022	01/02/2022	31/05/2022
	Science (I[st] Yr)				
	M.Tech (I[st] Yr)				
2	**Commerce & Management**				
	Commerce (I[st] Yr)				
	MBA Executive (Ist Yr)				
	MBA (Pharma BT) (Ist Yr)				
3	**Humanities**				
	Arts (I[st] Yr)				
	Mental Moral and Social Sciences (I[st] Yr)				
	LL.M. (I[st] Yr)				
4	**Inter- disciplinary Studies**				
	M.A.Education (I[st] Yr)				
	B.Sc. B.Ed. Integrated (I[st] Yrs)				
	M. Lib. I. Sc. (Ist Yr)				
	Fine Arts/ Performing Arts (Ist Yr)				
	M. A. Journalism and Mass Communication (Ist Yr)				
	M.A Yoga (Ist Yr)				

NOTE

1. **All Programmes shall be conducted in Online Mode until further notice.**
2. **In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra from time to time.**
3. **The Commencement and Conclusion shall include teaching & Examinations.**
4. **Teching work must commence with immideate effect.**

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/3569
Date: 29/09/2021

Copy to:
The Heads of all University Departments, Savitribai Phule Pune University, Pune.
The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy to: for information
The Members of the Management Council , Savitribai Phule Pune University, Pune.
The Registrar, Savitribai Phule Pune University, Pune.
The Deans of Faculties, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 134 of 2021

Important Notification

Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-22 For affiliated Colleges/recognised Institutes.

It is hereby informed that, the dates of Commencement and conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-2022, under various faculties shall be as under :

The date of Commencement and Conclusion of the academic session of the first year of all those courses whose admission was made/ will be made under Common Entrance Examination (CET) conducted by the Government/SPPU will be announced seperatly.

Sr. No.	Name of the Faculty	Name of the Courses	Year	2021 - 2022			
				First Term		Second Term	
				Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology	Science	I, III	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	01/07/2021	20/10/2021	15/11/2021	30/04/2022
		Engineering	TE, BE	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			SE	20/08/2021	12/11/2021	03/01/2022	15/05/2022
		ME, MCA	II	20/08/2021	12/11/2021	03/01/2022	15/05/2022
		B.Architecture	III, IV & V	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	20/08/2021	12/11/2021	03/01/2022	15/05/2022
		M. Architecture	II	20/08/2021	12/11/2021	03/01/2022	15/05/2022
		B. Pharmacy	III & IV	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	20/08/2021	12/11/2021	03/01/2022	15/05/2022
		M. Pharmacy	II	20/08/2021	12/11/2021	03/01/2022	15/05/2022
2	Commerce & Management	Commerce	I, III	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	01/07/2021	20/10/2021	15/11/2021	30/04/2022
		Management	II	15/11/2021	03/03/2022	11/03/2022	30/06/2022

Sr. No.	Name of the Faculty	Name of the Courses	Year	2021 - 2022			
				First Term		Second Term	
				Commencement	Conclusion	Commencement	Conclusion
3	Humanities	Arts & Fine Arts	I, III	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	01/07/2021	20/10/2021	15/11/2021	30/04/2022
		Mental,Moral and Social Sciences	I, III	15/06/2021	20/10/2021	15/11/2021	30/04/2022
			II	01/07/2021	20/10/2021	15/11/2021	30/04/2022
		Law : UG & PG	III, IV & V	01/07/2021	11/12/2021	01/01/2022	20/05/2022
		B.A. LL.B. 5 Yrs	II	11/10/2021	31/01/2022	05/2/2022	31/05/2022
		LL.B. 3 Years	II	11/10/2021	31/01/2022	05/2/2022	31/05/2022
4	Inter-disciplinary Studies	Education (B.Ed.)	II	15/09/2021	06/01/2022	17/01/2022	10/05/2022
		Education (M.Ed.)	II	15/09/2021	06/01/2022	17/01/2022	10/05/2022
		Physical Education (B.P.Ed.)	II	15/09/2021	06/01/2022	17/01/2022	10/05/2022
		Physical Education (M.P.Ed.)	II	15/09/2021	06/01/2022	17/01/2022	10/05/2022

NOTE

1. In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.
2. In case the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he may do by the compensative the same by keeping the college working on Sunday.
3. The college are required to complete the theory and practical remaining syllabus of current term of academic year 2020-21.

14/5/2021.

Uttam R. Chavan
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1961
Date: 14/05/2021

Copy to:
The Heads of all University Departments, Savitribai Phule Pune University, Pune.
The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy to: for information
The Members of the Management Council , Savitribai Phule Pune University, Pune.
The Registrar, Savitribai Phule Pune University, Pune.
The Deans of Faculties, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.

Savitribai Phule Pune University

(Formerly University of Pune)

Circular No. 133 of 2021

Important Notification

Dates of Commencement and Conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-22 For University Departments.

It is hereby informed that, the dates of Commencement and conclusion of terms of U.G. / P.G. Courses for the Academic Year 2021-2022, under various faculties shall be as under :

The date of Commencement and Conclusion of the academic session of the first year of all those courses whose admission was made/ will be made under Common Entrance Examination (CET) conducted by the Government/SPPU will be announced seperatly.

Sr. No.	Name of the Faculty	Name of the Courses	Course Year	2021 - 2022			
				First Term		Second Term	
				Commencement	Conclusion	Commencement	Conclusion
1	Science & Technology	Science M.Tech. Technology	I, III, IV	01/07/2021	11/12/2021	01/01/2022	20/05/2022
			II	05/10/2021	25/01/2022	01/02/2022	31/05/2022
2	Commerce & Management	Commerce	I	01/07/2021	11/12/2021	01/01/2022	20/05/2022
			II	05/10/2021	25/01/2022	01/02/2022	31/05/2022
		M.B.A. Executive M.B.A. Pharma-BT	I	01/07/2021	11/12/2021	01/01/2022	20/05/2022
			II	05/10/2021	25/01/2022	01/02/2022	31/05/2022
		M.B.A.	II	15/11/2021	03/03/2022	11/03/2022	30/06/2022
3	Humanities	Arts & Fine Arts Mental,Moral and Social Sciences LL.M.	I	01/07/2021	11/12/2021	01/01/2022	20/05/2022
			II	05/10/2021	25/01/2022	01/02/2022	31/05/2022
4	Inter-disciplinary Studies	Education M.A. Education B.Sc. B.Ed. (Integrated) M.Lib.I.Sc. Fine Arts / Perfoming Arts M.A. Journalism & Mass Communication M.A. Yoga	I, III, IV	01/07/2021	11/12/2021	01/01/2022	20/05/2022
			II	05/10/2021	25/01/2022	01/02/2022	31/05/2022

NOTE

1. In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.

2. In case the Head of the department require to give additional holiday in exceptional circumstances, he may do by the compensative the same by keeping the deparments working on Sunday.

14/5/2021

Uttam R. Chavan
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1962
Date: 14/05/2021

Copy to:
The Heads of all University Departments, Savitribai Phule Pune University, Pune.
The Principals of all Affiliated Colleges, Savitribai Phule Pune University, Pune.
The Directors of all Recognized Institutes, Savitribai Phule Pune University, Pune.

Copy to: for information
The Members of the Management Council , Savitribai Phule Pune University, Pune.
The Registrar, Savitribai Phule Pune University, Pune.
The Deans of Faculties, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.

SAVITRIBAI PHULE PUNE UNIVERSITY
(Formerly University of Pune)

Circular No. 06 / 2021

Under the initiative "Mission Begin Again", phase-wise unlocking process subsequent to the lockdown declared due to COVID-19 Pandemic, has begun in the State of Maharashtra and reopening of universities and colleges is a part of the same. University Departments and colleges/institutions are likely to face a number of issues after reopening. In order to facilitate successful reopening of University Departments and colleges/institutions, and smooth conduct of teaching-learning process in offline mode, certain measures are required to be ensured by the University Departments and colleges/institutions for the safety and health of all the concerned, in advance.

It is notified to all Heads of University Departments, Principal/Directors of colleges/institutions to take necessary steps to ensure appropriate preparations for reopening of University Departments and colleges/institutions, in advance, in accordance with the U.G.C. Guidelines dated 6.11.2020, directions/ guidelines issued by the State Government and local authorities from time to time. Attached herewith copies for ready reference. **Date of reopening of University Departments and colleges/institutions will be notified in due course of time as per the directives of the State Government.**

This Circular is issued in supersession of the Circular No. 03/2021 dated 4.1.2021 in this regard.

7/1/2021.

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune
Ref No: - PGS/56
Date: 07/01/2021

डॉ. आर. मनोज कुमार
संयुक्त सचिव
Dr. R. Manoj Kumar
Joint Secretary

सत्यमेव जयते

विश्वविद्यालय अनुदान आयोग
University Grants Commission
(शिक्षा मंत्रालय, भारत सरकार)
(Ministry of Education , Govt. of India)
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By Email

No.F.2-30/14(General Circular/WRO)

November 6, 2020

To,

The Vice Chancellors/Directors of
(All the Universities/HEIs in the States of
Maharashtra, Gujarat, and Goa) and

The Principals of
(All the Colleges of Maharashtra, Gujarat, Goa and
UTs of Daman & Diu and Dadra & Nagar Haveli)

Subject : **UGC Guidelines for Re-opening the Universities and Colleges Post Lockdown due to COVID-19 Pandemic - reg.**

Dear Madam/Sir,

Please find enclosed herewith a copy of letter D.O.No.14-8/2020(CPP-II) dated 5th November, 2020 from the Secretary, UGC regarding UGC Guidelines for Re-opening the Universities and Colleges post Lockdown due to COVID-19 Pandemic. The attached letter is self-explanatory. You are requested to comply with the instructions contained in the letter and take necessary action in this regard.

A copy of UGC Guidelines for Re-opening the Universities and Colleges post Lockdown due to COVID-19 Pandemic is also attached herewith.

With regards,

Yours sincerely,

R Manoj Kumar

(Dr. R. Manoj Kumar)
Joint Secretary

Encl:-

1. Letter of Secretary, UGC, dated 05/11/2020
2. UGC Guidelines

ज्ञान-विज्ञान विमुक्तये

प्रो. रजनीश जैन
सचिव
Prof. Rajnish Jain
Secretary

सत्यमेव जयते

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D.O. 14-8/2020(CPP-II)

5th November, 2020

Subject: UGC guidelines for Re-Opening the Universities and Colleges Post Lockdown due to COVID-19 Pandemic

Respected Madam /Sir,

Universities and other educational institutions across the country have been closed since 16th March, 2020 when the Government of India announced a countrywide lockdown as one of the measures to contain the COVID-19 outbreak. Keeping in view of the COVID-19 pandemic and subsequent lockdown, the University Grants Commission issued *"Guidelines on Examinations and Academic Calendar for the Universities in View of Covid-19 pandemic and subsequent Lockdown"* on 29th April, 2020 and then, on 6th July, 2020. The universities and colleges have put in their best efforts to continue their academic programmes and complete the syllabi using various ICT tools of teaching and learning since their closure from mid-March onwards.

The new academic session is going on and the universities and colleges need a customized plan, as per the local conditions where they are located, to deal with any eventuality arising due the COVID -19before resuming the activities on campuses. The top priority, while opening the institutions, should be the safety, health and well-being of the students, teachers and staff. In view of this, UGC has framed "Guidelines for Re-Opening the Universities and Colleges Post Lockdown due to COVID-19 Pandemic" **(Annexure-I)** which provide in detail the measures to be taken before re-opening of campuses. These Guidelines have also been vetted by the Ministry of Health & Family Welfare and approved by the Ministry of Home Affairs and the Ministry of Education. The Guidelines may be adopted by the institutions as per the local conditions and directives of the Government authorities.

You are requested to adopt these guidelines and take necessary steps to implement them accordingly. Further, the universities/colleges have to ensure that it is prepared in all respects to carry out the academic activities following necessary advisories / guidelines / directions issued by the Central / State Government, Ministry of Education (MoE) or UGC from time to time to prevent the spread of COVID-19.

With kind regards,

Yours sincerely,

(Rajnish Jain)

Encl : As above

To

1. The Vice-Chancellor of All Universities

UGC GUIDELINES
FOR
RE-OPENING THE UNIVERSITIES AND COLLEGES
POST LOCKDOWN DUE TO COVID-19 PANDEMIC

ज्ञान-विज्ञान विमुक्तये

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI

NOVEMBER 2020

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Generic Preventive Measures/COVID-19 Appropriate Behaviour

The following public health measures are to be followed to reduce the risk of COVID-19 by all (faculty members, employees, students and visitors) in these places at all times:

i. Physical distancing of at least 6 feet to be followed as far as feasible.

ii. Use of face covers/masks to be made mandatory.

iii. Frequent hand washing with soap (for at least 40-60 seconds) even when hands are not visibly dirty. Use of alcohol-based hand sanitizers (for at least 20 seconds) can be done wherever feasible.

iv. Respiratory etiquettes to be strictly followed. This involves strict practice of covering one's mouth and nose while coughing/sneezing with a tissue/handkerchief/flexed elbow and disposing of used tissues properly.

v. Self-monitoring of health by all and reporting any illness at the earliest.

vi. Spitting shall be strictly prohibited.

vii. Installation & use of Aarogya Setu App shall be advised wherever feasible.

1. Introduction

Universities and other educational institutions across the country have been closed since 16th March, 2020 when the Government of India announced a countrywide lockdown as one of the measures to contain the COVID-19 outbreak. The Government of India through its Ministries, *viz.*, Ministry of Home Affairs, Ministry of Health, Ministry of Ayush and Ministry of Education took several initiatives to contain the spread of the virus and issued directives and advisories to educate the people about the gravity of the infection from Coronavirus and the measures to protect from it. Specific instructions were also issued to the universities and colleges by the Ministry of Education and the UGC in this regard.

The University Grants Commission issued "Guidelines on Examinations and Academic Calendar for the Universities in View of COVID-I9 Pandemic and Subsequent Lockdown" on 29th April, 2020 and then, on 6th July, 2020. These Guidelines covered important dimensions related to examinations, academic calendar, admissions, online teaching-learning and provided flexibility for adoption by the universities. Later "UGC Guidelines on Academic Calendar for the First Year of Under-Graduate and Post-Graduate Students of the Universities for the Session 2020-21 in View of COVID-19 Pandemic" were issued on 24th September, 2020.

In order to contain the spread of COVID-19 pandemic in the educational institutions and to ensure continuity in teaching- learning process, Ministry of Education and UGC issued several directives/ advisories/ guidelines to the universities and colleges, including the one to impart online education by making the best use of e-resources. Through all the communications made by Ministry of Education and UGC, it was emphasized to continue with teaching-learning processes using online modes such as Google Classroom, Cisco Webex Meeting, You Tube streaming, OERs, SWAYAM platform (www.swayam.gov.in), Swayam Prabha (www.swayamprabha.gov.in) (available on Doordarshan (Free dish) and Dish TV), e-yantra (www.e-yantra.org), Virtual Labs (www.vlab.co.in), FOSSEE (https://fossee.in), application of spoken tutorials (www.spoken-tutorial.org), National Digital Library (NDL) (https://ndl.iitkgp.ac.in), electronic journals (https://ess.inflibnet.ac.in) etc.

The new academic session is going on and the universities and colleges need a customized plan, as per the local conditions where they are located, to deal with any eventuality arising due the COVID -19 before resuming activities on campuses. Besides above, reopening of universities and colleges will relieve the students from uncertainties regarding their career, mode of functioning of universities and colleges, including the conduct of physical classes. Also, it will relieve teaching and other staff from any uncertainty regarding the continuity of their services and salary etc.

It is felt that even after the spread of Coronavirus is contained, certain preventive measures will be required to be followed for quite some time to avoid its recurrence. This will be all the more necessary for educational institutions as large numbers of students gather on the campuses. Keeping all these factors in view, the University Grants Commission has framed Guidelines for the universities and colleges which they may follow, while reopening their campuses after lockdown and the summer vacations. These Guidelines have been vetted by the Ministry of Health & Family Welfare and approved by the Ministry of Home Affairs and the Ministry of Education. The Guidelines may be adopted by the institutions as per the local conditions and directives of the Government authorities.

2. Re-Opening the Campuses - Issues and Challenges

Indian higher education system is very large and diverse. There are various types of universities, colleges and institutions offering programmes ranging from engineering, technical, medical, sciences, humanities and social sciences at undergraduate, postgraduate, and doctoral level, besides research and extension activities. Also, they vary in their geographical conditions, size, infrastructural capacity, types and duration of programmes etc. Therefore, the issues and challenges faced by them in reopening their campus also vary considerably.

Keeping in view the uncertainties of future due to COVID-19 pandemic and its impact on the functioning of universities and colleges, they may plan to reopen their campuses in a phased manner, ensuring safety, health and well-being of all students and staff. They should be flexible in their plan and should be ready to handle any eventuality arising due to COVID-19.

It may be difficult to comprehend all the challenges/ situations which the higher education institutions may be required to handle while they plan to reopen. However, some of the issues which they may be required to handle instantly are given below:

i. To follow the advisories/guidelines/directions issued by the Central/State Government, Ministry of Education and UGC from time to time to prevent the spread of COVID-19.

ii. Uncertainty among students regarding admissions, modes of teaching-learning, completion of courses, examinations, evaluation, declaration of results and the academic calendar, etc.

iii. Anxiety, mental health and psychological issues of students developed during the lockdown period and fear of infection after the opening of campuses.

iv. Safety measures including sanitisation of premises, thermal screening, ensuring physical distancing, face-cover/mask wearing, respiratory hygiene and hand-hygiene etc.

v. Preparation for risk assessment and subsequent actions which may be required depending upon the residential status of the institution - whether fully residential, partially residential or non-residential.

vi. Varied conditions of the pandemic in the state, area and environment where the students mainly live while making risk assessment and planning to address these challenges.

vii. Besides students, a serious risk of infection will also be faced by the faculty, counsellors and other technical and non-teaching staff also who face/ interact with the students and also among themselves regularly.

3. Measures Required before Re-Opening of Campuses

As the universities and colleges are likely to face a number of issues at the time of reopening, they will be required to plan in advance. Some of the measures, which the institutions may have to take prior to reopening, are given below:

3.1 Pre-requisites

i. Before reopening of any campus, the Central or the concerned State Government must have declared the area safe for reopening of educational institutions. The directions, instructions, guidelines and orders issued by the Central and State Government concerned regarding safety and health in view of COVID-19 must be fully abided by the higher education institutions.

ii. However, they may develop stricter provisions and guidelines, if they feel it necessary. The universities and colleges have to make adequate arrangements to ensure the safety and health of students, faculty and staff.

iii. The universities and colleges shall be allowed to open only if they are outside the containment zones. Further, students and staff living in containment zones will not be allowed to attend the colleges. Students and staff shall also be advised not to visit areas falling within containment zones.

iv. The faculty, staff and students of the university and college should be encouraged to download 'Aarogya Setu App'.

v. The institutions should be ready with a plan for handling the inflow of students, faculty and staff in the campus, monitoring disinfecting measures, safety and health conditions, screening and detecting the infected persons, containment measures to prevent the spread of the virus in the campus, and also alternative plan(s), in case the campus needs to be closed again due to spread of the virus in campus or in the surrounding area(s) in near future.

3.2 Modalities for Physical Opening of Colleges/Higher Education Institutions

The following modalities regarding the physical opening of Colleges/Higher Education Institutions, in a graded manner, may be adopted:

The Colleges/Higher Education Institutions outside the containment zones may be opened in a graded manner after consultations with concerned State/UT Governments and subject to adherence to the guidelines/SOP for safety and health protocol prepared by UGC, duly incorporating the view/comments of the Ministry of Health & Family Welfare, as under:

i. For Centrally Funded Higher Education Institutions, the Head of the Institution should satisfy herself/himself regarding the feasibility of the opening of physical classes and decide accordingly.

ii. For all other Higher Educational Institutions, e.g., State Universities, Private Universities etc., opening of physical classes to be done as per the decision of the respective State/UT Governments.

3.3 Measures

i. Universities and colleges may plan opening the campuses in phases, with such activities where they can easily adhere to social distancing, use of face masks and other protective measures. This may include administrative offices, research laboratories and libraries etc.

ii. Thereafter, students of all research programmes and post-graduate students in science & technology programmes may join as the number of such students is comparatively less and norms of physical distancing and preventive measures can be easily enforced.

iii. Further, final year students may also be allowed to join for academic and placement purposes, as per the decision of the head of the institution.

However, for (i), (ii) and (iii) above, it should be ensured that not more than 50% of the total students should be present at any point of time and necessary guidelines/protocols to prevent the spread of COVID-19 are observed.

iv. For the programmes, other than those mentioned in paras 3.3 (ii) and (iii) above, online/distance learning shall continue to be the preferred mode of teaching and shall be encouraged.

v. However, if required, students may visit their respective departments in a small number for consultation with the faculty members, after seeking prior appointments to avoid crowding, while maintaining physical distancing norms and other safety protocols.

vi. Some students may opt not to attend classes and prefer to study online while staying at home. Institutions may provide online study material and access to e-resources to such students for teaching-learning.

vii. Institutions should have a plan ready for such international students who could not join the programme due to international travel restrictions or visa-related issues. Online teaching-learning arrangements should also be made for them.

3.4 Safety concerns

i. The institutions should train their staff and students to assist and undertake the work related to safety and health to prevent an outbreak of the pandemic in their campuses. Non-resident students should be allowed in campuses only after thermal scanning, sanitization of their hands, wearing of face masks and gloves. Symptomatic persons should not be permitted to enter the campus and should be advised to contact the nearest hospital for clinical assessment.

ii. Regular visits of a counsellor may be arranged so that students can talk with the counsellor about their anxiety, stress or fear.

iii. To avoid the risk of transmission, the students, faculty and staff should be screened and symptomatic ones be advised to get clinically assessed before allowing them entry into the campus.

iv. Isolation facilities for symptomatic persons and quarantine facilities for those who were in contact with the positively tested persons should be there on campus or a tie-up may be made in advance with some Government hospital or approved premises or as advised by the local authorities so that, in case of necessity, prompt action may be taken. Proper arrangement of safety, health, food, water etc. should be ensured for those in quarantine and isolation facilities.

v. For those who have tested positive, isolation facilities should be in place either on campus itself or as a prior arrangement with some nearby hospital(s) or as advised by the local authorities.

vi. Universities and colleges should prepare a policy for restricting the outside experts on campuses, study tours, field works etc., keeping in mind the COVID-19 situation.

vii. All such programmes and extracurricular activities should be avoided where physical distancing is not possible.

viii. Clean and hygienic conditions, as per safety and health advisories of the concerned government departments, are to be maintained at all places, including hostel kitchens, mess, washrooms, libraries, class rooms etc.

ix. Proper signages, symbols, posters etc. should be prominently displayed at appropriate places to remind the students, faculty and staff for maintaining physical distancing. The details of COVID-19 cell established by the institution be prominently displayed containing the emergency number, helpline number, email id and contact details of persons to be contacted in case of any emergency in the institution.

x. Ensure the norms of physical distancing, sanitization and hygienic conditions for use of common facilities, *viz.*, Auditorium, Conference/ Seminar halls, Sports, Gymnasium, Canteen, Parking Area etc.

4. Institutional Planning

Institutional planning is the key for the successful reopening of the campuses and smooth conduct of the teaching-learning process during these difficult times. The universities and colleges will, therefore, be required to develop their plans very cautiously for reopening of their campuses and this planning has to be done well in advance. The plan may, inter-alia include the following points:

i. Institutions should prepare details of opening the campus in a phased manner with a complete roster for all departments and batches of students in different programmes. Para 3.2 (i) & (ii) of the Guidelines may be referred.

ii. The institutions must ensure appropriate sanitization and disinfection process and procedures.

iii. It should be made mandatory for the Teachers, Officers, Staff and Students to wear the Id cards.

iv. The faculty, student, staff should be screened regularly to protect and avoid infecting one another.

v. All preventive measures, preparedness and necessary support system to deal with the COVID -19 positive cases should be monitored and reported to local authorities on a day to day basis.

vi. Teaching hours in a day may be extended, as per requirements of the institution.

vii. Six-day schedule may be followed so that classes can be conducted in phases and the seating arrangement be made keeping in view the requirements of physical distancing.

viii. Universities and colleges may consider reducing the class size and break them in multiple sections to maintain physical distancing during the classes.

ix. Depending on the availability of space in class rooms or learning sites, up to 50% students may be allowed on a rotation basis to attend the classes.

x. Faculty should be trained for online teaching-learning practices.

xi. The visitors should either not be allowed at all or their entry should be drastically restricted. The conditions of the entry for visitors should be strictly laid down and displayed on the entry point(s). Complete contact details of the visitors be maintained along with the names of persons whom he/ she meets.

xii. There should be adequate isolation arrangements for those having symptoms and also for those who test positive for COVID-19 (however the two need to be kept separately), either at the level of the institution or in collaboration with the Government authorities.

4.1 Safety Measures at Entry/ Exit Point(s)

i. Adequate arrangements of thermal scanners, sanitizers, face masks should be made available at all entry and exit points, including the reception area.

ii. Crowding must be avoided at entry/ exit points. Staggered timings of entry and exit with limited strength for different programmes should be followed.

iii. For ensuring queue management, inside and outside the premises, specific markings on the floor with a gap of 6 feet may be made and be adhered to.

iv. In case the institution has more than one gate for entry/ exit, all the gates should be used, with adequate care, to avoid crowding.

v. Monitoring of the entry and exit of the students should be done.

vi. Screening of students, faculty and staff, wearing of face covers/ mask, sanitizing of hands etc. must be ensured at all entry points.

vii. Those having symptoms of fever, cough or difficulty in breathing should not be allowed to enter.

4.2 Safety Measures during Working Hours

4.2.1 Classrooms and other Learning Sites

i. Proper sanitization at all learning sites should be ensured. Cleaning and regular disinfection (using 1% sodium hypochlorite) of frequently touched surfaces (door knobs, elevator buttons, hand rails, chairs, benches, washroom fixtures, etc.) to be made mandatory in all class rooms, laboratories, (and also) lockers, parking areas, other common areas etc. before the beginning of classes and at the end of the day. Teaching materials, computers, laptops, printers, shall be regularly disinfected with 70% alcohol swipe.

ii. Sitting places in classes, laboratories, computer labs, libraries etc. should be clearly marked, keeping in view the norms of physical distancing. At least one seat should be left vacant between two seats.

iii. Wearing face cover/ mask is a must at all times and at all places inside the campus.

4.2.2 Inside the Campus

i. Cultural activities, meeting etc. may be avoided. However, such extra-curricular and sports activities may be allowed where physical distancing is feasible and is in accordance with the Ministry of Home Affairs guidelines, issued under Disaster Management Act, 2005 from time to time

ii. Adequate arrangements for safe drinking water should be made on the campus.

iii. Hand washing stations with facilities of liquid soap should be created so that every student can wash her/ his hands frequently.

iv. Regular and sufficient supply of face covers/ masks, heavy duty gloves, disinfecting material, sanitizer, soaps etc. to sanitation workers should be ensured.

v. Wearing of face cover/ mask by all students and staff should be ensured.

vi. Proper cleanliness should be maintained inside the entire campus.

vii. Adequate arrangements should be made for sanitizing the entire campus, including administrative and academic buildings, classrooms, laboratories, libraries, common rooms, toilets, water stations, furniture, learning material, teaching aids, sports equipment, computers etc.

viii. Physical distancing should be maintained at all places and crowding must not be allowed at any place under any circumstances.

ix. An adequate supply of water in toilets and for hand- washing should be ensured.

x. Proper sanitization of buses, other transport and official vehicles of the institution should be done.

xi. Spitting in the campus must be made a punishable offence.

xii. Dustbins must be cleaned and covered properly.

xiii. Dustbin for collection of used facemasks, personal protective equipment, hand gloves and their disposals should be ensured as per safety norms. Provision for proper disposal of used personal protection items and general waste should be followed in accordance with CPCB guidelines (available at: https://cpcb.nic.in/uploads/Projects/Bio-Medical-Waste/BMW-GUIDELINES-COVID_1.pdf).

xiv. For air-conditioning/ventilation, the guidelines of CPWD shall be followed which emphasizes that the temperature setting of all air conditioning devices should be in the range of 24-30°C, relative humidity should be in the range of 40-70%, intake of fresh air should be as much as possible and cross ventilation should be there.

xv. Gymnasiums shall follow MoHFW guidelines (available at: https://www.mohfw.gov.in/pdf/Guidelinesonyogainstitutesandgymnasiums03082020.pdf).

xvi. Swimming Pool (wherever applicable) shall remain closed.

xvii. All employees who are at higher risk, i.e., older employees, pregnant employees and employees who have underlying medical conditions to take extra precautions. They should preferably not be exposed to any front-line work requiring direct contact with the students.

4.2.3 Hostels

i. Hostels may be opened only in such cases where it is necessary while strictly observing the safety and health preventive measures. However, the sharing of rooms may not be allowed in hostels. Symptomatic students should not be permitted to stay in the hostels under any circumstances.

ii. Since residential students may be coming from different locations, they shall remain in quarantine and self-monitor their health for a period of 14 days before being allowed to attend classes or as per the policy opted by the State Government for quarantine (even if they bring a negative test report or the university/college plan to test them on arrival).

iii. There should be no crowding in hostel areas where students live in close proximity and share common facilities and utilities. Hence, their numbers need to be limited appropriately to avoid crowding. Also, hostel students should be called in phases.

iv. Thermal Screening of all resident students should be ensured.

v. They will be referred to the nearest COVID treatment facility for clinical assessment and treatment.

vi. Density in dining halls, common rooms, playing areas should be limited, keeping in view the requirement of physical distancing.

vii. Hygiene conditions should be regularly monitored in kitchens, dining halls, bathrooms and toilets etc.

viii. Cleanliness is to be maintained in dining areas. Meals should be served in small batches, avoiding over-crowding. Take away options should be available for students and staff.

ix. It must be ensured that the meals are freshly cooked. A senior staff should monitor the same.

x. Utensils should be properly cleaned.

xi. Wearing of face covers/ masks and proper sanitization of hands of the staff engaged for the preparation and distribution of meals should be ensured.

xii. Resident students and staff should avoid or limit visiting the markets. As far as possible, essential items may be made available within the campus.

xiii. Hostels may define the number of students in dining halls at any point in time. Mess timings may be increased to avoid overcrowding.

4.2.4 Regular Monitoring of Health

i. Every institution should regularly monitor the health of its students, faculty, and staff.

ii. Faculty, staff and students should also be sensitized on self-monitoring of their health.

iii. Faculty, Staff and students should submit self-disclosure, if any of their family members have been infected/availed treatment for COVID-19.

4.2.5 Counselling & Guidance for Mental Health

In order to reassure the students' community to avoid any kind of stress or panic in the prevailing situation *vis-a-vis* their studies, health and related issues, Universities and Colleges should take the following measures for the mental health, psychological aspects and well-being of the students:

i. All the faculty members, students and staff should be made aware of the Web page named "Manodarpan" – created on the Ministry of Education website to provide psychosocial support for Mental Health & Well-being during the COVID – 19 outbreak and beyond. The web page contains advisory, practical tips, posters, videos, do's and don'ts for Psychosocial support, FAQ and online query system. Also, a National Toll Free Helpline (8445440632) for country wide outreach to students from schools, colleges and universities has also been set up which will provide tele-counselling to address their mental health and psychosocial issues.

ii. Set up helplines for mental health, psychological concerns and well-being of students in Universities/ Colleges which need to be regularly monitored by Counsellors and other identified faculty.

iii. Regular mentoring of students through interactions, and appeals/letters by the Universities/ Colleges to remain calm and stress-free. This can be achieved through telephones, e-mails, digital and social media platforms.

iv. Form COVID-19 help groups of students headed by hostel wardens / senior faculty who can identify friends/ classmates in need of help and provide the immediate necessary help.

v. Share the following video links of Ministry of Health & Family Welfare https://www.mohfw.gov.in/on the University/ College website and with students and faculty via e-mail, through social media like Facebook, WhatsApp and twitter etc.

Practical tips to take care of your Mental Health during the Stay In
https://www.youtube.com/watch?v=uHB3WJsLJ8s&feature=youtu.be

Minding our minds during the COVID-19
https://www.mohfw.gov.in/pdf/MindingourmindsduringCoronaeditedal.pdf

Various Health Experts on how to manage Mental health & Well Being during COVID-19 outbreak
https://www.youtube.com/watch?v=juKhtSehp24&feature=youtu.be

Behavioural Health: Psycho-Social toll free helpline - 0804611007

4.2.6 Measures for Containment

i. As soon as a student, faculty or staff is detected COVID-19 positive, such person should be immediately isolated as per the directive/advisory of the Government. Room-mates and close contacts should be quarantined and symptomatic ones to be immediately tested.

ii. Universities and colleges should have a ready plan to provide healthcare support to those resident students and staff who test positive and are isolated.

iii. The guidelines restricting social and physical contacts and mobility in such parts of residential places in the campus, where positive cases have been found, should be strictly enforced. Measures like holding no class, not leaving the rooms for hostellers, if applicable, no take away arrangement of food from mess etc. may be enforced, depending upon the severity of the situation.

iv. Universities and colleges should also plan in advance, in case shut down are ordered by the Government due to outbreak in campus or the surrounding region.

4.2.7 Sensitization of Students, Teachers and Staff

i. Awareness programmes regarding COVID-19 as to how the infection spreads, common symptoms, and precautions and measures required to contain its spread may be launched.

ii. Maintaining hygiene, e.g., how to wash hands, how to cough or sneeze into a tissue or elbow, avoid touching of face, eyes, mouth and nose should be regularly told to the students and the staff.

iii. The necessity of physical distancing, wearing face covers/ masks, hygiene etc. should be brought home to all.

iv. Activities to stay fit, physically and mentally, should be encouraged like doing exercises, yoga, breathing exercises, meditation, etc.

v. To improve resilience and mental health, students should be encouraged to share their feelings with friends, teachers and parents, remain positive, grateful, helpful, have focussed approach, take a break from work, eat healthy and sleep timely etc.

vi. Eating healthy food and fruits, avoiding junk food, frequently drinking warm water, adopting ways to increase immunity etc. should be encouraged.

vii. Students should be told to regularly sanitize their laptops, audio, video and other media accessories.

viii. Factual information regarding COVID-19 and consequences of infection, without making them stressed or fearful, should be disseminated.

ix. Posters and stickers should be pasted at appropriate places in the campus to create awareness about the risk of infection from Coronavirus.

x. All support and facilities should be provided to persons with disabilities (*Divyangjan*).

xi. No discrimination based on caste, creed or gender should be allowed to take place.

xii. Sharing of books, other learning material and eatables be discouraged.

5. Role of Stakeholders

5.1 Central/ State Government(s)

i. The Government should help educational institutions to prepare an effective plan for reopening their campuses. The plan may vary from institution to institution, keeping in view the situation regarding spread of COVID-19 pandemic in a particular area/region/zone.

ii. The Governments may issue clear instructions to the universities and colleges to ensure the safety and health of all concerned. This may include instructions for wearing of face masks, physical distancing, and the number of students in a class, library, hostels, and dining halls etc.

iii. State governments, in consultations with higher education institutions, should prepare an estimate of requirement in each of their districts and zones, of disinfectants, facemasks and prepare a plan in advance for their procurement and distribution. Universities and colleges should ensure sufficient supplies of these items to their students, faculty and staff.

iv. Keeping in view the varying conditions in any state at district and zonal levels, the Government concerned should prepare a region-specific plan, instead of a uniform plan for the entire state.

v. State health departments should remain in touch with the universities and colleges and work to ensure that the campuses are well prepared to maintain the safe and healthy conditions and also to deal with the COVID-19 related unexpected situations.

vi. The Governments should keep a constant touch with the universities and colleges regarding the status of COVID-19. The government may call information regarding COVID-19 related condition in the campuses and also call meetings at appropriate intervals with the Head of institutions through video conferencing.

5.2 Head of the Institution

i. Vice- Chancellors/ Principals may get Standard Operating Procedures(SOPs) worked out in view of COVID-19 outbreak, in accordance with the Government orders and guidelines.

ii. A detailed institutional plan which may, inter alia, include sanitization, safety and health measures should be prepared and kept ready, before reopening of campus. Proper implementation of the institutional plan should be ensured and regular monitoring should be done with the help of faculty and the staff.

iii. Tie-ups may be established with nearby hospitals, health centres, NGOs, health experts for help and support in fighting COVID-19.

iv. A plan for all academic activities, i.e., the academic calendar, teaching-learning modes, examinations, evaluation etc. should be kept ready well in advance.

v. A Task Group should be created to handle varied situations and issues related to the COVID-19 pandemic. Such Task Group may consist of senior persons from faculty and staff, students, volunteers from communities, NGOs, health organisations and Government officials etc. as the case may be.

vi. Teachers, students and staff should be made aware of all relevant plans and activities on the campus.

5.3 Teachers

i. Teachers should make themselves fully aware of institutional plans and Standard Operating Procedures.

ii. Every teacher should prepare a detailed teaching plan for the subjects taught by him/her, including time table, class size, modes of delivery, assignments, theory, practical, continuous evaluation, end- semester evaluation etc.

iii. Teachers should keep themselves updated with the latest teaching- learning methods and availability of e-resources.

iv. Teachers should make the students aware of the COVID-19 related situation, precautions and steps to be taken to stay safe and healthy.

v. Teachers should monitor and keep track of the physical and mental health of their students.

5.4 Parents

i. The parents should ensure that their children observe safety norms at home and whenever they go out.

ii. Parents should not allow their children to go out, if they are not feeling well.

iii. Parents may be advised that the 'Aarogya Setu App' has been downloaded by their children.

iv. Parents should sensitize them of healthy food habits and measures to increase immunity.

v. Parents should ask them to do exercise, yoga, meditation and breathing exercises to keep them mentally and physically fit.

5.5. Students

i. Self-discipline is most important to contain the spread of COVID-19 pandemic through social distancing and maintaining hygienic condition.

ii. All students should wear face covers/ masks and take all preventive measures.

iii. May consider installing 'Aarogya Setu App' in the mobile.

iv. It is important for the students to be physically and mentally fit to handle any exigencies. By remaining fit, they can take care of others also.

v. The students must inculcate activities that will increase immunity-boosting mechanism which may include exercise, yoga, eating fresh fruits and healthy food (avoid fast food), sleep timely.

vi. Discrimination of fellow students in respect of whom there is a history of COVID-19 disease in the family be avoided.

vii. Give support to your friends under stress due to COVID-19 pandemic.

viii. Students should follow the guidelines, advisories and instructions issued by the Government authorities as well as by the universities and colleges regarding health and safety measures in view of COVID-19 pandemic.

6. In view of the present scenario and future uncertainties:

i. The universities may adopt and implement these Guidelines in a transparent manner by making alterations/ additions/ modifications/ amendments to deal with particular situation(s) in the best interest of students, educational institution and the entire education system, except in respect of those guidelines that are mandatory.

ii. In case of educational institutions located at places where the Government (Centre/ State) have imposed restrictions on gathering of public, the institutions may plan accordingly. In any case, the above recommendations shall not cause any restrictions on the guidelines/directions issued by the appropriate Government/ competent authority.

Notwithstanding the above Guidelines, every university/ college has to ensure that it is prepared in all respects to carry out the academic activities following necessary advisories/guidelines/directions issued by the Central/State Government, Ministry of Education (earlier referred to as MHRD) or UGC from time to time to prevent the spread of COVID-19.

राज्यातील शाळा सुरक्षितपणे सुरु करण्यासाठी मार्गदर्शक सूचना निर्गमित करण्याबाबत.

महाराष्ट्र शासन
शालेय शिक्षण व क्रीडा विभाग
शासन परिपत्रक क्रमांक संकीर्ण २०२०/प्र.क्र.१४०/एसडी-६
मादम कामा मार्ग, हुतात्मा राजगुरू चौक,
मंत्रालय,मुंबई-४०० ०३२.
दिनांक :- १० नोव्हेंबर, २०२०

वाचा :- १) शासन परिपत्रक क्र.संकीर्ण २०२०/प्र.क्र.८६/एसडी-६; दिनांक १५ जुन, २०२०.
२) शासन परिपत्रक क्र.संकीर्ण २०२०/प्र.क्र.८६/एसडी-६; दिनांक २४ जुन, २०२०.
३) शासन परिपत्रक क्र.संकीर्ण २०२०/प्र.क्र.८६/एसडी-६; दिनांक २२ जूलै, २०२०.
४) शासन परिपत्रक क्र.संकीर्ण २०२०/प्र.क्र.८६/एसडी-६; दिनांक १७ ऑगस्ट, २०२०.
५) शासन परिपत्रक क्र.संकीर्ण २०२०/प्र.क्र.८६/एसडी-६; दिनांक २९ ऑक्टोबर, २०२०.
६) केंद्र शासनाच्या दि.०८.०९.२०२० रोजीच्या मार्गदर्शक सूचना.

पार्श्वभूमी :-

या विभागाच्या संदर्भ क्र. ०१ येथील शासन परिपत्रकानुसार राज्यात कोव्हीड- १९ च्या प्रादूर्भावामुळे उद्भवलेल्या परिस्थितीत राज्यातील शाळा प्रत्यक्षात सुरु करणे शक्य नसल्याने दि.१५ जुन, २०२० पासून शैक्षणिक वर्ष सुरु करुन स्थानिक परिस्थितीनुसार प्रत्यक्ष शाळा टप्प्या-टप्प्याने सुरु करण्याबाबत निर्णय घेण्याचे अधिकार संबंधित जिल्हाधिकारी, महानगरपालिका आयुक्त यांच्या सहाय्याने संबंधित शाळा व्यवस्थापन समिती यांना प्रदान करण्यात आले आहेत. त्याचबरोबर शाळांमध्ये शिक्षकांच्या उपस्थितीबाबत दिनांक २४ जून, २०२० रोजीच्या परीपत्रकान्वये मार्गदर्शक सूचना निर्गमित करण्यात आल्या आहेत. कोरोनाच्या प्रादुर्भावामुळे विद्यार्थ्यांचे शिक्षण थांबू नये यासाठी वरील संदर्भ क्रमांक ०३ येथील परिपत्रकान्वये पूर्व प्राथमिक ते इयत्ता १२ वी पर्यंतच्या विद्यार्थ्यासाठी ऑनलाईन शिक्षणाचा कालावधी व शिक्षणाच्या स्वरूपाबाबत मार्गदर्शक सूचना निर्गमित करण्यात आल्या होत्या.

राज्यात Mission Begin Again अंतर्गत राज्यातील सर्व आस्थापना टप्प्या - टप्प्याने सुरु करण्यासाठी मार्गदर्शक सूचना (SOP) निर्गमित करण्यात येत आहेत. त्याच धर्तीवर शैक्षणिक वर्ष दि.१५ जून, २०२० पासून सुरू झाले असले तरी प्रत्यक्ष प्रथम: इयत्ता ९ वी ते इयत्ता १२ वी साठी शाळा सुरु करण्याबाबतचा प्रस्ताव शासनाच्या विचाराधीन होता.

परिपत्रक:-

१. राज्यातील इयत्ता ९ वी ते इयत्ता १२ वी चे वर्ग दिनांक २३ नोव्हेंबर, २०२० पासून सुरू करण्यास मान्यता देण्यात येत आहे. तसेच इयत्ता ९ वी ते १२ वी चे वसतिगृह व आश्रमशाळा विशेषत: आंतरराष्ट्रीय विद्यार्थ्यांचे वसतिगृह सुरु करण्यास मान्यता देण्यात येत आहे. शाळा सुरु करण्यापूर्वी व शाळा सुरु झाल्यानंतर आरोग्य, स्वच्छत्ता व इतर सुरक्षाविषयक उपाययोजनांबाबतच्या मार्गदर्शक सूचना सोबत जोडलेल्या परिशिष्ट-अ व परिशिष्ट-ब मध्ये देण्यात आल्या आहेत.

२. कोविड-१९ बाबत केंद्र व राज्य शासनाच्या सूचनांचे पालन करण्यात यावे. विद्यार्थ्यांच्या उपस्थितीबाबत पालकांकडून आवश्यक ती लेखी संमती घेण्यात यावी.

३. या विभागाच्या संदर्भाधीन दिनांक १५ जुन, २०२० व दिनांक २९ ऑक्टोबर,२०२० रोजीच्या परिपत्रकातील सुचनांचे पालन करण्यात यावे.

४. सदर शासन परिपत्रक महाराष्ट्र शासनाच्या www.maharashtra.gov.in या संकेत स्थळावर उपलब्ध करण्यात आले असून त्याचा संगणक संकेतांक २०२०१११०१६४२४८३६२१ असा आहे. सदर परिपत्रक डिजिटल स्वाक्षरीने साक्षांकित करुन निर्गमित करण्यात येत आहे.

महाराष्ट्राचे राज्यपाल यांच्या आदेशानुसार व नावाने.

RAJENDRA SHANKARRAO PAWAR

Digitally signed by RAJENDRA SHANKARRAO PAWAR
DN: c=IN, o=Government Of Maharashtra, ou=SCHOOL EDUCATION & SPORT DEPARTMENT, postalCode=400032, st=Maharashtra, 2.5.4.20=67918 4b88f7019ef64ad6dc2495ca280267c0d4755ce63fa70c45cf755d9373, serialNumber=81d5ac9d227fcf738dd4d5a366976c83175db4f058411807fb1031c17dd155677, cn=RAJENDRA SHANKARRAO PAWAR
Date: 2020.11.10 16:52:07 +05'30'

(राजेंद्र पवार)

उप सचिव, महाराष्ट्र शासन

प्रति,

१) मा. राज्यपालांचे सचिव, राजभवन, मुंबई.
२) मा. मुख्यमंत्री, महाराष्ट्र राज्य यांचे प्रधान सचिव.
३) मा. उप मुख्यमंत्री, महाराष्ट्र राज्य यांचे सचिव.
४) मा. अध्यक्ष व मा. उपाध्यक्ष, विधान परिषद, विधान भवन, मुंबई.
५) मा. सभापती व मा. उपसभापती, विधान सभा, विधान भवन, मुंबई.
६) मा. मंत्री, (शालेय शिक्षण) यांचे खाजगी सचिव.
७) मा. राज्यमंत्री, (शालेय शिक्षण) यांचे खाजगी सचिव.
८) आयुक्त (शिक्षण), महाराष्ट्र राज्य, पुणे.
९) राज्य प्रकल्प संचालक, महाराष्ट्र प्राथमिक शिक्षण परिषद, मुंबई.

१०) संचालक, राज्य शैक्षणिक संशोधन व प्रशिक्षण परिषद, महाराष्ट्र, पुणे.
११) शिक्षण संचालक (माध्यमिक व उच्च माध्यमिक), शिक्षण संचालनालय, महाराष्ट्र राज्य, पुणे.
१२) शिक्षण संचालक (प्राथमिक), शिक्षण संचालनालय, महाराष्ट्र राज्य, पुणे.
१३) प्रभारी संचालक, बालभारती,
१४) सर्व विभागीय शिक्षण उपसंचालक.
१५) मुख्य कार्यकारी अधिकारी, जिल्हा परिषद, सर्व
१६) शिक्षणाधिकारी प्राथमिक/माध्यमिक (सर्व)
१७) प्राचार्य, जिल्हा शिक्षण व प्रशिक्षण संस्था (सर्व).
१८) प्रशासन अधिकारी, महानगरपालिका (सर्व)
१९) निवडनस्ती(कार्या.एसडी-६)

शासन परिपत्रक क्रमांक संकीर्ण २०२०/प्र.क्र.१४०/एसडी-६; दि. १० नोव्हेंबर, २०२० सोबतचे

परिशिष्ट-अ

शाळा सुरु करण्यापूर्वी आरोग्य, स्वच्छत्ता व इतर सुरक्षाविषयक उपाययोजनांबाबतच्या मार्गदर्शक सूचना

१) शाळेत स्वच्छता व निर्जंतुकीकरण विषयक सुविधा सुनिश्चित करणे:-

- शाळेत हात धुण्यासाठी सुविधा उपलब्ध करुन देणे.
- Thermometer, Thermal Scanner/Gun, Pulse Oxymeter, जंतूनाशक, साबण, पाणी इत्यादी आवश्यक वस्तुंची उपलब्धता तसेच शाळेची स्वच्छता व निर्जंतुकीकरण स्थानिक प्रशासनाने (ग्रामीण व शहरी) सुनिश्चित करावी. वापरण्यात येणारे thermometer हे calibrated contactless infrared digital thermometer असावे.
- शाळा वाहतुक सुविधांचे निर्जंतुकीकरण सुनिश्चित करावे.
- एखाद्या शाळेत क्वारंटाईन सेंटर असल्यास स्थानिक प्रशासनाने ते इतर ठिकाणी स्थानापन्न करावे. स्थानिक प्रशासनाने अशा शाळेचे हस्तांतरण शाळा व्यवस्थापनाकडे करण्यापूर्वी त्याचे पूर्णत: निर्जंतुकीकरण करावे.
- क्वारंटाईन सेंटर इतर ठिकाणी नेणे शक्य नसल्यास शाळा खुल्या परिसरात किंवा इतर ठिकाणी भरवावी.

२) शिक्षकांची कोविड-१९ बाबतची चाचणी:-

- शाळेतील सर्व शिक्षक व शिक्षकेत्तर कर्मचाऱ्यांनी दि. १७ ते २२ नोव्हेंबर, २०२० या दरम्यान कोविड-१९ साठीची RTPCR चाचणी करणे बंधनकारक असेल.शिक्षक व शिक्षकेत्तर कर्मचाऱ्यांनी सदर चाचणीचे प्रयोगशाळेने दिलेले प्रमाणपत्र शाळा व्यवस्थापनास सादर करावे. सदर प्रमाणपत्राची शाळा व्यवस्थापनाने पडताळणी करावी.
- ज्या शिक्षक व शिक्षकेत्तर कर्मचाऱ्यांचे चाचणी अहवाल positive असतील त्यांनी डॉक्टरांनी प्रमाणित केल्यानंतरच शाळेत उपस्थित राहवे.
- ज्या शिक्षक व शिक्षकेत्तर कर्मचाऱ्यांचे चाचणी अहवाल negative आहेत त्यांनी शाळेत उपस्थित राहताना कोविड-१९ संदर्भातील सर्व मार्गदर्शक सूचनांचे पालन करणे आवश्यक राहील. तसेच कोविड-१९ बाबतची लक्षणे आढळल्यास त्यांनी त्वरीत चाचणी करावी.

३) कार्यगट गठीत करणे:- सर्व भागधारकांचे त्यांच्या विशिष्ट जबाबदाऱ्यांसहित विविध कार्यगट गठित करावे जसे आपत्कालीन गट, स्वच्छता पर्यवेक्षण गट, इत्यादी. शिक्षक, विद्यार्थी व इतर भागधारक या गटांचे सभासद म्हणून सहकार्याने काम करतील.

४) बैठक व्यवस्था :-

- वर्गखोली तसेच स्टाफ रुम मधील बैठक व्यवस्था शारीरिक अंतर (Physical Distancing) च्या नियमांनुसार असावी.
- वर्गामध्ये एका बाकावर एक विद्यार्थी याप्रमाणे नावानिशी बैठक व्यवस्था असावी.

५) शारीरिक अंतर (Physical distancing) च्या नियमांच्या अंमलबजावणीकरिता विविध चिन्हे व खुणा प्रदर्शित करणे :-

- शाळेत दर्शनी भागावर Physical distancing, मास्कचा वापर इत्यादी संदर्भात मार्गदर्शक सूचना असणारे posters/stickers प्रदर्शित करावे.
- थूंकण्यावरील बंदीची काटेकोरपणे अंमलबजावणी करावी.
- शाळेच्या अंतर्गत व बाह्य परिसरामध्ये रांगेत उभे राहण्याकरिता किमान सहा फूट इतके शारीरिक अंतर (Physical distance) राखले जाईल याकरिता विशिष्ट चिन्हे जसे चौकोन, वर्तुळ इत्यादींचा वापर गर्दी होणारी ठिकाणे जसे पाणी पिण्याच्या सुविधा , हात धुण्याच्या सुविधा, स्वच्छतागृहे इत्यादी ठिकाणी करण्यात यावा.
- शारीरिक अंतर (Physical distance) राखण्यासाठी येण्या व जाण्याचे वेगवेगळे मार्ग निश्चित करणाऱ्या बाणांच्या खुणा दर्शविण्यात याव्यात.

६) शाळेतील कार्यक्रम आयोजनावरील निर्बंध :- परिपाठ, स्नेह संम्मेलन, क्रीडा व इतर तत्सम कार्यक्रम ज्यामुळे अधिक गर्दी होऊ शकते अशा कार्यक्रमांच्या आयोजनावर कडक निर्बंध असेल. शिक्षक- पालक बैठका ऑनलाईन घ्याव्यात.

७) पालकांची संमती:-

- विद्यार्थ्यांनी शाळेत उपस्थित राहण्यापूर्वी त्यांच्या पालकांची लेखी संमती आवश्यक असेल. शाळा व्यवस्थापन समितीने पालकांशी वरील विषयी चर्चा करावी.
- आजारी असलेल्या मुलांना पालकांनी शाळेत पाठवू नये.
- विद्यार्थ्यांना त्यांच्या पालकांच्या संमतीने घरी राहुन देखील अभ्यास करता येईल. अशा विद्यार्थ्यांच्या शैक्षणिक प्रगतीच्या मुल्यांकनाकरिता विशिष्ठ योजना राज्य शैक्षणिक संशोधन व प्रशिक्षण परिषद, महाराष्ट्र यांनी तयार करण्यात यावी.

८) विद्यार्थी, पालक, शिक्षक व समाजातील सदस्य यांना कोविड-१९ च्या संदर्भातील आव्हाने व त्याबाबतची त्यांची भूमिका याबाबत जागरुक करणे:-

- शाळा सुरु करण्यापूर्वीच विद्यार्थी, पालक, शिक्षक व समाजातील सदस्य यांच्यात जागरुकता निर्माण करण्याकरिता शाळा व्यवस्थापन समितीने पत्रके, पत्रे व सार्वजनिक घोषणांच्या माध्यमांचा वापर करुन पुढील मुद्द्यांबाबत कार्यवाही करावी:-
  i. वैयक्तिक स्वच्छता व नेहमी वापरण्यात येणारे पृष्ठभागांचे निर्जंतुकीकरण इत्यादीबाबत काय करावे किंवा काय करु नये याबाबतच्या सुचना.
  ii. शारीरिक अंतर पालनाचे (Physical distancing) चे महत्व.
  iii. कोविड-१९ च्या प्रतिबंधासाठी आवश्यक स्वच्छताविषयक सवयी.
  iv. कोविड-१९ बाबतच्या गैरसमजुती.
  v. कोविड-१९ ची लक्षणे आढळल्यास शाळेत जाणे टाळणे.
- केंद्रीय आरोग्य व कुटुंब कल्याण मंत्रालय यांच्या सुचनांनुसार, सर्वच कर्मचारी जे (कोविड-१९च्या अनुषंगाने) अधिक उच्च धोक्याच्या पातळीमध्ये आहेत, जसे वयोवृद्ध कर्मचारी, दिव्यांग कर्मचारी, गरोदर महिला कर्मचारी व जे कर्मचारी औषध-उपचार

घेत आहेत, त्यांनी अधिक काळजी घ्यावी. त्यांनी शक्यतो विद्यार्थ्यांच्या प्रत्यक्ष संपर्कात येऊ नये.

९) शाळेतील उपस्थिती व वैद्यकीय रजा याबाबतच्या धोरणांमध्ये सुधारणा करणे:-

- विद्यार्थ्यांची शाळेतील उपस्थिती बंधनकारक नसून पूर्णतः पालकांच्या संमती वर अवलंबून असेल.
- पूर्ण उपस्थितीबाबतची पारितोषिके बंद करण्यात यावी.
- शाळेतील कर्मचाऱ्यांना त्यांना नेमून दिलेल्या कामाव्यतिरिक्त आणिबाणीच्या प्रसंगी इतर कर्मचाऱ्यांची कामे करण्यासाठी प्रशिक्षित करावे.

१०) माहितीचे एकत्रिकरण :-

- विद्यार्थी, पालक व शिक्षकांकडून पुढील माहिती स्वयंघोषित करुन घ्यावी:-
  त्यांची आरोग्याची स्थिती, आरोग्य सेतू ॲप वरील तपासणी अहवाल, तसेच अलीकडील आंतरराष्ट्रीय व आंतरराज्य प्रवासाची माहिती.
- स्थानिक प्रशासनाकडून राज्य व जिल्हा helpline तसेच जवळील कोविड सेंटर बद्दलची माहिती.

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शासन परिपत्रक क्रमांक संकीर्ण २०२०/प्र.क्र.१४०/एसडी-६; दि. १० नोव्हेंबर, २०२० सोबतचे

परिशिष्ट-ब

शाळा सुरू झाल्यानंतर आरोग्य, स्वच्छता व इतर सुरक्षाविषयक उपायोजनाबाबतच्या मार्गदर्शक सूचना:-

१) शाळेत व शाळेच्या परिसरात स्वच्छता व आरोग्यदायी परीस्थिती सतत राखणे:-

- शाळेचा परीसर दररोज नियमितपणे स्वच्छ केला जावा.
- शाळेतील वर्गखोल्या व वर्गखोल्यांच्या बाहेरील नेहमी स्पर्श होणारा पृष्ठभाग जसे लॅचेस, अध्ययन-अध्यापन साहित्य, डेस्क, टॅबलेट्स, खुर्च्या इ.वारंवार स्वच्छता व निर्जंतुकीकरण करण्यात यावे.
- शाळेतील व शाळेच्या परीसरातील सर्व कचरा नियमितपणे विल्हेवाट लावण्यात यावी.
- हात धुण्याच्या सर्व ठिकाणी साबण, हॅन्डवॉश व स्वच्छ पाण्याची व्यवस्था करण्यात यावी. शक्य झाल्यास अल्कोहोल मिश्रित हॅन्ड सॅनिटायझर सर्व महत्त्वाच्या ठिकाणी ठेवण्यात यावा.
- शाळेतील स्वच्छतागृहाचे वारंवार निर्जंतुकीकरण करण्यात यावे.
- सुरक्षित व स्वच्छ पिण्याचे पाणी विद्यार्थ्यांना उपलब्ध होईल याची दक्षता घेण्यात यावी. विद्यार्थ्यांनी सोबत वॉटर बॉटल आणण्यासाठी त्यांना प्रोत्साहीत करावे.
- शाळा सुरू होण्यापूर्वी व शाळा सुटल्यानंतर शाळा व वर्ग खोल्यांचे नियमितपणे निर्जंतुकीकरण करण्यात यावे.
- **वरील सर्व स्वच्छतेमध्ये विद्यार्थ्यांना सहभागी करून घेऊ नये.**

२) शाळेत विद्यार्थ्यांना सुरक्षित ठेवणे :-

- सर्व विद्यार्थी, शिक्षक व कर्मचारी वर्ग यांनी शाळेत येताना व शाळेत असेपर्यंत तसेच, शाळेत कोणतीही कृती करताना मास्कचा वापर करावा. तसेच, विद्यार्थी मास्कची अदलाबदल करणार नाहीत याची दक्षता घ्यावी.
- विद्यार्थी, शिक्षक व कर्मचारी वर्गाची दररोज साधी आरोग्य चाचणी जसे Thermal Screening घेण्यात यावी.
- विद्यार्थी, शिक्षक व शाळेतील कर्मचाऱ्यांव्यतिरिक्त इतर कोणत्याही व्यक्तिला शाळेचा आवारात व शाळेच्या प्रवेशद्वारावर प्रवेश देऊ नये.
- काही विद्यार्थी सूचनांचे पालन करत नसल्यास ते त्यांच्या पालकांच्या निदर्शनांस आणावे.

३) विद्यार्थ्यांच्या सुरक्षित प्रवासाची सोय करणे :-

- कोविड-१९ संसर्ग टाळण्यासाठी पालकांनी शक्यतो विद्यार्थ्यांना स्वत: त्यांच्या वैयक्तिक वाहनाने शाळेत सोडावे.

- शाळा वाहतुकीच्या वाहनाचे दिवसातून किमान दोनवेळा (विद्यार्थी वाहनात येतांना व वाहनातुन उतरल्यानंतर) निर्जंतुकीकरण करण्यात यावे.
- वाहनचालक व वाहक यांनी स्वत: तसेच विद्यार्थी शारीरिक अंतराचे पालन करतील, याची दक्षता घ्यावी. किमान ६ फुट अंतर राखण्यात यावे.
- बस / कार यांच्या खिडक्यांना पडदे नसावेत. सामान्यत: खिडक्या उघडया ठेवण्यात याव्यात.
- वातानुकूलित बसेस मध्ये २४ ते ३० डिग्री सेल्सिअस तापमान राखावे.
- शक्य असल्यास वाहनात हॅन्ड सॅनिटायझर ठेवण्यात यावे.

४) शिक्षक व शिक्षकेत्तर कर्मचारी व विद्यार्थी यांचा सुरक्षित प्रवेश व गमन (Entry and Exit) :-

- विद्यार्थ्यांनी शाळेने निश्चित केल्याप्रमाणे शाळेत उपस्थित रहावे. शाळेत वावरताना त्यांनी किमान ६ फुट अंतराचे पालन करावे.
- विद्यार्थी व कर्मचारी वर्गांचे आगमन व गमन (Entry and Exit) यांचे वेळापत्रक अशा प्रकारे निश्चित करावे, ज्यामुळे शाळेत होणारी गर्दी टाळली जाईल.
- विविध इयत्तांचे वर्ग सुरु होण्याच्या व संपण्याच्या वेळामध्ये किमान १० मिनिटांचे अंतर असावे.
- शाळेच्या परिसरात चार पेक्षा जास्त विद्यार्थी एकत्र जमणार नाहीत, ही मुख्यध्यापकांची जबाबदारी असेल.
- शाळेस एकापेक्षा अधिक प्रवेशद्वार असल्यास शाळेत येताना व जातांना सर्व प्रवेशद्वरांचा वापर करावा.
- शाळेच्या बाहेरील वाहनांची गर्दी टाळण्यासाठी वाहतुक पोलिस किंवा समाजातील स्वयंसेवकाची मदत घ्यावी.
- शाळेच्या प्रमुखांनी आजारी असल्याच्या कारणामुळे कर्मचाऱ्यास रजेवर राहण्याची परवानगी देण्यात यावी.
- कुटुंबातील एखादा सदस्य किंवा घराजवळील एखादी व्यक्ती ताप / खोकला यांनी आजारी असल्यास आपल्या मुलांना शाळेत न पाठविण्याबाबत पालकांना अवगत करावे.

५) वर्गखोल्या व इतर ठिकाणी सुरक्षिततेच्या मानकांची खात्री करावी :-

- शाळेत प्रात्यक्षिक कार्ये (Practicals) घेताना विद्यार्थ्यांचे लहान लहान गट करुन घेण्यात यावेत म्हणजे शारीरिक अंतराचे (Physical Distancing) पालन करणे सुलभ होईल.
- विद्यार्थ्यांनी कोणतेही साहित्य जसे पुस्तके, वही, पेन, पेन्सिल, वॉटर बॉटल, इत्यादींची अदलाबदल करू नये.
- ज्या विद्यार्थ्यांनी ऑनलाईन शिक्षणाचा पर्याय स्वीकारला असेल त्यांच्यासाठी ऑनलाईन गृहपाठाची व्यवस्था करावी.

- शक्य असल्यास वर्ग खुल्या परिसरात घ्यावेत. शक्य नसल्यास वर्गखोल्यांची दारे व खिडक्या उघड्या ठेवण्यात याव्यात. कोणत्याही परिस्थितीत बंद खोल्यांमध्ये वर्ग भरवण्यात येऊ नये.
- उदवाहन (lift) व व्हरांड्यांतील उपस्थित व्यक्तीच्या संख्येवर निर्बध आणावेत.
- स्वच्छतागृहामध्ये अधिक गर्दी होऊ नये, याची दक्षता घ्यावी.
- विद्यार्थ्यांनी प्रत्येक कृती केल्यानंतर हात स्वच्छ धुवावेत.
- वातानुकुलित वर्ग खोल्यांचे तापमान २४ ते ३० डिग्री सेंटिग्रेड ठेवावे.

६) अभ्यासवर्गांची व्यवस्था:-

- शाळा व्यवस्थापन समितीने शाळेतील गर्दी टाळण्यासाठी एक दिवसआड विद्यार्थ्यांना शाळेत बोलवावे (५० टक्के विद्यार्थी एका दिवशी व उर्वरित ५० टक्के विद्यार्थी दुसऱ्या दिवशी). अशाप्रकारे एकाच दिवशी ५० टक्के विद्यार्थी ऑनलाईन वर्गात व उर्वरित ५० टक्के विद्यार्थी प्रत्यक्ष वर्गात उपस्थित राहून शिक्षण घेतील.
- इयत्ता निहाय ऑनलाईन व ऑफलाईन वर्गांचे वेळापत्रक, शिक्षकांची जबाबदारी निश्चिती याची जबाबदारी संबंधित शाळेच्या मुख्याध्यापकांची असेल. शक्यतो मुख्य विषय (Core Subjects) जसे गणित, विज्ञान व इंग्रजी शाळेत शिकवावेत व उर्वरित विषय शासनाने वेळोवेळी निर्गमित केलेल्या सूचनांप्रमाणे ऑनलाईन पद्धतीने शिकवावेत.
- प्रत्यक्ष वर्गांचा कालावधी ३ ते ४ तासांपेक्षा अधिक असू नये. प्रत्यक्ष वर्गांकरिता जेवणाची सुट्टी नसेल.

७) कोविड-१९ संशयित आढळल्यास करावयाची कार्यवाही :-

- शिक्षक, कर्मचारी वर्ग किंवा विद्यार्थी संशयित आढळल्यास त्यास एका खोलीत इतरांपासून वेगळे ठेवावे.
- तात्काळ रुग्णालय किंवा जिल्हा व राज्य संपर्क क्रमांकास (Helpline) कळवावे. त्यानंतर सर्व परिसराचे व त्या जागेचे निर्जंतुकीकरण करावे. राज्य व जिल्हा helpline क्रमांक तसेच जवळील कोविड सेंटर बद्दलची माहिती मुख्याध्यापक व प्रत्येक शिक्षकांच्या मोबाईलमध्ये असावी.

८) मानसिक व सामाजिक कल्याण :-

- चिंता आणि निराशा यासारख्या मानसिक आरोग्याच्या समस्या नोंदविणाऱ्या किंवा सांगणाऱ्या विद्यार्थी आणि शिक्षकांसाठी नियमित समुपदेशन केले जाईल, याची सुनिश्चिती करावी.
- शिक्षकांनी, शालेय समुपदेशकांनी आणि शालेय आरोग्य कर्मचाऱ्यांनी विद्यार्थ्यांचे व आपले मानसिक स्थिरता निश्चित करण्यासाठी एकत्रितपणे कार्य करावे.

उपरोक्त सूचनांव्यतिरिक्त स्थानिक परिस्थितीनुसार शाळांनी आवश्यक मार्गदर्शक सुचना निश्चित कराव्यात.

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SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

Circular No. 323 / 2020

Important Notification

Regarding Commencement and Conclusion of Ist & IInd terms for the Academic Year 2020-2021

It is hereby informed that the provision of the circular 284 & 285 of 2020 dated 15 October 2020 regarding the dates of Commencement and Conclusion of the Ist and IInd terms for the Academic Year 2020-2021 is applicable for all Under Graduate/ Post Graduate courses under all Faculties for whom the admissions were NOT made under the Common Entrance Examination (CET) conducted by the Government or SPPU. The same is applicable for all such Under Graduate / Post Graduate courses for which the teaching commenced in August or September 2020.

The date of Commencement and Conclusion of the academic session of the first year of all those courses whose admission was made/ will be made under Common Entrance Examination (CET) conducted by the Government or SPPU will be announced shortly.

3/12/2020.

Deputy Registrar
(P.G. Admissions)

Ganeshkhind, Pune
Ref. No. PGS/2275
Date: 03/12/2020

Copy to: for information & necessary action
The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 284 of 2020

Important Notification

Dates of Commencement and Conclusion of Ist & IInd terms for the Academic Year 2020-2021
For affiliated Colleges/recognised Institutes Only.

It is hereby informed that, the dates of Commencement and conclusion of the Ist and IInd term of for the Academic Year 2020-2021 University Courses, under various faculties shall be as under :

Dates of Commencement and conclusion of First Year of academic session 2020-21 will be declared later.

Sr. No.	Name of the Courses and Faculties	2020-2021			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	Science	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering : SE,TE,BE	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Engineering :ME - II Year. MCA- II & III Year	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B.Architecture II, III, IV & V Year.	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Architecture II Year.	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	B. Pharmacy	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	M. Pharmacy	01/07/2020	24/12/2020	19/01/2021	31/05/2021
2	**Commerce & Management**				
	Commerce	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Management	01/07/2020	24/12/2020	19/01/2021	31/05/2021
3	**Humanities**				
	Arts & Fine Arts	15/06/2020	05/12/2020	01/01/2021	15/05/2021
	Mental Moral and Social Sciences				
	Law : UG & PG (II/III/IV/V Year.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021
4	**Inter-disciplinary Studies**				
	Education II Year. (B.Ed., M.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021
	Physical Education II Year. (B.P.Ed., M.P.Ed.)	01/07/2020	24/12/2020	19/01/2021	31/05/2021

NOTE

1. **In view of prevailing COVID-19 situation in the Country, Colleges / Institutes shall required to follow the guidelines / instructions issued by the Government of Maharashtra time to time.**

2. **In case, the Principal of the affiliated Colleges require to give additional holiday in exceptional circumstances, he may do by the compensating the same by keeping the College working on Sunday.**

3. **The Term & holidays for the Post-Graduate courses coundected in the Colleges/Institutes will be as per the University Department.**

16/10/2020.
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1817
Date: 15/10/2020

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The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University

(Formerly University of Pune)

Telephone Nos. : 25601261, 25601262
Fax : 020 - 25699232
Email – pgadmis@pun.unipune.ac.in

Ganeshkhind,
Pune 411007.

Ref. No.: PGS/1193

Date: 29/07/2020

To,
The Head,
All University Departments,
Savitribai Phule Pune University
Pune - 411007.

Sub: - Regarding teaching of Sem. III/V/VII/IX for academic year 2020-21.

Sir/Madam,

In continuation with the circular No. 104/2020 dated 02/06/2020 regarding commencement of Academic Year 2020-21, you are hereby requested to begin teaching of Sem. III/V/VII/IX from 5th August, 2020 by online mode until further notice. All students should be instructed regarding the beginning of online teaching as well as completing online admission procedure on "One Campus" portal.

Thanking you,

Yours faithfully,

29/7/2020

Deputy Registrar
(P. G. Admission)

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No.103 of 2020

Important Notification

Revised Dates of Conclusion of II terms for the Academic Year 2019-2020 and Commencement for the Academic Year 2020-2021
For affiliated Colleges/recognised Institutes Only.

In view of prevailing COVID-19 situation in the Country, it is hereby informed that, the revised dates of conclusion of the Second term of 2019-2020 and Commencement for the Academic Year 2020-2021 University Courses, under various faculties shall be as under :

Sr. No.	Name of the Courses and Faculties	II Term 2019-20 Conclusion	I Term 2020-2021 Commencement
1	**Science & Technology**		
	Science	05/06/2020	15/06/2020
	Engineering : SE,TE,BE & MCA-II, & III Year	05/06/2020	15/06/2020
	Engineering :ME - II Year.	05/06/2020	01/07/2020
	B.Architecture II, III, IV & V Year.	05/06/2020	15/06/2020
	M. Architecture II Year.	05/06/2020	01/07/2020
	B. Pharmacy	05/06/2020	15/06/2020
	M. Pharmacy	05/06/2020	01/07/2020
2	**Commerce & Management**		
	Commerce	05/06/2020	15/06/2020
	Management	05/06/2020	01/07/2020
3	**Humanities**		
	Arts & Fine Arts	05/06/2020	15/06/2020
	Mental Moral and Social Sciences		
	Law : UG & PG (II, III, IV & V Year.)	05/06/2020	01/07/2020
4	**Inter-disciplinary Studies**		
	Education II Year.(B.Ed., M.Ed.)	05/06/2020	01/07/2020
	Physical Education II Year.(B.P.Ed., M.P.Ed.)	05/06/2020	01/07/2020

NOTE

1. **Colleges / Institutes in the red zone / contenment zone shall required to follow the guidelines / instructions issued by the Government of Maharashtra.**

2. **Details of conclusion of Ist term and Commencement and conclusion of IInd term of academic year 2020-2021 will be declared later.**

2/6/2020.
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 779
Date: 02/06/2020

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The Deans of Faculties.
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The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
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Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 77 of 2019

Dates of Commencement and Conclusion of terms for the Academic Year 2019-2020
For affiliated Colleges/recognised Institutes Only.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2019-2020 shall be as under :

Sr. No.	Name of the Courses and Faculties	2019-2020			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	Science	15/06/2019	24/10/2019	20/11/2019	30/04/2020
	Engineering : SE,TE,BE & MCA- II, & III Year	15/06/2019	05/11/2019	16/12/2019	27/04/2020
	Engineering :ME - II Year.	01/07/2019	09/11/2019	13/01/2020	23/05/2020
	B.Architecture II, III, IV & V Year.	15/06/2019	16/10/2019	09/12/2019	04/04/2020
	M. Architecture II Year.	08/07/2019	02/11/2019	09/12/2019	04/04/2020
	B. Pharmacy	15/06/2019	24/10/2019	20/11/2019	30/04/2020
	M. Pharmacy	01/07/2019	07/12/2019	01/01/2020	15/05/2020
2	**Commerce & Management**				
	Commerce	15/06/2019	24/10/2019	20/11/2019	30/04/2020
	Management	01/07/2019	07/12/2019	01/01/2020	15/05/2020
3	**Humanities**				
	Arts & Fine Arts	15/06/2019	24/10/2019	20/11/2019	30/04/2020
	Mental Moral and Social Sciences				
	Law : UG & PG (II/III/IV/V Year.)	01/07/2019	07/12/2019	17/01/2020	31/05/2020
4	**Inter-disciplinary Studies**				
	Education II Year. (B.Ed., M.Ed.)	01/07/2019	07/12/2019	01/01/2020	15/05/2020
	Physical Education II Year. (B.P.Ed., M.P.Ed.)	01/07/2019	07/12/2019	01/01/2020	15/05/2020

Teaching will begin on the date of commencement of the terms and immediately after the finalization of admissions; however, term would stand concluded on the dates mentioned above.

NOTE

1. In case, the Principal/Director of the affiliated Colleges/recognised Institutes require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.

2. The Term & holidays for the Post-graduate courses conducted in the Colleges/Institutes will be as per the University Department.

3. Details of Various Activities for Engineering and Architecture Courses for the Academic Year 2019-20 attached Separately.

26/4/2019
Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/1355
Date: 26/04/2019

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The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University

(Formerly University of Pune)

Circular No. 78 of 2019

Dates of Commencement and Conclusion of terms for the Academic Year 2019- 2020.
Post Graduate Courses for University Departments

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the Academic Year 2019-2020 shall be as under :

Sr. No.	Name of the Courses and Faculties	2019 - 2020			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**	01/07/2019	07/12/2019	01/01/2020	15/05/2020
	Science				
	Technology				
2	**Commerce & Management**				
	Commerce				
	Management				
3	**Humanities**				
	Arts & Fine Arts				
	Mental Moral and Social Sciences				
	Law				
4	**Inter- disciplinary Studies**				
	Education				
	Physical Education				

Teaching will begin on the date of commencement of the terms. The teaching shall begin immediately after the finalization of admissions, however, term would stand concluded, on the dates mentioned above.

NOTE

1. In case, the Head of the Department require to give additional holiday in exceptional circumstances, he may do so by compensating the same by keeping Department/College working on Sundays.
2. The Term & Holidays for the Post-Graduate courses conducted in the Colleges/Institutes will be as per the University Departments.

26/4/2019

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1356
Date: 26/04/2019

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The Members of the Management Council.
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The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
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Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Academic Calendar for Various Activities for II, III , IV & V Year **B. Arch. For the Year 2019-20.**

Sr. No.	Details of Activities	Dates	
		I[st] TERM	II[nd] TERM
1	Commencement of teaching	15/6/2019	09/12/2019
2	Conclusion of teaching	16/10/2019	04/04/2020
3	Sessional Exam/Viva Voce	All subjects except Practical training 18/10/2019 to 26 /10/2019 Practical Training Viva 16/12/2019 to 21/12/2019	All subjects except Arch. Project final year 06/04/2020 to 18/4/2020 Final year Arch. Project Viva 19/04/2020 to 26/4/2020
4	Preparation Time (Theory)	27/10/19 to 31/10/19	20/4/2020 to 25 /4/2020
5	Theory Examination	1/11/2019 onwards	27/4/2020 onwards

Academic Calendar for Various Activities for **IInd year M.Arch. For the Year 2019-20.**

Sr. No.	Details of Activities	Dates	
		I[st] TERM	II[nd] TERM
1	Commencement of teaching	08/07/2019	09/12/2019
2	Conclusion of teaching	02/11/2019	04/04/2020
3	Sessional Exam /Viva Voce	04/11/2019 to 07/11/2019	06/04/2020 to 11/04/2020 4[th] Semester M.Arch. Project Exam between 27[th] to 30[th] April 2020.
4	Preparation Time (Theory)	08/11/2019 to 12/11/2019	13/04/2020 to 18/04/2020
5	Theory Examination	13/11/2019 to 20/11/2019	20/04/2020 to 25/04/2020

As per the syllabus a training of 40 working days is to be competed by the student in the time between the 2[nd] and the 3[rd] Semester M.Arch.

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1355
Date: 26/04/2019

Savitribai Phule Pune University
(Formerly University of Pune)

ACADEMIC CALENDAR FOR VARIOUS ACTIVITES FOR ENGINERRING COURSES FOR THE YEAR 2019-20

FIRST TERM

Sr. No	Courses	Details of Activites	Date
01	S.E./T.E./ B.E. & MCA – II / III Year	Commencement of Teaching	15/06/2019
		Conclusion of Teaching	16/10/2019
		Practical/Oral /Project Stage-I Examination	18/10/2019 To 05/11/2019
		Theory Examination	14/11/2019 To 07/12/2019
02	M. E. II Year	Commencement of Teaching	01/07/2019
		Conclusion of Teaching	02/11/2019
		Practical Examination	04/11/2019 To 09/11/2019
		Theory Examination	09/12/2019 To 24/12/2019

SECOND TERM

Sr. No	Courses	Details of Activites	Date
01	F.E./S.E./T.E./ B.E. & MCA – I/II / III Year	Commencement of Teaching	16/12/2019
		Conclusion of Teaching	11/04/2020
		Practical/Oral /Project/ Examination	13/04/2020 To 27/04/2020
		Theory Examination	05/05/2020 To 30/05/2019
02	M. E. I & II Year	Commencement of Teaching	13/01/2020
		Conclusion of Teaching	14/05/2020
		Practical Examination	18/05/2020 To 23/05/2020
		Theory Examination	27/05/2020 To 12/06/2020

Project stage – II examniations will start three days later from conclusion of theory examination.

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1355
Date : 25/04/2019

Savitribai Phule Pune University
(Formerly University of Pune)

ACADEMIC CALENDAR FOR VARIOUS ACTIVITES FOR ENGINERRING (F.E. Fresh & MCA - I) & B. ARCHITECTURE - I YEAR COURSES FOR THE YEAR 2018-19

F.E. Fresh & MCA - I Year

Sr. No	Courses	Details of Activites	Date
		First term	
01	F.E. Fresh & MCA - I Year	Commencement of Teaching	01/08/2018
		Conclusion of Teaching	30/11/2018
		Commencement of (End -Semester) Examination	11/12/2018
		Second term	
01	F.E. Fresh & MCA - I Year	Commencement of Teaching	01/01/2019
		Conclusion of Teaching	23/04/2019
		Commencement of (End -Semester) Examination	02/05/2019

B. Architecture - I Year

Sr. No	Courses	Details of Activites	Date
		First term	
01	B.Architecture - I Year.	Commencement of Teaching	06/08/2018
		Conclusion of Teaching	30/11/2018
		Sessional/Viva Voce Examination	04/12/2018 to 06/12/2018
		Theory Examination	11/12/2018 onwards
		Second term	
02	B.Architecture - I Year.	Commencement of Teaching	17/12/2018
		Conclusion of Teaching	13/04/2019
		Sessional/Viva Voce Examination	16/04/2019 to 18/04/2019
		Theory Examination	24/04/2019 onwards

Deputy Registrar
(P.G. Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 3112
Date: 16/08/2018

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 145 of 2018

Dates of Commencement and Conclusion of terms for the Academic Year 2018-2019 For Enginerring (F.E. Fresh & MCA - I) & B. Architecture - I Year.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under F.E Fresh, B.Architechture- I, MCA - I Year for the academic year 2018-2019 for affiliated colleges shall be as under :

Sr. No.	Name of the Courses and Faculties	2018-19			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
	Science & Technology				
1	F.E. Fresh & MCA - I Year	01/08/2018	30/11/2018	01/01/2019	23/04/2019
2	B.Architecture - I Year	06/08/2018	30/11/2018	17/12/2018	13/04/2019

Teaching will begin on the date of commencement of the terms and immediately after the finalization of admissions; however, term would stand concluded on the dates mentioned above.

NOTE

1. In case, the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.
2. The Term & holidays for the Post-graduate courses conducted in the Colleges/Institutes will be as per the University Department.
3. Details of Various Activities for Engineering and Architecture Courses for the Academic Year 2018-19 attached Separately.

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 3112
Date: 16/08/2018

Copy to: for Information and necessary action

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The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
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The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
(Formerly University of Pune)

Circular No. 67 of 2018

Dates of Commencement and Conclusion of terms for the Academic Year 2018-2019
For Affiliated Colleges Only.

It is hereby informed that, the dates of commencement and conclusion of the First and Second term of University Courses, under various faculties, for the academic year 2018-2019 shall be as under :

Sr. No.	Name of the Courses and Faculties	2018-19			
		First Term		Second Term	
		Commencement	Conclusion	Commencement	Conclusion
1	**Science & Technology**				
	Science	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Engineering : SE,TE,BE & MCA- II, & III Year	15/06/2018	03/11/2018	17/12/2018	25/04/2019
	Engineering :ME - II Year.	02/07/2018	03/11/2018	15/01/2019	20/05/2019
	B.Architecture II, III, IV & V Year.	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	M. Architecture II Year.	02/07/2018	03/11/2018	17/12/2018	30/04/2019
	B. Pharmacy	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	M. Pharmacy	02/07/2018	03/11/2018	29/11/2018	15/05/2019
2	**Commerce & Management**				
	Commerce	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Management	02/07/2018	03/11/2018	29/11/2018	15/05/2019
3	**Humanities**				
	Arts & Fine Arts	15/06/2018	03/11/2018	29/11/2018	30/04/2019
	Mental Moral and Social Sciences				
	Law : UG & PG (II/III/IV/V Year.)	15/06/2018	03/11/2018	29/11/2018	30/04/2019
4	**Inter-disciplinary Studies**				
	Education II Year.	02/07/2018	03/11/2018	29/11/2018	15/05/2019
	Physical Education II Year.				

Teaching will begin on the date of commencement of the terms and immediately after the finalization of admissions; however, term would stand concluded on the dates mentioned above.

NOTE

1. In case, the Principal of the Affiliated Colleges require to give additional holiday in exceptional circumstances, he/she may do so by compensating the same by keeping the College working on Sunday.

2. The Term & holidays for the Post-graduate courses conducted in the Colleges/Institutes will be as per the University Department.

3. Details of Various Activities for Engineering and Architecture Courses for the Academic Year 2018-19 attached Separately.

Deputy Registrar
(P.G.Admission)

Ganeshkhind, Pune-07
Ref. No. PGS/ 1333
Date: 23/04/2018

Copy to: for Information and necessary action

The Members of the Management Council.
The Deans of Faculties.
The Registrar, Savitribai Phule Pune University, Pune.
The Director, Examinations & Evaluation, Savitribai Phule Pune University, Pune.
The Heads of all University Departments.
The Principals of all Affiliated Colleges.
The Directors of all Recognized Institutes.
The Heads of all the Administrative Sections of the University Office.
Asstt. Registrar, office of the Hon. Vice-Chancellor, Savitribai Phule Pune University
Asstt. Registrar, office of the Hon. Pro-Vice-Chancellor, Savitribai Phule Pune University

Savitribai Phule Pune University
Faculty of Science & Technology



Curriculum/Syllabus
for
Second Year
Bachelor of Engineering
(Choice Based Credit System)
Mechanical Engineering and Automobile Engineering
(2019 Course)

Board of Studies - Automobile and Mechanical Engineering
(With Effect from Academic Year 2020-21)

Savitribai Phule Pune University

Board of Studies - Automobile and Mechanical Engineering

Undergraduate Program - Automobile Engineering & Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hours/ Week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-III														
202041	Solid Mechanics	4	2	-	30	70	-	50	-	150	4	1	-	5
202042	Solid Modeling and Drafting	3	2	-	30	70	-	50	-	150	3	1	-	4
202043	Engineering Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202044	Engineering Materials and Metallurgy	3	2	-	30	70	25	-	-	125	3	1	-	4
203156	Electrical and Electronics Engineering	3	2	-	30	70	25	-	-	125	3	1	-	4
202045	Geometric Dimensioning and Tolerancing Lab	-	2	-	-	-	25	-	-	25	-	1	-	1
202046	Audit Course - III	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**16**	**12**	**-**	**150**	**350**	**75**	**100**	**25**	**700**	**16**	**6**	**-**	**22**
Semester-IV														
207002	Engineering Mathematics - III	3	-	1	30	70	25	-	-	125	3	-	1	4
202047	Kinematics of Machinery	3	2	-	30	70	-	-	25	125	3	1	-	4
202048	Applied Thermodynamics	3	2	-	30	70	-	-	25	125	3	1	-	4
202049	Fluid Mechanics	3	2	-	30	70	-	-	25	125	3	1	-	4
202050	Manufacturing Processes	3	-	-	30	70	-	-	-	100	3	-	-	3
202051	Machine Shop	-	2	-	-	-	50	-	-	50	-	1	-	1
202052	Project Based Learning - II	-	4	-	-	-	50	-	-	50	-	2		2
202053	Audit Course - IV	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**12**	**1**	**150**	**350**	**125**	**-**	**75**	**700**	**15**	**6**	**1**	**22**

Abbreviations: TH: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam,**TW**: Term Work, OR: Oral

Note: Interested students of SE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BoS (Automobile and Mechanical Engineering)

Instructions

- Practical/Tutorial must be conducted in three batches per division only.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Assessment of tutorial work has to be carried out as a term-work examination. Term-work Examination at second year of engineering course shall be internal continuous assessment only.
- Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.
- Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.

Savitribai Phule Pune University
Faculty of Science & Technology



Curriculum/Syllabus
For
Third Year
Bachelor of Engineering
(Choice Based Credit System)
Mechanical Engineering
(2019 Course)
Board of Studies – Mechanical and Automobile Engineering
(With Effect from Academic Year 2021-22)

Savitribai Phule Pune University

Board of Studies - Automobile and Mechanical Engineering

Undergraduate Program - Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
Semester-V														
302041	Numerical & Statistical Methods	3	-	1	30	70	25	-	-	125	3	-	1	4
302042	Heat & Mass Transfer	3	2	-	30	70	-	50	-	150	3	1	-	4
302043	Design of Machine Elements	3	2	-	30	70	-	-	25	125	3	1	-	4
302044	Mechatronics	3	2	-	30	70	-	-	25	125	3	1	-	4
302045	Elective I	3	-	-	30	70	-	-	-	100	3	-	-	3
302046	Digital Manufacturing Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302047	Skill Development	-	2	-	-	-	25	-	-	25	-	1	-	1
302048	Audit course - V[$]	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**10**	**1**	**150**	**350**	**100**	**50**	**50**	**700**	**15**	**5**	**1**	**21**
Semester-VI														
302049	Artificial Intelligence &Machine Learning	3	2	-	30	70	-	-	25	125	3	1	-	4
302050	Computer Aided Engineering	3	2	-	30	70	-	50	-	150	3	1	-	4
302051	Design of Transmission Systems	3	2	-	30	70	-	-	25	125	3	1	-	4
302052	Elective II	3	-	-	30	70	-	-	-	100	3	-	-	3
302053	Measurement Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302054	Fluid Power &Control Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
302055	Internship/Mini project *	-	4	-	-	-	100	-	-	100	-	4	-	4
302056	Audit course - VI[$]	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**12**	**14**	**-**	**120**	**280**	**200**	**50**	**50**	**700**	**12**	**9**	**-**	**21**

Elective-I		**Elective-II**	
302045-A	Advanced Forming & Joining Processes	302052-A	Composite Materials
302045-B	Machining Science & Technology	302052-B	Surface Engineering

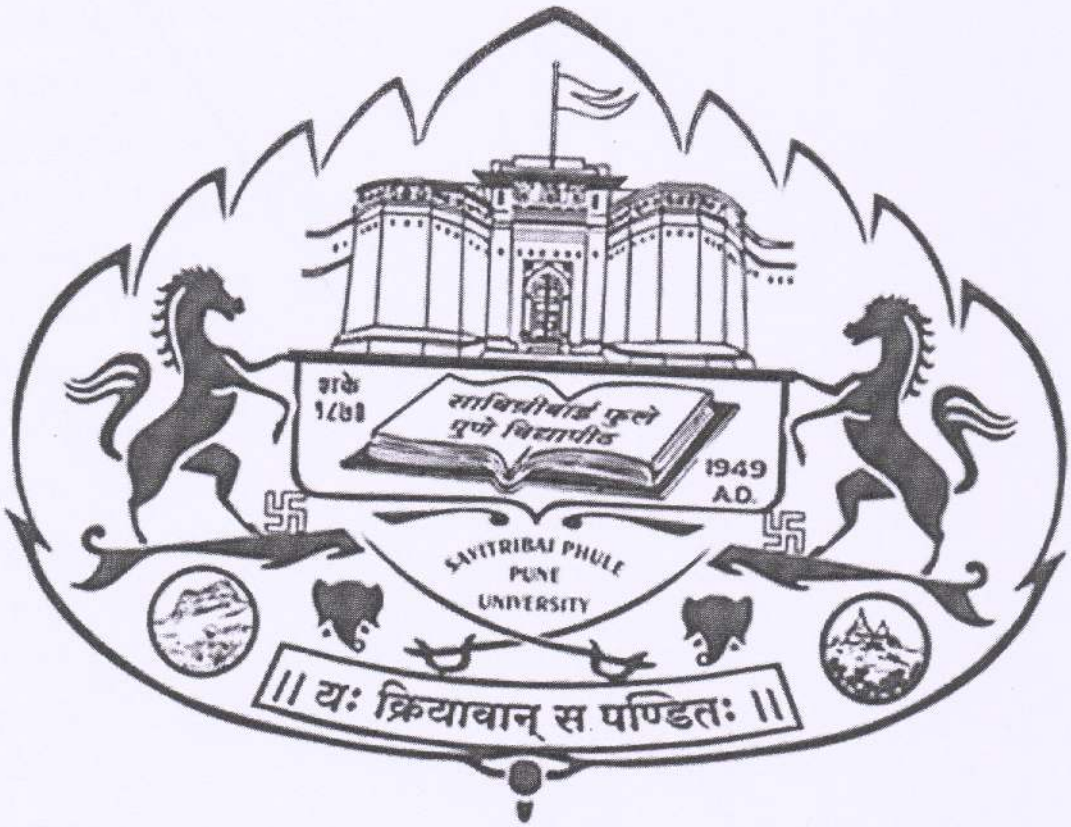
Abbreviations: **TH**: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam, **TW**: Term Work, **OR**: Oral

Note: Interested students of TE (Automobile Engineering and Mechanical Engineering) can opt for any one of the audit course from the list of audit courses prescribed by BOS (Automobile and Mechanical Engineering)

Instructions:

- Practical/Tutorial must be conducted in FOUR batches per division only.
- Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out **as mentioned in the syllabi** of respective courses.
- Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of **continuous evaluation.**
- [$]Audit course is mandatory but non-credit course. Examination has to be conducted at the end of Semesters for award of grade at institute level. Grade awarded for audit course shall not be calculated for grade point & CGPA.

Savitribai Phule Pune University
Faculty of Science & Technology



Curriculum/Syllabus
For
Fourth Year
Bachelor of Engineering
(Choice Based Credit System)
Mechanical Engineering
(2019 Course)
Board of Studies – Mechanical and Automobile Engineering
(With Effect from Academic Year 2022-23)

Savitribai Phule Pune University

Board of Studies - Mechanical and Automobile Engineering

Undergraduate Program – Final Year Mechanical Engineering (2019 pattern)

Course Code	Course Name	Teaching Scheme (Hrs./week)			Examination Scheme and Marks						Credit			
		TH	PR	TUT	ISE	ESE	TW	PR	OR	TOTAL	TH	PR	TUT	TOTAL
Semester-VII														
402041	Heating Ventilation Air-Conditioning and Refrigeration	3	2	-	30	70	-	-	25	125	3	1		4
402042	Dynamics of Machinery	3	2	-	30	70	-	-	25	125	3	1		4
402043	Turbomachinery	2	2	-	-	50	25	-	25	100	2	1	-	3
402044	Elective – III	3	-	-	30	70	-	-	-	100	3	-	-	3
402045	Elective - IV	3	-	-	30	70	-	-	-	100	3	-	-	3
402046	Data Analytics Laboratory	-	2	-	-	-	50	-	-	50	-	1	-	1
402047	Project (Stage - I)	-	4	-	-	-	50	-	50	100	-	2	-	2
	Total	14	12		120	330	125	-	125	700	14	6	-	20
Semester-VIII														
402048	Computer Integrated Manufacturing	3	2	-	30	70	25	-	25	150	3	1	-	4
402049	Energy Engineering	3	2	-	30	70	25	-	25	150	3	1	-	4
402050	Elective - V	3	-	-	30	70	-	-	-	100	3	-	-	3
402051	Elective - VI	3	-	-	30	70	-	-	-	100	3	-	-	3
402052	Mechanical Systems Analysis Laboratory	-	2	-	-	-	25	-	25	50	-	1	-	1
402053	Project (Stage - II)	-	10	-	-	-	100	-	50	150	-	5	-	5
		12	16	-	120	280	175	-	125	700	12	8	-	20

Elective-III		**Elective-V**	
402044A	Automobile Design	402050A	Quality and Reliability Engineering
402044B	Design of Heat Transfer Equipments	402050B	Energy Audit and Management
402044C	Modern Machining Processes	402050C	Manufacturing Systems and Simulation
402044D	Industrial Engineering	402050D	Engineering Economics and Financial Management
402044E	Internet of Things	402050E	Organizational Informatics
402044F	Computational Fluid Dynamics	402050F	Computational Multi Body Dynamics
Elective-IV		**Elective-VI**	
402045A	Product Design and Development	402051A	Process Equipment Design
402045B	Experimental Methods in Thermal Engineering	402051B	Renewable Energy Technologies
402045C	Additive Manufacturing	402051C	Automation and Robotics
402045D	Operations Research	402051D	Industrial Psychology and Organizational Behavior
402045E	Augmented Reality and Virtual Reality	402051E	Electrical and Hybrid Vehicle

Abbreviations: **TH**: Theory, **PR**: Practical, **TUT**: Tutorial, **ISE**: In-Semester Exam, **ESE**: End-Semester Exam, **TW**: Term Work, **OR**: Oral

- Student can select any elective subjects from the list given as per his/her choice. However, it is advised to select the subjects from within a group identified for specialization.

Instructions:

- Practical/Tutorial must be conducted in **FOUR batches per division** only.
- Minimum number of Experiments/Assignments in PR/Tutorial shall be carried out **as mentioned in the syllabi** of respective courses.
- Assessment of tutorial work has to be carried out similar to term-work. The Grade cum marks for Tutorial and Term-work shall be awarded on the basis of **continuous evaluation.**

Savitribai Phule Pune University



Syllabus

FOR

S.E. Mechanical and Automobile Engineering

2015 Course

UNDER FACULTY OF ENGINEERING

EFFECTIVE FROM June 2016

Structure of S.E. (Mechanical Engineering/ Automobile Engineering)
2015 Course

Semester-I

Subject Code	Subject	Teaching Scheme Hours/Week			Examination Scheme					Total Marks	Credits	
		L	Tut.	PR	In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
207002	Engineering Mathematics – III	04	01	-	50	50	25	-	-	125	05	-
202041	Manufacturing Process-I	03	-	02	50	50	50	-	-	150	03	01
202042	Computer Aided Machine Drawing	01	-	02	--	--		50	-	50	01	01
202043	Thermodynamics	04	-	02	50	50	-	-	50	150	04	01
202044	Material Science	03	01	-	50	50	25	-	-	125	03	01
202051	Strength of Materials	04	-	02	50	50	-	-	50	150	04	01
202055	Audit course											
					--	--						
	Total	**19**	**02**	**08**	**250**	**250**	100	50	100	**750**	**20**	**05**
	Total of Part-I	**29 Hrs**				**750**					**25**	

Note: Material Science and Engineering Mathematics-III practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Semester-II

Subject Code	Subject	Teaching Scheme Hours/Week			Examination Scheme					Total Marks	Credits	
		L	Tut.	PR	In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
202045	Fluid Mechanics	04	-	02	50	50	-	50	-	150	04	01
202047	Soft Skills	-	-	02	--	--	25	-	-	25	-	01
202048	Theory of Machines – I	04	01	-	50	50	25	-	25	150	04	01
202049	Engineering Metallurgy	03	01	-	50	50	-	-	25	125	03	01
202050	Applied Thermodynamics	04	-	02	50	50	-	50	-	150	04	01
203152	Electrical and Electronics Engineering	03	-	02	50	50	25	-	-	125	03	01
202053	Machine Shop – I	-	-	02	--	--	25	-	-	25	-	01
	Total	**18**	**02**	**10**	**250**	**250**	**100**	**100**	**50**	**750**	**18**	**07**
	Total of Part-II	**30 Hrs**				**750**					**25**	

Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

SAVITRIBAI PHULE PUNE UNIVERSITY

FACULTY OF ENGINEERING

SYLLABUS FOR
T. E. (MECHANICAL ENGINEERING)
(2015 Course)

WITH EFFECT FROM YEAR 2017-2018

Savitribai Phule Pune University
T.E. Mechanical Engineering 2015 – Course
T. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302041	Design of Machine Elements-I	4	-	2	30@	70@	50	-		150	4	1
302042	Heat Transfer*	4	-	2	30	70		50	-	150	4	1
302043	Theory of Machines-II$	3	1		30	70	25	-	25	150	3	1
302044	Turbo Machines	3	-	2	30	70	-	-	25	125	3	1
302045	Metrology and Quality Control$	3	-	2	30	70	-	-	25	125	3	1
302046	Skill Development	-	-	2	-	-	25	25	-	50	-	1
Total		17	1	10	150	350	100	75	75	750	17	6
											23	

T. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302047	Numerical Methods and Optimization*	4	-	2	30	70	-	50	-	150	4	1
302048	Design of Machine Elements-II	4	-	2	30@	70@	25	-	25	150	4	1
302049	Refrigeration and Air Conditioning	3	-	2	30	70	-	-	25	125	3	1
302050	Mechatronics%	3	1		30	70	-	-	25	125	3	1
302051	Manufacturing - Process-II$	3	-	-	30	70	-	-	-	100	3	-
302052	Machine Shop-II$	-	-	2	-	-	50	-	-	50	-	1
302053	Seminar$	-	-	2	-	-	25	-	25#	50	-	1
302054	Audit Course*	--	--	--	--	--	-	-	-	-	-	-
Total		17	1	10	150	350	100	50	100	750	17	6
											23	

Though it is under Oral head Internal Panel to be appointed by Principal and HOD. Examination schedule will not be prepared at University level.
* Marked subjects are common with TE (Auto. Engg.) and TE Mech. Sandwich
$ Marked subjects are common with TE (Auto. Engg.) only
% Marked subjects are common with TE Mech. Sandwich only
@ Examination time for Insem examination 1 Hr 30 Min. and Endsem examination 3Hrs.

Savitribai Phule Pune University

Faculty of Science and Technology

Syllabus for Final Year of Mechanical Engineering

(Course 2015)

Savitribai Phule Pune University

B. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
402041	Hydraulics and Pneumatics	3	-	2	30	70	25	-	25	150	3	1
402042	CAD CAM Automation	3	-	2	30	70	25	50	-	175	3	1
402043	Dynamics of Machinery	4	-	2	30	70	25	-	25	150	4	1
402044	Elective-I	3	-	2	30	70	25	-	-	125	3	1
402045	Elective-II	3	-	-	30	70	-	-	-	100	3	-
402046	Project-I	-	-	4	-	-	25	-	25	50	-	2
Total		16	-	12	150	350	125	50	75	750	16	6
											22	

B. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
402047	Energy Engineering	3	-	2	30	70	25	-	25	150	3	1
402048	Mechanical System Design	4	-	2	30 (1.5 Hrs)	70 (3 Hrs)	25	-	50	175	4	1
402049	Elective-III	3	-	2	30	70	25	-	-	125	3	1
402050	Elective-IV	3	-	-	30	70	-	-	-	100	3	-
402051	Project-II	-	-	12	-	-	100	-	100	200	-	6
Total		13	-	18	120	280	175	-	175	750	13	9
											22	

Elective – I		Elective – II	
Code	Subject	Code	Subject
402044 A	Finite Element Analysis	402045 A	Automobile Engineering
402044 B	Computational Fluid Dynamics	402045 B	Operation Research
402044 C	Heating Ventilation and Air Conditioning	402045 C	Energy Audit and Management
		402045 D	Open Elective**

Elective – III		Elective – IV	
402049 A	Tribology	402050 A	Advanced Manufacturing Processes
402049 B	Industrial Engineering	402050 B	Solar & Wind Energy
402049 C	Robotics	402050 C	Product Design and Development
		402050 D	Open Elective**

Savitribai Phule Pune University

Faculty of Science and Technology



Syllabus for

S.E (Electronics / Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2020)

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
207005	Engineering Mathematics III	04	-	01	30	70	25	-	-	125	04	-	01	05
204181	Electronic Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204182	Digital Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204183	Electrical Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
204184	Data structures	03	-	-	30	70	-	-	-	100	03	-	-	03
204185	Electronic Circuit Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204186	Digital circuits Lab		02					50		50		01		01
204187	Electrical Circuit Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
204188	Data Structures Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
204189	Electronic Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
204190	Mandatory Audit Course 3 &	-	-	-					-	-	-	-	-	-
Total		**16**	**10**	**01**	**150**	**350**	**75**	**100**	**25**	**700**	**16**	**05**	**01**	**22**

Savitribai Phule Pune University, Pune
S.E. (Electronics / E&TC Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-IV

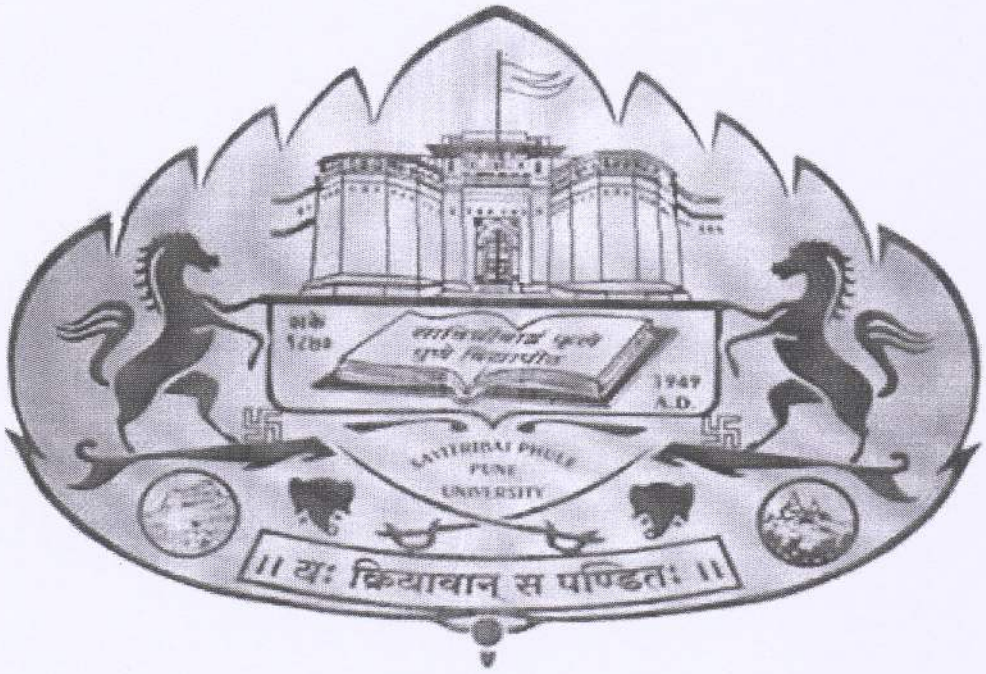
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
204191	Signals & Systems	03	-	01	30	70	25	-	-	125	03	-	01	04
204192	Control Systems	03	-		30	70		-	-	100	03	-	-	03
204193	Principles of Communication Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
204194	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
204195	Signals & Control System Lab		02				50			50		01		01
204196	Principle of Communication Systems Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
204197	Object Oriented Programming Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
204198	Data Analytics Lab		02				-		25	25		01		01
204199	Employability Skill Development	02	02	-	-	-	50	-	-	50	02	01	-	03
204200	Project Based Learning [η]	-	04				50		-	50		02		02
204201	Mandatory Audit Course 4[&]	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		**14**	**14**	**01**	**120**	**280**	**175**	**50**	**75**	**700**	**14**	**07**	**01**	**22**

Abbreviations:
In-Sem: In semester
End-sem: End semester
TH : Theory
TW : Term Work
PR : Practical
OR : Oral
TUT : Tutorial

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the list of audit courses prescribed by BoS (Electronics & Telecommunications Engineering)

Savitribai Phule Pune University

Faculty of Science and Technology



Syllabus for

T.E (Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2021)

Savitribai Phule Pune University, Pune
T.E. (Electronics& Telecommunication Engineering) 2019 Course
(With effect from Academic Year 2021-22)

Semester-V

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
304181	Digital Communication	03	-	-	30	70	-	-	-	100	03	-	-	03
304182	Electromagnetic Field Theory	03	-	01	30	70	25	-	-	125	03	-	01	04
304183	Database Management	03	-	-	30	70	-	-	-	100	03	-	-	03
304184	Microcontrollers	03	-	-	30	70	-	-	-	100	03	-	-	03
304185	Elective - I	03	-	-	30	70	-	-	-	100	03	-	-	03
304186	Digital Communication Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
304187	Database Management Lab	-	02	-	-	-	-	-	25	25	-	01	-	01
304188	Microcontroller Lab	-	02	-	-	-	-	50	-	50	-	01	-	01
304189	Elective I Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
304190	Skill Development	-	02	-	-	-	25	-	-	25	-	01	-	01
304191A	Mandatory Audit Course 5 &	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**10**	**01**	**150**	**350**	**50**	**125**	**25**	**700**	-		-	-
										Total Credit	**15**	**05**	**01**	**21**

Elective -I

1) Digital Signal Processing
2) Electronic Measurements
3) Fundamentals of JAVA Programming
4) Computer Networks

Savitribai Phule Pune University, Pune
T.E. (Electronics& Telecommunication Engineering) 2019 Course
(With effect from Academic Year 2021-22)

Semester-VI

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
304192	Cellular Networks	03	-	-	30	70	-	-	-	100	03	-	-	03
304193	Project Management	03	-	-	30	70	-	-	-	100	03	-	-	03
304194	Power Devices & Circuits	03	-	-	30	70	-	-	-	100	03	-	-	03
304195	Elective-II	03	-	-	30	70	-	-	-	100	03	-	-	03
304196	Cellular Networks Lab	-	02	-	-	-	-	-	50	50	-	01	-	01
304197	Power Devices & Circuits Lab	-	02	-	-	-	-	50	-	50		01		01
304198	Elective-II Lab	-	02	-	-	-	-	25	-	25	-	01	-	01
304199	Internship**	-	-	-	-	-	100	-	-	100	-	-	04	04
304200	Mini Project	-	04	-	-	-	25	-	50	75	-	02	-	02
304191 B	Mandatory Audit Course 6 &	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**12**	**10**	**00**	**120**	**280**	**125**	**75**	**100**	**700**				
										Total Credit	**12**	**05**	**04**	**21**

Abbreviations:

In-Sem: In semester | End-Sem: End semester | TH: Theory | TW : Term Work

PR: Practical | OR: Oral | TUT: Tutorial

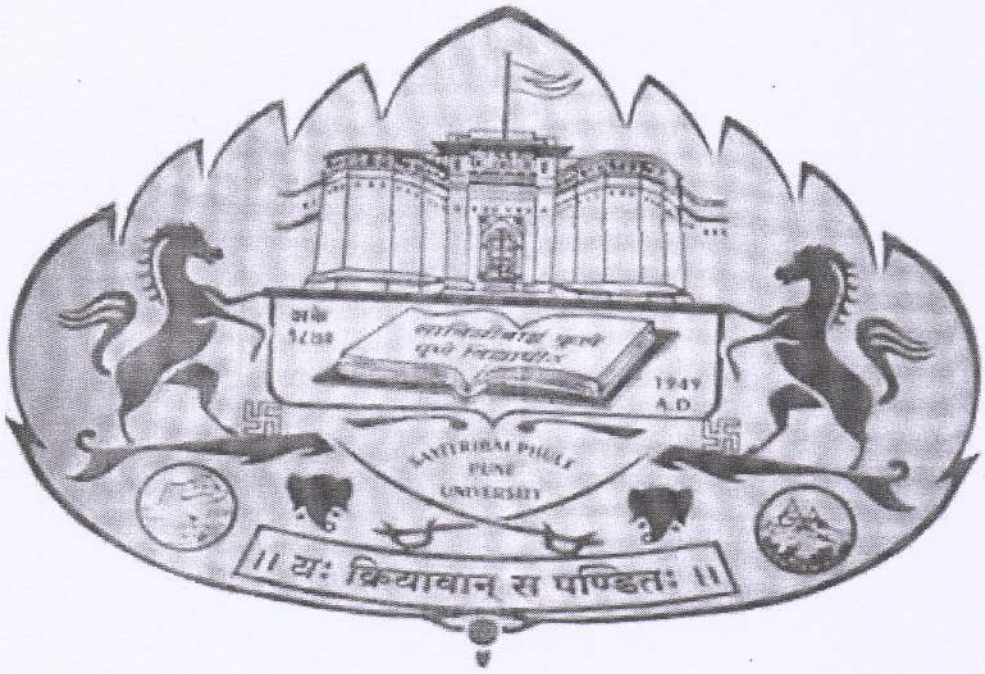
Note: Students of T.E. (Electronics & Telecommunications) have to opt any one of the audit course from the list of audit courses prescribed by BoS (Electronics & Telecommunications Engineering)

Elective -II

1) Digital Image Processing
2) Sensors in Automation
3) Advanced JAVA Programming
4) Embedded Processors
5) Network Security

Savitribai Phule Pune University

Faculty of Science and Technology



Syllabus for

B.E (Electronics & Telecommunication Engineering)

(Course 2019)

(w.e.f. June 2022)

Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
(With effect from Academic Year 2022-23)

Semester-VII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404181	Radiation & Microwave Theory	03	-	-	30	70	-	-	-	100	03	-	-	03
404182	VLSI Design and Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
404183	Cloud Computing	03	-	-	30	70	-	-	-	100	03	-	-	03
404184	Elective - 3	03	-	-	30	70	-	-	-	100	03	-	-	03
404185	Elective - 4	03	-	-	30	70	-	-	-	100	03	-	-	03
404186	Lab Practice - 1 (RMT & Cloud Computing)	-	04	-	-	-	25	-	50	75	-	02	-	02
404187	Lab Practice - 2 (VLSI Design & Elective -3)	-	04	-	-	-	25	50	-	75	-	02	-	02
404188	Project Stage - I	-	02	-	-	-	50	-	-	50	-	01	-	01
404189	Mandatory Audit Course 7	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	**15**	**10**	**-**	**150**	**350**	**100**	**50**	**50**	**700**	-	-	-	-
	Total Credits										**15**	**05**	**-**	**20**

Elective - 3	Elective - 4
1. Speech Processing	1. Data Mining
2. PLC SCADA & Automation	2. Electronic Product Development
3. JAVA Script	3. Deep Learning
4. Embedded & RTOS	4. Low Power CMOS
5. Modernized IoT	5. Smart Antennas

Mandatory Audit Course - 7
1. Management Information System
2. Patent Search & Analysis
3. Knowledge Management
4. Energy Economics & Policy
5. Educational Leadership
6. Human Resource Development

Savitribai Phule Pune University, Pune
B.E. (Electronics & Telecommunication) 2019 Course
(With effect from Academic Year 2022-23)

Semester-VIII

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	In-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
404190	Fiber Optic Communication	03	-	-	30	70	-	-	-	100	03	-	-	03
404191	Elective - 5	03	-	-	30	70	-	-	-	100	03	-	-	03
404192	Elective - 6	03	-	-	30	70	-	-	-	100	03	-	-	03
404193	Innovation & Entrepreneurship	-	-	02	-	-	50	-	-	50	-	-	02	02
404194	Digital Business Management	-	-	02	-	-	50	-	-	50	-	-	02	02
404195	Fiber Optic Lab	-	02	-	-	-	25	-	50	75	-	01	-	01
404196	Lab Practice - 3 (Elective - 5)	-	02	-	-	-	25	50	-	75	-	01	-	01
404197	Project Stage - II	-	10	-	-	-	100	-	50	150	-	05	-	05
	Total	**09**	**14**	**04**	**90**	**210**	**250**	**50**	**100**	**700**	-	-	-	-
	Total Credits										**09**	**07**	**04**	**20**

Elective - 5	Elective - 6
1. Biomedical Signal Processing	1. System on Chip
2. Industrial Drives & Automation	2. Nano Electronics
3. Android Development	3. Remote Sensing
4. Embedded System Design	4. Digital Marketing
5. Mobile Computing	5. Open Elective

Savitribai Phule Pune University

FACULTY OF ENGINEERING



Syllabus for the

S.E (Electronics /Electronics & Telecommunications Engineering)

2015 Course

(w.e.f . June 2016)

Savitribai Phule Pune University, Pune
SE(E&TC/Electronics Engineering) 2015 Course

(With effect from Academic Year 2016-17)

Semester I

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (On line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
204181	Signals & Systems	3	1	-	50	50	25	-	-	125	4	-
204182	Electronic Devices & Circuits	4	-	2	50	50	-	50	-	150	4	1
204183	Electrical Circuits and Machines	3	-	2	50	50	25	-	-	125	3	1
204184	Data Structures and Algorithms	4	-	2	50	50	-	-	50	150	4	1
204185	Digital Electronics	4	-	2	50	50	-	50	-	150	4	1
204186	Electronic Measuring Instruments & Tools	1	-	2	-	-	50	-	-	50	1	1
204192	**Audit Course 1**	--	--	--	--	--	--	--	--	--		
	Total	19	1	10	250	250	100	100	50	750	20	05
										Total Credits	**25**	

Abbreviations:

Th : Theory
TW: Term Work
OR: Oral

TUT : Tutorial
PR : Practical

Note: Interested students of S.E. (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

SE(E&TC/Electronics Engineering) 2015 Course

(With effect from Academic Year 2016-17)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem (on line)	End-Sem (Theory)	TW	PR	OR	Total	TH/TUT	PR+OR
207005	Engineering Mathematics III	4	1	-	50	50	25	-	-	125	5	-
204187	Integrated Circuits	4	-	2	50	50	25	50	-	175	4	1
204188	Control Systems	3	-	-	50	50	-	-	-	100	3	-
204189	Analog Communication	3	-	2	50	50	-	50	-	150	3	1
204190	Object Oriented Programming	3	-	4	50	50	-	-	50	150	3	2
204191	Employability Skill Development	2	-	2	-	-	50	-	-	50	2	1
204193	**Audit Course 2**	--	--	--	--	--	--	--	--	--		
	Total	19	1	10	250	250	100	100	50	750	20	05
										Total Credits	**25**	

Abbreviations:

TH: Theory
TW: Term Work
OR: Oral

TUT: Tutorial
PR: Practical

Note: Interested students of S.E (Electronics/E&TC) can opt any one of the audit course from the audit courses prescribed by BoS (Electronics/Computer/IT/Electrical/Instrumentation)

FACULTY OF ENGINEERING

Savitribai Phule Pune University

Syllabus for the

T.E (Electronics & Telecommunications Engineering)

(2015 Course)

(w.e.f . June 2017)

Savitribai Phule University of Pune, Pune

Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester I

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credits	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304181	Digital Communication	3	--	--	30	70	--	--	--	100	3	--
304182	Digital Signal Processing	3	--	--	30	70	--	--	--	100	3	--
304183	Electromagnetics	3	1	--	30	70	--	--	--	100	4	--
304184	Microcontrollers	3	--	--	30	70	--	--	--	100	3	--
304185	Mechatronics	3	--	--	30	70	--	--	--	100	3	--
304191	Signal Processing and Communications Lab (DC/DSP)	--	--	4	--	--	50	50		100	--	2
304192	Microcontrollers and Mechatronics Lab	--	--	4	--	--	50	50		100	-	2
304193	Electronics System Design	2	--	2	--	--	-	--	50	50	2	1
	Audit Course 3	--	--	--	--	--	--	--	--	--	----	
	Total	17	01	10	150	350	100	100	50	750	18	5
										Total Credits	**23**	

Third Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2017-18)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorials	Practicals	In-Sem	End-Sem	TW	PR	OR	Total	Th+Tut	PR/OR/TW
304186	Power Electronics	3	--	--	30	70	--	--	--	100	3	--
304187	Information Theory, Coding and Communication Networks	4	--	--	30	70	--	--	--	100	4	--
304188	Business Management	3	--	--	30	70	--	--	--	100	3	--
306189	Advanced Processors	3	--	--	30	70	--	--	--	100	3	--
304190	System Programming and Operating Systems	3	--	--	30	70		--	--	100	3	--
304194	Power and ITCT Lab	--	--	4	--	--	50	50	--	100	--	2
304195	Advanced Processors and System Programming Lab	--	--	4	--	--	50	50	--	100	--	2
304196	Employability Skills and Mini Project	2	--	2	--	--	--	--	50	50	2	1
	Audit Course 4	--	--	--	--	--	--	--	--	--		
	Total	18	---	10	150	350	100	100	50	750	18	5
										Total Credits	**23**	

Savitribai Phule Pune University

Faculty of Science &Technology



B.E. (Electronics & Telecommunication)
(2015 Pattern) Syllabus
(With effect from Academic Year 2018-19)

Savitribai PhulePune University
Final Year E&TC Engineering (2015 Course)
(With effect from Academic Year 2018-19)

Semester I													
Course Code	**Course**	**Teaching Scheme Hours / Week**			**Semester Examination Scheme of Marks**						**Credits**	
		Theory	**Tut**	**Pract**	**In-Sem**	**End-Sem**	**TW**	**PR**	**OR**	**Total**	**TH/TW**	**PR+OR**
404181	VLSI Design& Technology	3	--	--	30	70	--	--	--	100	3	--
404182	Computer Networks & Security	4	--	--	30	70	--	--	--	100	4	--
404183	Radiation & Microwave Techniques	3	--	--	30	70	--	--	--	100	3	--
404184	Elective I	3	--	--	30	70	--	--	--	100	3	--
404185	Elective II	3			30	70	--	--	--	100	3	--
404186	Lab Practice -I (CNS+ RMT)	--	--	4	--	--	50	--	50	100	--	2
404187	Lab Practice -II (VLSI + Elective I)	--	--	4	--	--	50	50		100	--	2
404188	Project Stage I	-	2	--	--	--	-	--	50	50	--	2
	Audit Course 5	--	--	--	--	--	--	--	--	--	----	
	Total	16	2	8	150	350	100	50	100	750	16	6
Total Credits											**22**	

Elective I

1 Digital Image and Video Processing
2. Industrial Drives and Control
3. Embedded Systems & RTOS
4. Internet of Things

Elective II

1. Wavelets
2. Electronics Product Design
3. Optimization Techniques
4. Artificial Intelligence
5. Electronics in agriculture

Audit Course 5

1. Green Energy
2. Human Behaviour

Final Year E&TC Engineering (2015 Course)

(With effect from Academic Year 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tut	Pract	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW	PR+OR
404189	Mobile Communication	3	--	--	30	70	--	--	--	100	3	--
404190	Broadband Communication Systems	4	--	--	30	70	--	--	--	100	4	--
404191	Elective III	3	--	--	30	70	--	--	--	100	3	--
404192	Elective IV	3	--	--	30	70	--	--	--	100	3	--
404193	Lab Practice –III (MC+BCS)	--	--	4	--	--	50	50	--	100	--	2
404194	Lab Practice –IV (Elective III)	--	--	2	--	--	--	--	50	50	--	1
404195	Project Stage II	--	6	-	--	--	150	--	50	200	--	6
	Audit Course 6	--	--	--	--	--	--	--	--	--		
Total		13	6	6	120	280	200	50	100	750	13	9
										Total Credits	22	

Elective III

1. Machine Learning
2. PLC s and Automation
3. Audio and Speech Processing
4. Software Defined Radio
5. Audio Video Engineering

Elective-IV

1. Robotics
2. Biomedical Electronics
3. Wireless Sensor Networks
4. Renewable Energy Systems
5. Open Elective*

Audit Course 6

1. Team Building, Leadership and Fitness
2. Environmental issues and Disaster Management

*Any one course from the list of Elective IV of computer/IT/Electrical/Instrumentation or Institute can offer elective IV based on any industry need with prior approval from BoS(Electronics & Telecommunication). Repetition of course or topics should be avoided.

Savitribai Phule Pune University, Pune



Syllabus for BE Civil Engineering (2019 Pattern)

Implemented from Academic year 2022-23

Board of Studies in Civil Engineering

Faculty of Science and Technology

Savitribai Phule Pune University, Pune BE (Civil Engineering) 2019 Pattern (With effect from Academic Year 2022-23)																	
SEMESTER: VII																	
Course Code	**Course Name**	**Teaching Scheme (Hours/Week)**			**Examination Scheme and Marks**						**Credit**					
		Theory	**Practical**	**Tutorial**	**IN-Sem**	**End-Sem**	**TW**	**PR**	**OR**	**Total**	**TH**	**TW**	**PR**	**OR**	**TUT**	**Total**
401001	Foundation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401002	Transportation Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401003	Elective III	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401004	Elective IV	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401005	Project Stage I	--	04	--	--	--	50	--	50	100	--	01	--	02	--	03
401006	Transportation Engineering **Lab**	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401007	Elective III **Lab**	--	02	--	--	--	--	--	50	50	--	--	--	01	--	01
401008	Elective IV **Lab**	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401009	Computer Programming in Civil Engineering	01	02	--	--	--	50	--	--	50	--	02	--	--	--	02
401010	Audit Course I **Stress Management by Yoga / Communication Etiquette in Workplaces**	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
	Total	**13**	**12**	**01**	**120**	**280**	**150**	--	**150**	**700**	**12**	**04**	--	**04**	--	**20**
Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral, TUT : Tutorial, GR: Grade																	

Elective III and IV

S N	Course Code	Elective III: Course Name	Course Code	Elective IV: Course Name
01	401003 a	Coastal Engineering	401004 a	Air Pollution and Control
02	401003 b	Advanced Design of Concrete Structures	401004 b	Advanced Design of Steel Structures
03	401003 c	Integrated Water Resources Planning & Management	401004 c	Statistical Analysis and Computational Method
04	401003 d	Finite Element Method	401004 d	Airport and Bridge Engineering
05	401003 e	Data Analytics	401004 e	Design of Prestressed Concrete Structures
06	401003 f	Operation Research	401004 f	Formwork and Plumbing Engineering

SEMESTER-VIII																	
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
401011	Dams and Hydraulics Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
401012	Quantity Surveying, Contracts and Tenders	03	--	--	30	70	--	--	--	100	03	--	--		--	03
401013	Elective V	03	--	--	30	70	--	--	--	100	03	--	--		--	03
401014	Elective VI	03	--	--	30	70	--	--	--	100	03	--	--		--	03
401015	Project Stage II	--	10	--	--	--	100	--	50	150	--	03	--	02	--	05
401016	Dams and Hydraulics Structures **Lab**	--	02	--	--	--	--	--	50	50	--		--	01	--	01
401017	Quantity Surveying, Contracts and Tenders **Lab**	--	02	--	--	--	--	--	50	50	--		--	01	--	01
401018	Elective V **Lab**	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
401019	Audit Course II **Social Responsibility / Human Rights**	--	--	01	--	GR	--	--	--	GR		--	--	--	--	--
	Total	**12**	**16**	**01**	**120**	**280**	**150**	--	**150**	**700**	**12**	**04**	--	**04**	--	**20**
Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral and TUT : Tutorial, GR: Grade																

Elective V and VI

S N	Course Code	Elective V: Course Name	Course Code	Elective VI: Course Name
01	401013 a	Earthquake Engineering	401014 a	TQM and MIS
02	401013 b	Structural Design of Bridges	401014 b	Advanced Transportation Engineering
03	401013 c	Irrigation and Drainage	401014 c	Geo Synthetic Engineering
04	401013 d	Design of Precast and Composite Structures	401014 d	Structural Design of Foundations
05	401013 e	Hydropower Engineering	401014 e	Green Structures and Smart Cities
06	401013 f	Structural Audit and Retrofitting of Structures	401014 f	Rural Water Supply and Sanitation

Savitribai Phule Pune University, Pune



Syllabus for TE Civil Engineering (2019 Pattern)

Implemented from Academic year 2021-22

Board of Studies in Civil Engineering

Faculty of Science and Technology

Savitribai Phule Pune University, Pune
TE (Civil Engineering) 2019 Pattern
(With effect from Academic Year 2021-22)

SEMESTER: V

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301001	Hydrology and Water Resources Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301002	Water Supply Engineering	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301003	Design of Steel Structures	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301004	Engineering Economics and Financial Management	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301005	Elective I	03	--	--	30	70	--	--	--	100	03	--	--	--	--	03
301006	Seminar	--	--	01	--	-	50	--	--	50	--	--	--	--	01	01
301007	Hydrology and Water Resources Engineering **Lab**	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301008	Water Supply Engineering **Lab**	--	02	--	--	--	--	50	--	50	--	--	01	--	--	01
301009	Design of Steel Structures **Lab**	--	04	--	--	--	--	--	50	50	--	--	--	02	--	02
301010	Elective I **Lab**	--	02	--	--	--	25	--	--	25	--	01	--	--	--	01
301011	Audit Course I: Professional Ethics and Etiquettes/ Sustainable Energy Systems	--	--	01	--	GR	--	--	--	GR	--	--	--	--	--	--
	Total	**15**	**10**	**02**	**150**	**350**	**100**	**50**	**50**	**700**	**15**	**02**	**01**	**02**	**01**	**21**

Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral, TUT : Tutorial, GR: Grade

Elective I: 301005

S N	Course Code	Course Name
01	301005 a	Advanced Fluid Mechanics and Hydraulic Machines
02	301005 b	Research Methodology and IPR
03	301005 c	Construction Management
04	301005 d	Advanced Concrete Technology
05	301005 e	Matrix Methods of Structural Analysis
06	301005 f	Advanced Mechanics of Structures

SEMESTER-VI																
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit					
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	TW	PR	OR	TUT	Total
301012	Waste Water Engineering	03	--	--	30	70	--	--	--	100	03	--	--		--	03
301013	Design of RC Structures	03	--	--	30	70	--	--	--	100	03	--	--		--	03
301014	Remote Sensing and GIS	03	--	--	30	70	--	--	--	100	03	--	--		--	03
301015	Elective II	03	--	--	30	70	--	--	--	100	03	--	--		--	03
301016	Internship	--	--	--	--	--	100	--	--	100	--	04	--	--		04
301017	Waste Water Engineering **Lab**	--	02	--	--	--	--	--	50	50	--		--	01	--	01
301018	Design of RC Structures **Lab**	--	04	--	--	--	--	--	50	50	--		--	02	--	02
301019	Remote Sensing and GIS **Lab**	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
301020	Elective II **Lab**	--	02	--	--	--	50	--	--	50	--	01	--	--	--	01
301021	Audit Course II: Leadership and Personality Development/ Industrial Safety	--	--	01	--	GR	--	--	--	GR		--	--	--	--	--
	Total	**12**	**10**	**01**	**120**	**280**	**200**	--	**100**	**700**	**12**	**06**	--	**03**	--	**21**
Abbreviations: TH : Theory, TW: Term Work, PR : Practical, OR: Oral and TUT : Tutorial, GR: Grade																

Elective II: 301015

S N	Course Code	Course Name
01	301015 a	Advanced Engineering Geology with Rock Mechanics
02	301015 b	Soft Computing Techniques
03	301015 c	Advanced Surveying
04	301015 d	Advanced Geotechnical Engineering
05	301015 e	Architecture and Town Planning
06	301015 f	Solid Waste Management

Savitribai Phule Pune University



Syllabus for SE (Civil Engineering) 2019 course

(To be implemented from June 2020)

Board of Studies in Civil Engineering

Faculty of Science and Technology

SPPU June 2020

SE Civil

Savitribai Phule Pune University, Pune
SE(Civil Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
201001	Building Technology and Architectural Planning	03	-	-	30	70	--	-	-	100	03	--	--	03
201002	Mechanics of structure	03	-		30	70		-	-	100	03	-	-	03
201003	Fluid Mechanics	03	-	-	30	70	-	-	-	100	03	-	-	03
207001	Engineering Mathematics III	03	--	--	30	70	--	--	--	100	03		--	03
207003	Engineering Geology	03	-	-	30	70	-	-	-	100	03	-	-	03
201004	Building Technology and Architectural Planning **Lab**	-	04	-	-	-	50		-	50	-	02	-	02
201005	Mechanics of structure **Lab**	-	04	-	-	-	-	-	50	50	-	02	-	02
201006	Fluid Mechanics **Lab**	-	02	-	-	-	-		50	50		01		01
207002	Engineering Mathematics III **Tutorial**	--	--	01	--	--	25	--	--	25	--		01	01
207004	Engineering Geology **Lab**	-	02	-	-	-	25		-	25	-	01	-	01
201007	**Audit Course 1 Awareness to civil Engineering Practices / Road Safety Management / Foreign Language**	--	01	-	-	Grade	-	-	-	Grade	--	--	-	--
Total		15	13	01	150	350	100	--	100	700	**15**	**06**	**01**	**22**

Abbreviations:
H : Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial

Note: Interested students of S.E. (Civil) can opt any one of the audit course from the list of audit courses prescribed by BoS (Civil Engineering)

Note: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self study, NPTEL course lecture and/or using relevant ICT technique

Savitribai Phule Pune University, Pune
SE(Civil Engineering) 2019 Course
(With effect from Academic Year 2020-21)

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	IN-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
201008	Geotechnical Engineering	03	-	-	30	70	--	-	-	100	03	--	--	03
201009	Survey	03	-		30	70		-	-	100	03	-	-	03
201010	Concrete Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
201011	Structural Analysis	03	-	--	30	70	-	-	-	100	03	-	--	03
201012	Project management	03	--	-	30	70	--	--	--	100	03		-	03
201013	Geotechnical Engineering **Lab**	-	02	-	-	-	-	-	50	50	-	01	-	01
201014	Survey Lab	-	04	-	-	-	-	50	-	50		02		02
201015	Concrete Technology **Lab**	-	02	-	-	-	25		-	25	-	01	-	01
201016	Structural Analysis **Tutorial**	--	-	01	--	--	25	-	-	25	--	-	01	01
201017	Project Based Learning	-	04	-	-	-	50		-	50	-	02	-	02
Total		15	12	01	150	350	100	50	50	700	**15**	**06**	**01**	**22**

Abbreviations:
TH : Theory TW: Term Work PR : Practical OR: Oral TUT : Tutorial

Note: The Underlined portion of the syllabus will be covered by video lectures/ on-line lectures/ flip classroom, self study, NPTEL course lectures and/or using relevant ICT technique

SAVITRIBAI PHULE PUNE UNIVERSITY

Board of Studies in Civil Engineering

Structure and Syllabus for B.E. Civil 2015 Course (w. e. f. June, 2018)



SAVITRIBAI PHULE PUNE UNIVERSITY

Board of Studies in Civil Engineering

Structure for B.E. Civil 2015 Course (w. e. f. June 2018)

	Semester-I										
Subject code	Subject	Teaching Scheme Hrs/Week			In-Semester Assessment	TW	Pract /Or	End-Semester Exam	Total	Credit	
		Lect	Tu	Pr						Th	Lab
401 001	Environmental Engineering II	3	--	2	30	--	50	70	150	3	1
401002	Transportation Engineering	3	--	2	30	50	--	70	150	3	1
401 003	Structural Design and Drawing III	4	--	2	30	--	50	70	150	4	1
401 004	Elective I	3	--	2	30	50	--	70	150	3	1
401 005	Elective II	3	--	--	30	--	--	70	100	3	--
401 006	Project (Phase-I)	--	2	--	--	--	50	--	50	--	2
Total :		16	2	8	150	100	150	350	750	16	6
										22 Credits	

	Semester-II										
Subject code	Subject	Teaching Scheme Hrs/Week			In-Semester Assessment	TW	Or	End-Semester Exam	Total	Credit	
		Lect	Tu	Pr						Th	Pr
401 007	Dams and Hydraulic Structures	3	--	2	30	--	50	70	150	3	1
401008	Quantity Surveying, Contracts and tenders	3	--	2	30	--	50	70	150	3	1
401 009	Elective III	3	--	2	30	50	--	70	150	3	1
401 010	Elective IV	3	--	2	30	50	--	70	150	3	1
401 006	Project	--	6	--	--	50	100	--	150	--	6
Total :		12	6	8	120	150	200	280	750	12	10
										22 Credits	

Following will be the list of electives.

Semester I

Elective-I 401 004	Elective-II 401 005
1. Structural Design of Bridges	1. Matrix Methods of Structural Analysis
2. Systems Approach in Civil Engineering	2. Integrated Water Resources Planning and Management
3. Advanced Concrete Technology	3. TQM & MIS in Civil Engineering
4. Architecture and Town Planning	4. Earthquake Engineering
5. Advanced Engineering Geology with Rock Mechanics	5. Advanced Geotechnical Engineering

Semester-II

Elective-III 401 009	Elective-IV 401 010
1. Advanced Structural Design	1. Construction Management
2. Statistical Analysis and Computational Methods in Civil Engineering	2. Advanced Transportation Engineering
3. Hydropower Engineering	3. Advanced foundation Engineering.
4. Air Pollution and control	4. Coastal Engineering
5. Finite Element Method in Civil Engineering	**5. Open Elective**
6. Airport and Bridge Engineering	a) Plumbing Engineering
	b) Green Building Technology
	c) Ferrocement Technology
	d) Sub sea Engineering
	e) Geoinformatics

Savitribai Phule University of Pune
Third Year Civil Engineering
(2015 Course)

Semester I

Course Code	Course	Teaching Scheme hour/week			Semester Examination Scheme of marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	T W	OR	PR	Total	TH/TUT	PR/OR/TW
301001	Hydrology and water resource engineering.	03	--	02	30	70	--	50	--	**150**	03	01
301002	Infrastructure Engineering and Construction Techniques	03	--	--	30	70	--	--	--	**100**	04	--
301003	Structural Design-I	04	--	04	30	70	50	50	--	**200**	04	02
301004	Structural Analysis-II	04	--	--	30	70	--	--	--	**100**	03	--
301005	Fluid Mechanics-II	04	--	02	30	70	--	50	--	**150**	04	01
301006	Employability Skills development	--	--	02	--	--	50	--	--	**50**	--	01
	Total	18	--	10	**150**	**350**	**100**	**150**		**750**	**18**	**05**

Semester II

Course Code	Course	Teaching Scheme hour/week			Semester Examination Scheme of marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	T W	OR	PR	Total	TH/TUT	PR/OR/TW
301007	Advanced Surveying	03	--	02	30	70	50	--	--	**150**	03	01
301008	Project Management and Engineering Economics	04	--	--	30	70	--	--	--	**100**	04	--
301009	Foundation Engineering	03	--	--	30	70	--	--	--	**100**	03	--
301010	Structural Design-II	04	--	04	30	70	50	50	--	**200**	04	02
301011	Environmental Engineering-I	04	--	02	30	70	--	--	50	**150**	04	01
301012	Seminar	--	--	01	--	--	--	50	--	**50**	--	01
Total		18	--	09	**150**	**350**	**100**	**100**	**50**	**750**	**18**	**05**

Faculty of Science and Technology
Savitribai Phule Pune University,
Pune, Maharashtra, India



Curriculum Structure for
First Year Engineering
(2024 Course)
(With effect from Academic Year 2024-25)

First Year Engineering: Curriculum Structure (2024 Course)

Savitribai Phule Pune University
First Year Engineering (2024 Course)
(With effect from Academic Year 2024-25)

Semester I

Course Code	Course Type	Course Name	Teaching Scheme (Hours/week)			Examination/Assessment Scheme and Marks				Credit Scheme			
			Lecture	Tutorial	Practical	In-Sem	End-Sem	TW/ PR/ Oral/Pre	Total	Lecture	Tutorial	Practical	Total
0715100	Basic Science Course (BSC)	Engineering Mathematics- I	03	01	-	30	70	25	125	03	01	-	04
0715101/ 0715102	Basic Science Course (BSC)	Engineering Physics / Engineering Chemistry	03	-	02	30	70	25	125	03	-	01	04
0407103/ 0306104	Engineering Science Course (ESC)	Basic Electronics Engineering (BEC)/ Basic Electrical Engineering (BEE)	03	-	02	30	70	25	125	03	-	01	04
0202105/ 0101106	Engineering Science Course (ESC)	Engineering Graphics and Design (EGD)/ Engineering Mechanics (EM)	03	-	02	30	70	25	125	03	-	01	04
1019107	Engineering Science Course (ESC)	Fundamentals of Programming Languages	02	-	02	30	70	25	125	02	-	01	03
0202108/ 0202109	Vocational and Skill Enhancement Course (VSEC)	Manufacturing Practice Workshop/ Design Thinking & Idea Lab	-	-	02	-	-	25	25	-	-	01	01
AEC110	Ability Enhancement Course (AEC)	Professional Communication Skills	-	-	02	-	-	25	25	-	-	01	01
CCC111	Co-Curricular Courses (CCC)	Co-Curricular Courses	-	-	02	-	-	25	25	-	-	01	01
		Total	**Total Credits**							14	01	07	22
			14	01	14	150	350	200	700	14	01	07	22

First Year Engineering: Curriculum structure (2024 Course)

Savitribai Phule Pune University
First Year Engineering (2024 Course)
(With effect from Academic Year 2024-25)

Semester II

Course Code	Course Type	Course Name	Teaching Scheme (Hours/week)			Examination/Assessment Scheme and Marks					Credit Scheme			
			Lecture	Tutorial	Practical	In-Sem	End-Sem	TW/ PR/ Oral/Prc		Total	Lecture	Tutorial	Practical	Total
0715112	Basic Science Course (BSC)	Engineering Mathematics- II	03	01	-	30	70	25		125	3	1	-	4
0715102/ 0715101	Basic Science Course (BSC)	Engineering Chemistry/ Engineering Physics	03	-	02	30	70	25		125	3	-	1	4
0306104/ 0407103	Engineering Science Course (ESC)	Basic Electrical Engineering (BEE)/ Basic Electronics Engineering (BEC)	03	-	02	30	70	25		125	3	-	1	4
0101106/ 0202105	Engineering Science Course (ESC)	Engineering Mechanics (EM)/ Engineering Graphics and Design (EGD)	03	-	02	30	70	25		125	3	-	1	4
1431113	Program Core Course (PCC)	Programming and Problem Solving	02	-	02	30	70	25		125	2	-	1	3
0202109/ 0202108	Vocational and Skill Enhancement Course (VSEC)	Design Thinking & Idea Lab/ Manufacturing Practice Workshop	-	-	02	-	-	25		25	-	-	1	1
IKS114	Indian Knowledge System (IKS)	Indian Knowledge System	-	01	-	-	-	25		25	-	1	-	1
CCC115	Co-Curricular Courses (CCC)	Co-Curricular Courses	-	-	02	-	-	25		25	-	-	1	1
									Total Credit		14	02	06	22
		Total	**14**	**02**	**12**	**150**	**350**	**200**		**700**	14	02	06	22

First Year Engineering: Curriculum Structure (2024 Course)

Course Type	Total Credits	Sem-I Credits	Sem-II Credits
Basic Science Course (BSC)	16	8	8
Engineering Science Courses (ESC)	19	11	8
Program Core Courses (PCC)	3	-	3
Vocational and Skill Enhancement Courses (VSEC)	2	1	1
Indian Knowledge System (IKS)	1	-	1
Co-Curricular Courses (CCC)	2	1	1
Ability Enhancement Courses (AEC)	1	1	-
Total Credits	**44**	**22**	**22**

Faculty of Engineering
Savitribai Phule Pune University, Pune
Maharashtra, India



Curriculum
for
Fourth Year of Computer Engineering
(2019 Course)
(With effect from 2022-23)

Final Year of Computer Engineering
(2019 Course)
(With effect from 2022-23)

Prologue

It is with great pleasure and honor that I share the syllabi for Fourth Year of Computer Engineering (2019 Course) on behalf of Board of Studies, Computer Engineering. We, members of BoS are giving our best to streamline the processes and curricula design.

While revising syllabus, honest and sincere efforts are put to tune Computer Engineering program syllabus in tandem with the objectives of Higher Education of India, AICTE, UGC and affiliated University (SPPU) by keeping an eye on the technological advancements and industrial requirements globally.

Syllabus revision is materialized with sincere efforts, active participation, expert opinions and suggestions from domain professionals. Sincere efforts have been put by members of BoS, teachers, alumni, industry experts in framing the draft with guidelines and recommendations.

Case Studies are included in almost all courses. Course Instructor is recommended to discuss appropriate related recent technology/upgrade/Case Studies to encourage students to study from course to the scenario and think through the largest issues/ recent trends/ utility/ developing real world/ professional skills.

I am sincerely indebted to all the minds and hands who work adroitly to materialize these tasks. I really appreciate your contribution and suggestions in finalizing the contents.

Thanks,

Dr. Varsha H. Patil
Chairman, Board of Studies (Computer Engineering), SPPU, Pune

links for First Year, Second Year and Third Year Computer Engineering Curriculum 2019:

1. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202019/Rules%20and%20Regulations%20F.E.%202019%20Patt_10.012020.pdf
2. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202019/First%20Year%20Engineering%202019%20Patt.Syllabus_05.072019.pdf
3. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2020/SE%20Computer%20Engg.%202019%20%20Patt_03.072020.pdf
4. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2021/Third%20Year%20Engineering%202019%20Pattern_16022022.rar

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)
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Savitribai Phule Pune University
Bachelor of Computer Engineering
Program Outcomes (POs)

Learners are expected to know and be able to–

PO1	Engineering knowledge	Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.
PO2	Problem analysis	Identify, formulate, review research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics natural sciences, and Engineering sciences.
PO3	Design / Development of Solutions	Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and Environmental considerations.
PO4	Conduct Investigations of Complex Problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage	Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	The Engineer and Society	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Environment and Sustainability	Understand the impact of the professional Engineering solutions in societal and Environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of the Engineering practice.
PO9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication Skills	Communicate effectively on complex Engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project Management and Finance	Demonstrate knowledge and understanding of the Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary Environments.
PO12	Life-long Learning	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO)

PSO1	**Professional Skills**-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexities.
PSO2	**Problem-Solving Skills**- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3	**Successful Career and Entrepreneurship**- The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

BE Computer Engineering 2019 Course tentative Curriculum structure:

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)

Semester VII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral\Pre	Total	Lecture	Practical	Tutorial	Total
410241	Design and Analysis of Algorithms	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	Blockchain Technology	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	Elective III	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	Elective IV	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	Laboratory Practice III	-	04	-	-	-	50	50	-	100	-	2	-	2
410247	Laboratory Practice IV	-	02	-	-	-	50	-	-	50	-	1	-	1
410248	Project Stage I	-	02	-	-	-	50	-	-	50	-	2	-	2
										Total Credit	**15**	**05**	**-**	**20**
	Total	**15**	**08**	**-**	**150**	**350**	**150**	**50**	**-**	**700**	**15**	**05**	**-**	**20**
410249	Audit Course 7													**Grade**

Elective III	**Elective IV**
410244(A) Pervasive Computing 410244(B) Multimedia Techniques 410244(C) Cyber Security and Digital Forensics 410244(D) Object Oriented Modeling and Design 410244(E) Digital Signal Processing	410245(A) Information Retrieval 410245(B) GPU Programming and Architecture 410245(C) Mobile Computing 410245(D)Software Testing and Quality Assurance 410245(E) Compilers
Laboratory Practice III: Laboratory assignments Courses- 410241, 410242, 410243	**Laboratory Practice IV:** Laboratory assignments Courses- 410244, 410245

Audit Course 7(AC7) Options:
AC7- I MOOC- Learn New Skills
AC7- II Entrepreneurship Development
AC7- III Botnet of Things
AC7- IV 3D Printing
AC7- V Industrial Safety and Environment Consciousness

Savitribai Phule Pune University
Final Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)
Semester VIII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral/Pre	Total	Lecture	Practical	Tutorial	Total
410250	High Performance Computing	03	-	-	30	70	-	-	-	100	03			03
410251	Deep Learning	03	-	-	30	70	-	-	-	100	03			03
410252	Elective V	03	-	-	30	70	-	-	-	100	03			03
410253	Elective VI	03	-	-	30	70	-	-	-	100	03			03
410254	Laboratory Practice V	-	02	-	-	-	50	50	-	100		01		01
410255	Laboratory Practice VI	-	02	-	-	-	50	-	-	50		01		01
410256	Project Stage II	-	06	-	-	-	100	-	50	150		06		06
										Total Credit	12	08	-	20
	Total	12	10	-	120	280	200	50	50	700	12	08	-	20
410257	Audit Course 8													Grade

Elective V	Elective VI
410252(A) Natural Language Processing 410252(B) Image Processing 410252(C) Software Defined Networks 410252(D) Advanced Digital Signal Processing 410252(E) Open Elective I	410253(A) Pattern Recognition 410253(B) Soft Computing 410253(C) Business Intelligence 410253(D) Quantum Computing 410253(E) Open Elective II
Lab Practice V: Laboratory assignments Courses- 410250, 410251	**Lab Practice VI:** Laboratory assignments Courses- 410252, 410253

Audit Course 8(AC8) Options:
AC8- I Usability Engineering
AC8- II Conversational Interfaces
AC8- III Social Media and Analytics
AC8- IV MOOC- Learn New Skills
AC8- V Emotional Intelligence

Curriculum
for

Third Year of Computer Engineering
(2019 Course)

(With effect from 2021-22)

http://unipune.ac.in

Faculty of Science and Technology

Savitribai Phule Pune University
Maharashtra, India

Third Year of Computer Engineering
(2019 Course)
(With effect from 2021-22)

Prologue

It is with great pleasure and honor that I share the syllabi for Third Year of Computer Engineering (2019 Course) on behalf of Board of Studies, Computer Engineering. We, members of BoS are giving our best to streamline the processes and curricula design.

While revising syllabus, honest and sincere efforts are put to tune Computer Engineering program syllabus in tandem with the objectives of Higher Education of India, AICTE, UGC and affiliated University (SPPU) by keeping an eye on the technological advancements and industrial requirements globally.

Syllabus revision is materialized with sincere efforts, active participation, expert opinions and suggestions from domain professionals. Sincere efforts have been put by members of BoS, teachers, alumni, industry experts in framing the draft with guidelines and recommendations.

Case Studies are included in almost all courses. Course Instructor is recommended to discuss appropriate related recent technology/upgrade/Case Studies to encourage students to study from course to the scenario and think through the largest issues/ recent trends/ utility/ developing real world/ professional skills.

I am sincerely indebted to all the minds and hands who work adroitly to materialize these tasks. I really appreciate your contribution and suggestions in finalizing the contents.

Thanks,

Dr. Varsha H. Patil
Chairman, Board of Studies (Computer Engineering), SPPU, Pune

links for First and Second Year Computer Engineering Curriculum 2019:

1. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202019/Rules%20and%20Regulations%20F.E.%202019%20Patt_10.012020.pdf
2. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202019/First%20Year%20Engineering%202019%20Patt.Syllabus_05.072019.pdf
3. http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2020/SE%20Computer%20Engg.%202019%20%20Patt_03.072020.pdf

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)
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Savitribai Phule Pune University
Bachelor of Computer Engineering

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Program Outcomes (POs)

Learners are expected to know and be able to

PO1	**Engineering knowledge**	Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.
PO2	**Problem analysis**	Identify, formulate, review research literature and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.
PO3	**Design / Development of Solutions**	Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and Environmental considerations.
PO4	**Conduct Investigations of Complex Problems**	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern Tool Usage**	Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	**The Engineer and Society**	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and Sustainability**	Understand the impact of the professional Engineering solutions in societal and Environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics**	Apply ethical principles and commit to professional ethics and responsibilities and norms of Engineering practice.
PO9	**Individual and Team Work**	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication Skills**	Communicate effectively on complex Engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project Management and Finance**	Demonstrate knowledge and understanding of Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary Environments.
PO12	**Life-long Learning**	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO)

A graduate of the Computer Engineering Program will demonstrate-

PSO1	**Professional Skills**-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexities.
PSO2	**Problem-Solving Skills**- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3	**Successful Career and Entrepreneurship**- The ability to employ modern computer languages, environments and platforms in creating innovative career paths to be an entrepreneur and to have a zest for higher studies.

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
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Semester V

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310241	Database Management Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
310242	Theory of Computation	03	-	-	30	70	-	-	-	100	03	-	-	03
310243	Systems Programming and Operating System	03	-	-	30	70	-	-	-	100	03	-	-	03
310244	Computer Networks and Security	03	-	-	30	70	-	-	-	100	03	-	-	03
310245	Elective I	03	-	-	30	70	-	-	-	100	03	-	-	03
310246	Database Management Systems Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
310247	Computer Networks and Security Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310248	Laboratory Practice I	-	04	-	-	-	25	25	-	50	-	02	-	02
310249	Seminar and Technical Communication	-	-	01	-	-	50	-	-	50	-	-	01	01
Total		**15**	**10**	**01**	**150**	**350**	**125**	**50**	**25**	**700**	**15**	**05**	**01**	**21**
310250	Audit Course 5													**Grade**
										Total Credit	**15**	**05**	**01**	**21**

310245 Elective I Options:

310245(A) Internet of Things and Embedded Systems
310245(B) Human Computer Interface
310245(C) Distributed Systems
310245(D) Software Project Management

310250 Audit Course 5 Options:

310250 (A) Cyber Security
310250 (B) Professional Ethics and Etiquettes
310250 (C) Learn New Skills
310250 (D) Engineering Economics
310250 (E) Foreign Language

Laboratory Practice I

Assignments from **Systems Programming and Operating System** and **Elective I**

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)

Home

Semester VI

Course Code	Course Name	Teaching Scheme (Hours/week) $$			Examination Scheme and Marks						Credit Scheme			
		$$ Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310251	Data Science and Big Data Analytics	04	-	-	30	70	-	-	-	100	03	-	-	03
310252	Web Technology	04	-	-	30	70	-	-	-	100	03	-	-	03
310253	Artificial Intelligence	04	-	-	30	70	-	-	-	100	03	-	-	03
310254	Elective II	04	-	-	30	70	-	-	-	100	03	-	-	03
310255	Internship**	-	-	-	-	-	100 **	-	-	100	-	-	-	04 **
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	50	25	-	75	-	02	-	02
310257	Web Technology Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310258	Laboratory Practice II	-	04	-	-	-	50	25	-	75	-	02	-	02
	Total	**12**	**10**	**-**	**120**	**280**	**225**	**50**	**25**	**700**	**12**	**09**	**-**	**21**
310259	Audit Course 6												**Grade**	
										Total	**12**	**09**	**-**	**21**

310254 Elective II Options:

310254(A) Information Security
310254(B) Augmented and Virtual Reality
310254(C) Cloud Computing
310254(D) Software Modeling and Architectures

310259 Audit Course 6 Options:

310259(A) Digital and Social Media Marketing
310259(B) Sustainable Energy Systems
310259(C) Leadership and Personality Development
310259(D) Foreign Language
310259(E) Learn New Skills

Laboratory Practice II:

Assignments from **Artificial Intelligence** and **Elective II**.

**** Internship:**

Internship guidelines are provided in course curriculum sheet.

$$ Hours/Week for Theory Course in Third Year of Engineering, Semester VI:

As per the apex bodies' recommendations and guidelines, it is need of the day to train the pre-final year students for the industrial readiness through internship. As per the guidelines of AICTE, the duration of internship is 4-6 weeks after completion of semester V and before commencement of semester VI, so it is apparent that the contact hours of the TE students need to be managed meticulously. It becomes mandatory as per the structure that 4 credits for internship must earned by the students. **Per semester, 15 weeks duration that is suggested ideally by the affiliated university will eventually reduce to fruitful 12 weeks after the implementation of the revised curriculum (2019 Course). With the evaluatory introduction of internship in the structure, we are left with the choice of 4 theory courses in the sixth semester with 12 weeks instead of traditional 15 weeks.** To balance the credits and to achieve the minimum required contact hours, it is the reasonable choice to allot 4 hours / week for each theory course of the sixth semester of Third year of Engineering. The additional one lecture/ week will definitely be instrumental in achieving the largest of minimum contact hours. As such there is no correspondence of weekly load and credits earned, the credit allotted per course remain intact despite of the change. **So it is almost imperative that the commencement of VI Semester need to be approx. 3 weeks beyond the schedule.**

SEMESTER I

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310241: Theory of Computation

Teaching Scheme:	Credit	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks
		End-Sem (Paper): 70 Marks

Prerequisite Courses: Discrete Mathematics (210241), Principles of Programming Languages (210254)

Course Objectives:

- To Study abstract computing models
- To learn Grammar and Turing Machine
- To learn about the theory of computability and complexity.

Course Outcomes:

On completion of the course, student will be able to–

- Able to design deterministic Turing machine for all inputs and all outputs
- Able to subdivide problem space based on input subdivision using constraints
- Able to apply linguistic theory

Course Contents

Unit I **Formal Language Theory and Finite Automata** **08 Hours**

Introduction to Formal language, introduction to language translation logic, Essentials of translation, Alphabets and languages, Finite representation of language, Finite Automata (FA): An Informal Picture of FA, Finite State Machine (FSM), Language accepted by FA, Definition of Regular Language, Deterministic and Nondeterministic FA(DFA and NFA), epsilon- NFA, FA with output: Moore and Mealy machines -Definition, models, inter-conversion.

Case Study: FSM for vending machine, spell checker

Unit II **Regular Expressions (RE)** **07 Hours**

Operators of RE, Building RE, Precedence of operators, Algebraic laws for RE, Conversions: NFA to DFA, RE to DFA Conversions: RE to DFA, DFA to RE Conversions: State/loop elimination, Arden's theorem Properties of Regular Languages: Pumping Lemma for Regular languages, Closure and Decision properties.

Case Study: RE in text search and replace

Unit III **Context Free Grammars (CFG) and Languages** **08 Hours**

Introduction, Regular Grammar, **Context Free Grammar**- Definition, Derivation, Language of grammar, sentential form, parse tree, inference, derivation, parse trees, ambiguity in grammar and Language- ambiguous Grammar, **Simplification of CFG:** Eliminating unit productions, useless production, useless symbols, and ϵ-productions, **Normal Forms-** Chomsky normal form, Greibach normal form, Closure properties of CFL, Decision properties of CFL, Chomsky Hierarchy, **Application of CFG:** Parser, Markup languages, XML and Document Type Definitions.

Case Study- CFG for Palindromes, Parenthesis Match,

Unit IV **Turing Machines (TM)** **08 Hours**

Turing Machine Model, Representation of Turing Machines, Language Acceptability by Turing Machines, Design of TM, Description of TM, Techniques for TM Construction, Variants of Turing Machines, The Model of Linear Bounded Automata , TM & Type 0 grammars, TM's Halting Problem.

Unit V **Pushdown Automata(PDA)** **07 Hours**

Basic Definitions, Equivalence of Acceptance by Finite State & Empty stack, PDA & Context Free Language, Equivalence of PDA and CFG, Parsing & PDA: Top-Down Parsing, Top-down Parsing Using Deterministic PDA, Bottom-up Parsing, Closure properties and Deterministic PDA.

Unit VI **Undecidability & Intractable Problems** **07 Hours**

A Language that is not recursively enumerable, An un-decidable problem that is RE, Post Correspondence Problem, The Classes P and NP : Problems Solvable in Polynomial Time, An Example: Kruskal's Algorithm, Nondeterministic Polynomial Time, An NP Example: The Traveling Salesman Problem, Polynomial-Time Reductions NP Complete Problems, An NP-Complete Problem: The Satisfiability Problem, Tractable and Intractable Representing SAT Instances, NP Completeness of the SAT Problem, A Restricted Satisfiability Problem: Normal Forms for Boolean Expressions, Converting Expressions to CNF, The Problem of Independent Sets, The Node-Cover Problem.

Books:

Text:

1. John E. Hopcroft, Rajeev Motwani, Jeffrey D.Ullman, –Introduction to Automata Theory Languages and Computation", Addison-Wesley. ISBN 0-201-44124-1.
2. H.L. Lewis, Christos H. Papadimitriou, –Elements of the Theory of Computation", Prentice Hall, ISBN-10: 0132624788; ISBN-13: 978-0132624787

References:

1. John Martin, –Introduction to Languages of The Theory of Computation", 2nd Edition, Mc Graw Hill Education, ISBN-13: 978-1-25-900558-9, ISBN-10: 1-25-900558-5
2. Sanjeev Arora and Boaz Barak, –Computational Complexity: A Modern Approach", Cambridge University Pre ss, ISBN:0521424267 9780521424264
3. Daniel Cohen, –Introduction to Computer Theory", Wiley & Sons, ISBN 9788126513345
4. J. Carroll & D Long, –Theory of Finite Automata", Prentice Hall, ISBN 0-13-913708-4
5. Kavi Mahesh, –Theory of Computation : A Problem-Solving Approach", Wiley India, ISBN10 8126533110
6. Michael Sipser, –Introduction to the Theory of Computation", Cengage Learning, ISBN-13: 9781133187813
7. Vivek Kulkarni –Theory of Computation", Oxford University Press, ISBN 0-19-808458

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310242 : Database Management Systems

Teaching Scheme: TH: 03 Hours/Week | **Credit** 03 | **Examination Scheme:** In-Sem (Paper): 30 Marks, End-Sem (paper): 70 Marks

Prerequisites Courses : Discrete Mathematics (210241), Data Structures (210243 & 210252)

Companion Course: Database Management System Lab (310247)

Course Objectives :

- To understand the fundamental concepts of database management. These concepts include aspects of database design, database languages, and database-system implementation
- To provide a strong formal foundation in database concepts, technology and practice
- To give systematic database design approaches covering conceptual design, logical design and an overview of physical design
- Be familiar with the basic issues of transaction processing and concurrency control
- To learn and understand various Database Architectures and Applications
- To learn a powerful, flexible and scalable general purpose database to handle big data

Course Outcomes :

On completion of the course, student will be able to–

- Design E-R Model for given requirements and convert the same into database tables.
- Use database techniques such as SQL & PL/SQL.
- Use modern database techniques such as NOSQL.
- Explain transaction Management in relational database System.
- Describe different database architecture and analyses the use of appropriate architecture in real time environment.
- Students will be able to use advanced database Programming concepts Big Data – HADOOP

Course Contents

Unit I **Introduction** **07 Hours**

Introduction to Database Management Systems, Purpose of Database Systems, Database-System Applications, View of Data, Database Languages, Database System Structure, Data Models, Database Design and ER Model: Entity, Attributes, Relationships, Constraints, Keys, Design Process, Entity Relationship Model, ER Diagram, Design Issues, Extended E-R Features, converting E-R & EER diagram into tables.

Unit II **SQL AND PL/SQL** **07 Hours**

SQL: Characteristics and advantages, SQL Data Types and Literals, DDL, DML, DCL, TCL, SQL Operators, Tables: Creating, Modifying, Deleting, Views: Creating, Dropping, Updating using Views, Indexes, SQL DML Queries: SELECT Query and clauses, Set Operations, Predicates and Joins, Set membership, Tuple Variables, Set comparison, Ordering of Tuples, Aggregate Functions, Nested Queries, Database Modification using SQL Insert, Update and Delete Queries. **PL/SQL:** concept of Stored Procedures & Functions, Cursors, Triggers, Assertions, roles and privileges , Embedded SQL, Dynamic SQL.

Unit III **Relational Database Design** **08 Hours**

Relational Model: Basic concepts, Attributes and Domains, CODD's Rules, Relational Integrity: Domain, Referential Integrities, Enterprise Constraints, Database Design: Features of Good Relational Designs, Normalization, Atomic Domains and First Normal Form, Decomposition using Functional Dependencies, Algorithms for Decomposition, 2NF, 3NF, BCNF, Modeling Temporal Data.

Unit IV **Database Transactions and Query Processing** **08 Hours**

Basic concept of a Transaction, Transaction Management, Properties of Transactions, Concept of Schedule, Serial Schedule, Serializability: Conflict and View, Cascaded Aborts, Recoverable and Non-recoverable Schedules, Concurrency Control: Need, Locking Methods, Deadlocks, Time-stamping Methods, Recovery methods : Shadow-Paging and Log-Based Recovery, Checkpoints, Query Processing, Query Optimization, Performance Tuning.

Unit V **Parallel and Distributed Databases** **07 Hours**

Introduction to Database Architectures: Multi-user DBMS Architectures, Case study- Oracle Architecture. **Parallel Databases:** Speedup and Scale up, Architectures of Parallel Databases. **Distributed Databases:** Architecture of Distributed Databases, Distributed Database Design, Distributed Data Storage, Distributed Transaction: Basics, Failure modes, Commit Protocols, Concurrency Control in Distributed Database.

Unit VI **NoSQL Database** **08 Hours**

Introduction to NoSQL Database, Types and examples of NoSQL Database- Key value store, document store, graph, Performance, Structured verses unstructured data, Distributed Database Model, CAP theorem and BASE Properties, Comparative study of SQL and NoSQL, NoSQL Data Models, Case Study-unstructured data from social media. Introduction to Big Data, HADOOP: HDFS, MapReduce.

Books:

Text:

1. Silberschatz A., Korth H., Sudarshan S., "Database System Concepts", McGraw Hill Publishers, ISBN 0-07-120413-X, 6th edition
2. Connally T, Begg C., "Database Systems", Pearson Education, ISBN 81-7808-861-4
3. Pramod J. Sadalage and Martin Fowler, –NoSQL Distilled", Addison Wesley, ISBN-10: 0321826620, ISBN-13: 978-0321826626

References:

1. C J Date, –An Introduction to Database Systems", Addison-Wesley, ISBN: 0201144719
2. S.K.Singh, –Database Systems : Concepts, Design and Application", Pearson, Education, ISBN 978-81-317-6092-5
3. Kristina Chodorow, Michael Dirolf, –MangoDB: The Definitive Guide" ,O'Reilly Publications, ISBN: 978-1-449-34468-9.
4. Adam Fowler, –NoSQL For Dummies", John Wiley & Sons, ISBN-1118905628
5. Kevin Roebuck, –Storing and Managing Big Data - NoSQL, HADOOP and More", Emereopty Limited, ISBN: 1743045743, 9781743045749
6. Joy A. Kreibich, –Using Sqlite", O'REILLY, ISBN: 13:978-93-5110-934-1
7. Garrett Grolemund, –Hands-on Programming with R", O'REILLY, ISBN : 13:978-93-5110-728-6

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310243: Software Engineering and Project Management

Teaching Scheme:	Credit	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite Courses: Fundamentals of Programming Languages (110003, 110011)

Course Objectives:

- To learn and understand the principles of Software Engineering
- To be acquainted with methods of capturing, specifying, visualizing and analyzing software requirements.
- To apply Design and Testing principles to S/W project development.
- To understand project management through life cycle of the project.
- To understand software quality attributes.

Course Outcomes:

On completion of the course, student will be able to–

- Decide on a process model for a developing a software project
- Classify software applications and Identify unique features of various domains
- Design test cases of a software system.
- Understand basics of IT Project management.
- Plan, schedule and execute a project considering the risk management.
- Apply quality attributes in software development life cycle.

Course Contents

Unit I **Introduction to Software Engineering, Software Process Models** **07 Hours**

Software Engineering Fundamentals: Nature of Software, Software Engineering Principles, The Software Process, Software Myths. **Process Models :**A Generic Process Model, Prescriptive Process Models: The Waterfall, Incremental Process(RAD), Evolutionary Process, Unified Process, Concurrent. **Advanced Process Models & Tools:** Agile software development: Agile methods, Plan-driven and agile development, Extreme programming Practices, Testing in XP, Pair programming. Introduction to agile tools: JIRA, Kanban,

Case Studies: An information system (mental health-care system), wilderness weather system

Unit II **Software Requirements Engineering& Analysis** **08 Hours**

Requirements Engineering: User and system requirements, Functional and non-functional requirements, Types & Metrics, A spiral view of the requirements engineering process. **Software Requirements Specification (SRS):** The software requirements Specification document, The structure of SRS, Ways of writing a SRS, structured & tabular SRS for an insulin pump case study, **Requirements elicitation & Analysis:** Process, Requirements validation, Requirements management. **Case Studies:** The information system.

Case study - Mental health care patient management system (MHC-PMS).

Unit III **Design Engineering** **08 Hours**

Design Process & quality, Design Concepts, The design Model, Pattern-based Software Design. **Architectural Design :**Design Decisions, Views, Patterns, Application Architectures, **Modeling Component level Design:** component, Designing class based components, conducting component-level design, **User Interface Design:** The golden rules, Interface Design steps & Analysis, Design Evaluation, **Case Study:** Web App Interface Design

Unit IV	Project Management: Process, Metrics, Estimations & Risks	08 Hours

Project Management Concepts: The Management Spectrum, People, Product, Process, Project, The W5HH Principle, Metrics in the Process and Project Domains, Software Measurement : size & function oriented metrics(FP & LOC), Metrics for Project and Software Quality, **Project Estimation** :Observations on Estimation, Project Planning Process, Software Scope and feasibility, Resources: Human Resources, Reusable software, Environmental Resources. Software Project Estimation, Decomposition Techniques, Empirical Estimation Models: Structure, COCOMO II, Estimation of Object-oriented Projects, Specialized Estimation **Case Study:** Software Tools for Estimation, **Project Scheduling:** Basic Concepts, Defining a Task Set for the Software Project, Defining Task Network, Scheduling with time-line charts, Schedule tracking Tools:- Microsoft Project, Daily Activity Reporting & Tracking (DART)

Unit V	Project Management: Risk Management, Configuration Management, Maintenance & Reengineering	07 Hours

Project Risk Management : Risk Analysis & Management: Reactive versus Proactive Risk Strategies, Software Risks, Risk Identification, Risk Projection, Risk Refinement, Risk Mitigation, Risks Monitoring and Management, The RMMM plan for case study project

Software Configuration Management: The SCM repository, SCM process, Configuration management for WebApps, **Case study:** CVS and Subversion Tools, Visual Source Safe from Microsoft & Clear Case. **Maintenance & Reengineering:** Software Maintenance, Software Supportability, Reengineering, Business Process Reengineering, Software Reengineering, Reverse Engineering, Restructuring, Forward Engineering

Unit VI	Software Testing	07 Hours

Introduction to Software Testing, Principles of Testing, Testing Life Cycle, Phases of Testing, Types of Testing, Verification & Validation, Defect Management, Defect Life Cycle, Bug Reporting, GUI Testing, Test Management and Automation.

Books:

Text:

1. Roger Pressman, –Software Engineering: A Practitioner's Approach", McGraw Hill, ISBN 0–07–337597–7
2. Ian Sommerville, –Software Engineering", Addison and Wesley, ISBN 0-13-703515-2

References:

1. Carlo Ghezzi, –Fundamentals of Software Engineering", Prentice Hall India, ISBN-10: 0133056996
2. Rajib Mall, –Fundamentals of Software Engineering", Prentice Hall India, ISBN-13: 978-8120348981
3. Pankaj Jalote, –An Integrated Approach to Software Engineering", Springer, ISBN 13: 9788173192715.
4. S K Chang, –Handbook of Software Engineering and Knowledge Engineering", World Scientific, Vol I, II, ISBN: 978-981-02-4973-1
5. Tom Halt, –Handbook of Software Engineering", Clanye International, ISBN-10: 1632402939

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310244: Information Systems and Engineering Economics

Teaching Scheme:	Credit	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Course Objectives:

- To prepare the students to various forms of the Information Systems and its application in organizations.
- To expose the students to the managerial issues relating to information systems and help them identify and evaluate various options in Information Systems.
- To Prepare engineering students to analyze cost / revenue data and should able to do economic analyses in the decision making process to justify or reject alternatives / projects on an economic basis for an organization.

Course Outcomes:

On completion of the course, student will be able to–

- Understand the need, usage and importance of an Information System to an organization.
- Understand the activities that are undertaken while managing, designing, planning, implementation, and deployment of computerized information system in an organization.
- Further the student would be aware of various Information System solutions like ERP, CRM, Data warehouses and the issues in successful implementation of these technology solutions in any organizations
- Outline the past history, present position and expected performance of a company engaged in engineering practice or in the computer industry.
- Perform and evaluate present worth, future worth and annual worth analyses on one of more economic alternatives.
- Be able to carry out and evaluate benefit/cost, life cycle and breakeven analyses on one or more economic alternatives.

Course Contents

Unit I **Basic of Management Theory & Practices** **07 Hours**

Role of Information Systems in Organizations, The Information System Manager and his challenges, Concepts of Information Systems, Information Systems and Management Strategy Case Studies - Information Systems in the Indian Railways, Information Systems in an e-Commerce Organization.

Unit II **Management Information System (MIS)** **08 Hours**

Managing Information Systems, Ethical and Social Issues, Information Technology Infrastructure and Choices, Information Systems Security and Control,

Case Studies -Information Technology Infrastructure in a Bank, Information Technology Infrastructure in a manufacturing / process industry.

Unit III	Leveraging Information Systems	07 Hours

Information Systems Development and Project Management, Managing Data Resources, Business Process Integration and Enterprise Systems, ICT for Development and E-Governance, Case Studies - in-house or cloud based ERP implementation, UIDAI Unique Identification Authority of India.

Unit IV	Money and Economic Value	08 Hours

Engineering Economic Decisions, Time Value of Money, Understanding Money Management, Case Studies- Economic decisions done in Multi-national companies.

Unit V	Economics and Management	07 Hours

Equivalence Calculations under Inflation, Present-Worth Analysis, Annual-Equivalence Analysis. Case Studies -comparative analysis of software enterprises from similar domains.

Unit VI	Understanding Cash Flow and Taxes	08 Hours

Accounting for Depreciation and Income Taxes, Project Cash-Flow Analysis, Understanding Financial Statements, Case Studies - cash flow analysis done in start-up companies.

Books:

Text:

1. Rahul De, –MIS: Management Information Systems in Business, Government and Society", Wiley India, ISBN: 13: 978-81-265-2019-0.
2. Chan S. Park , "Fundamentals of Engineering Economics", 3rd Edition, Pearson Education, ISBN 13: 978-02-737-7291-0

References:

1. Turban and Wali, –Information Technology on Management", Willey India, ISBN:9788126558711
2. William G. Sullivan, Elin M. Wicks, C. Patrick Koelling, Engineering Economy, Pearson Education, ISBN13: 978-01-334-3927-4

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310245: Computer Networks

Teaching Scheme:	Credit	Examination Scheme:
TH: 04 Hours/Week	04	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite Courses: Computer Organization and Architecture (210244)

Companion Course: Computer Network Lab (310248)

Course Objectives:

- To understand the fundamental concepts of networking standards, protocols and technologies.
- To learn different techniques for framing, error control, flow control and routing.
- To learn role of protocols at various layers in the protocol stacks.
- To learn network programming.
- To develop an understanding of modern network architectures from a design and performance perspective

Course Outcomes:

On completion of the course, student will be able to–

- Analyze the requirements for a given organizational structure to select the most appropriate networking architecture, topologies, transmission mediums, and technologies
- Demonstrate design issues, flow control and error control
- Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols.
- Illustrate applications of Computer Network capabilities, selection and usage for various sectors of user community.
- Illustrate Client-Server architectures and prototypes by the means of correct standards and technology.
- Demonstrate different routing and switching algorithms

Course Contents

Unit I **Physical Layer** **09 Hours**

Introduction of LAN; MAN; WAN; PAN, Ad-hoc Network, Network Architectures: Client-Server; Peer To Peer; Distributed and SDN, OSI Model, TCP/IP Model, Topologies: Star and Hierarchical; Design issues for Layers, Transmission Mediums: CAT5, 5e, 6, OFC and Radio Spectrum, Network Devices: Bridge, Switch, Router, Brouter and Access Point, Manchester and Differential Manchester Encodings; IEEE802.11: Frequency Hopping (FHSS) and Direct Sequence (DSSS)

Unit II **Logical Link Control** **09 Hours**

Design Issues: Services to Network Layer, Framing, Error Control and Flow Control. Error Control: Parity Bits, Hamming Codes (11/12-bits) and CRC. Flow Control Protocols: Unrestricted Simplex, Stop and Wait, Sliding Window Protocol, WAN Connectivity : PPP and HDLC

Unit III **Medium Access Control** **09 Hours**

Channel allocation: Static and Dynamic, Multiple Access Protocols: Pure and Slotted ALOHA, CSMA, WDMA, IEEE 802.3 Standards and Frame Formats, CSMA/CD, Binary Exponential Back -off algorithm, Fast Ethernet, Gigabit Ethernet, IEEE 802.11a/b/g/n and IEEE 802.15 and IEEE 802.16 Standards, Frame formats, CSMA/CA.

Unit IV **Network Layer** **09 Hours**

Switching techniques, IP Protocol, IPv4 and IPv6 addressing schemes, Subnetting, NAT, CIDR, ICMP, Routing Protocols: Distance Vector, Link State, Path Vector, Routing in Internet: RIP ,OSPF, BGP, Congestion control and QoS, , MPLS, Mobile IP, Routing in MANET : AODV, DSR

Unit V **Transport Layer** **09 Hours**

Services, Berkley Sockets, Addressing, Connection establishment, Connection release, Flow control and buffering, Multiplexing, TCP, TCP Timer management, TCP Congestion Control, Real Time Transport protocol(RTP), Stream Control Transmission Protocol (SCTP), Quality of Service (QoS), Differentiated services, TCP and UDP for Wireless.

Unit VI **Application Layer** **09 Hours**

Domain Name System (DNS), Hyper Text Transfer Protocol (HTTP), Email: SMTP, MIME, POP3, Webmail, FTP, TELNET, Dynamic Host Control Protocol (DHCP), Simple Network Management Protocol (SNMP).

Books:

Text:

1. Andrew S. Tenenbaum, –Computer Networks", PHI, ISBN 81-203-2175-8.
2. Fourauzan B., "Data Communications and Networking", 5th Edition, Tata McGraw- Hill, Publications, ISBN: 0 – 07 – 058408 – 7

References:

1. Kurose, Ross –Computer Networking a Top Down Approach Featuring the Internet", Pearson, ISBN-10: 0132856204
2. Matthew S. G, –802.11 Wireless Networks", O'Reilly publications, ISBN: 81-7656-992-5
3. C. Siva Ram Murthy and B. S. Manoj, –Ad Hoc Wireless Networks: Architectures and Protocols" Prentice Hall, ISBN-10: 8131706885; ISBN-13: 978-8131706886
4. Holger Karl and Andreas Willing, –Protocols and Architectures for Wireless Sensor Networks", Wiley India , ISBN: 9788126533695
5. Eldad Perahia, Robert Stacey, –Next Generation Wireless LANs", Cambridge, ISBN-10: 1107016762; ISBN-13: 978-1107016767
6. Efraim Turban, Linda Volonino, Gregory R. Wood –Computer Networking a Top Down Approach Featuring the Internet", 10th Edition, Wiley; ISBN13: 978-1-118-96126-1

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310246: Skill Development Lab

Teaching Scheme:	Credit (04)		Examination Scheme:
TUT: 02 Hour/Week	Tutorial	PR	TW: 50 Marks
PR: 04 Hours/Week	02	02	OR: 50 Marks

Prerequisite Courses: Fundamentals of Programming Languages (110003 and 110011), Principles of Programming Languages (210254), Data Structures and Algorithms (210243)

Course Objectives:

- To adapt the usage of modern tools and recent software.
- To evaluate problems and analyze data using current technologies
- To learn the process of creation of data-driven web applications using current technologies
- To understand how to incorporate best practices for building enterprise applications
- To learn how to employ Integrated Development Environment(IDE) for implementing and testing of software solution
- To construct software solutions by evaluating alternate architectural patterns.

Course Outcomes:

On completion of the course, student will be able to–

- Evaluate problems and analyze data using current technologies in a wide variety of business and organizational contexts.
- Create data-driven web applications
- Incorporate best practices for building applications
- Employ Integrated Development Environment(IDE) for implementing and testing of software solution
- Construct software solutions by evaluating alternate architectural patterns.

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of prologue, Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign, Theory-Concept in brief, features of tool/framework/language used, Design, test cases, conclusion. **Program codes with sample output of all performed assignments are to be submitted as softcopy.**

As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal may be avoided. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints at Laboratory.

Guidelines for Assessment

Continuous assessment of laboratory work is done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Guidelines for Practical Examination

It is recommended to conduct examination based on Mini-Project demonstration and related skill learned. Team of 3 to 4 students may work on mini-project. During the assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation and software engineering approach followed. The supplementary and relevant questions may be asked at the time of evaluation to test the student's for advanced learning, understanding, effective and efficient implementation and demonstration skills. So encouraging efforts, transparent evaluation and fair approach of the evaluator will not create any uncertainty or doubt in the minds of the students. So adhering to these principles will consummate our team efforts to the promising start of the student's academics.

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications. Encourage students for appropriate use of Hungarian notation, proper indentation and comments. Use of open source software is to be encouraged.

In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus.

For this laboratory total five Skill Development Modules plus one Aptitude Development Module are provided as below:

SD Module-I: Advanced JAVA and Mobile Application Development
SD Module-II: PYTHON and DATA Science with R
SD Module-III: Advanced JAVA and GROOVY on GRAILS
SD Module-IV: SCHEME and SCALA and GROOVY on GRAILS
SD Module-V: Advanced JAVA and Data Science with R
SD Module VI: Aptitude Development (To be EXCLUDED for Practical Exam)

Instructions:
Each college has to select at least one module out of five modules provided. College can select more than one module too! Set of suggested assignments is provided. Each student must perform 7 to 8 assignments and at least one mini-project provided in each module excluding Module VI. Instructor should frame set of mini projects or guide students to frame the problem statement of mini-project by sticking to technologies in respected module.
Term Work will be based on assignments be carried out by students and **Oral Examination will be based on Mini-Project demonstration and related skill learned ONLY.**
Operating System recommended :- 64-bit Open source Linux or its derivative
Programming tools recommended: - Open Source C,C++, JAVA, PYTHON, G++/GCC, R, Grails, Groovy, Android Studio for Linux.

Course Contents

SD Module-I	**Advanced JAVA and Mobile Application Development**
	Theory Content for Lab

ADVANCED JAVA

Data Structures in Java: Enumeration, BitSet, Vector, Stack, Dictionary, Hash table, Properties. **Generics and Collection Framework:** Generic Methods and Generic Classes. Interfaces (Set, List, Queue, and Dequeue) and classes (ArrayList, Vector, LinkedList, PriorityQueue, HashSet, LinkedHashSet, and TreeSet). **Serialization and Networking:** Serializing an Object and Deserializing an Object, Socket Programming. **Database Connectivity and Multithreading:** SQL, JDBC, Thread life cycle, Thread methods, Thread Pools, Executor Service. **GUI in JAVA:** AWT, Applet, Swing.

MOBILE APPLICATION DEVELOPMENT

Introduction to Android: Android Platform Architecture, Basic components of android, Features of ART and Delvik Virtual Machine, Activity Life Cycle, Intents and Intent Filters, Resources, System Permissions, Android Application Structure, Device screen size compatibility, Android Emulator **User Interface components:** Layouts, Recycler View, List View, Grid View and Web view, Input Controls: Buttons, Checkboxes, Radio Buttons, Toggle Buttons, Spinners, Input Events, Menus, Toast, Dialogs, Styles and Themes, **Multimedia, Animation and Graphics:** Playing Audio, Playing Video, Rotate Animation, FadeIn/FadeOut Animation, Zoom Animation, Scale Animation, 2D and 3D Graphics. **Data Storage:** Shared Preferences, Internal Storage, External Storage, SQLite Databases, Content provider. and Remote Databases, **Advanced Components of Android:** Web App, JSON Parsing, Google Map, GPS, Sensors, Bluetooth/Wi-Fi Connectivity

Books:

Text:

1. Herbert Schildt, —Java: The Complete Reference", TMG Publication, ISBN 9780070636774
2. Thomas Powell, —Java generics and collections", O'Reilly Media, ISBN: 0596527756
3. Neil Smyth, —Android Studio 2 Development Essentials", Payload Media, ISBN: 1532853319
4. John Horton, —Android Programming for Beginners", ISBN 10: 1785883267 ISBN 13: 9781785883262

Reference:

1. Sharanam Shah and Vaishali Shah , —JAVA EE 7 for Beginners", SPD, ISBN: 13:978-93-5110-349-3
2. Reto Meier, —Professional Android 4 Application Development", Wrox, ISBN-10: 1118102274; ISBN-13: 978-1118102275
3. Greg Nudelman, —Android Design Patterns :Interaction Design Solutions for Developers", ISBN-10: 1118394151; ISBN-13: 978-1118394151
4. Sharanam Shah, Vaishali Shah," Core Java 8 for beginners", THE TEAM, ISBN: 13:978-93-5213-080-1

Suggested List of Laboratory Assignments for Advanced JAVA

1. Design a system with the help of advance data structures in Java and enhance the system using collections and generics.
2. Enhance the above system with the help of socket programming use client server architecture.
3. Enhance above system by using JDBC, Multithreading, concurrency, synchronous and asynchronous callbacks, ThreadPools using ExecutorService.
4. Transform the above system from command line system to GUI based application

Suggested List of Laboratory Assignments for Mobile Application Development

1. Download Install and Configure Android Studio on Linux/windows platform.
2. Design a mobile app for media player.
3. Design a mobile app to store data using internal or external storage.
4. Design a mobile app using Google Map and GPS to trace the location.

Suggested Mini Project on Advanced JAVA and Mobile Application Development

Design and develop a mobile app for beginner trekkers by recording the paths from regular trekkers by using, Material Design Pattern for UI, Storage [SQLite database/File/Shared Preference/cloud], Internet connection /Wi-Fi/Bluetooth, GPS and Google Map.

SD Module-II **PYTHON and DATA Science with R**

Theory Content for Lab

PYTHON

Python Basics: Data types, Statements and Expressions, Operators and Math's, Conditionals, Loops, Strings, List , Tuples , Set Operation, Dictionary (Dict), Date and Times.

Functions, Packages and Classes: Lambda function, Regular expression, Packages, Files, Exception Handling, Classes ,Objects, Method ,class and instance variable, constructor, destructor, inheritance.

Numpy and Matplotlib :Array operations, Numpy Side Effects, 2D Numpy Arrays , Numpy Basic Statistics, Universal Function, Matplotlib: Introduction, Simple plots, Line API, Legend API, Figures, Subplots, Axes and Ticks.

Pandas: Look Ups, Selections and Indexing, Filling Methods, Series operation, Handling NaN values, Mapping, Data Frames, Reading Files, Plotting, Joins, Correlation, Histograms, Rolling calculation, Date Time indexing, Grouping, Aggregate Functions, pandas.IO. Data, Panel.

DATA SCIENCE WITH R

Introduction to Data Science- What is Data Science? Current landscape of perspectives, Skill sets needed, The Data Science Process life cycle, Role of Data Scientist. Data pre-processing. ETL – extract, transform, and load.

Introduction to R-What is R? Installation of R. Basic features of R. R Objects. Creating Vectors and Matrices. Getting Data in and out of R. Using different packages related to data science. Managing Data frames and Functions.

Descriptive Statistics using R - Discrete and continuous random variables, densities and distributions .Data Summarization: Measures of Central Tendency, Measures of Dispersion (quartiles, five number summary, variance, standard deviation), Measures of shape (skewness, kurtosis), Measures of association (covariance, correlation), Outliers. Using R for descriptive statistics and data visualization using ggplot2 package.

Predictive Analysis using Machine Learning Techniques using R: Machine learning - what, how, where. Supervised, unsupervised and semi-supervised learning. Training, validation, testing, generalization, over fitting. Building a Regression model using R. Features and feature engineering. Using Decision trees, Linear classifiers, Naïve Bayes, Nearest neighbor methods in R packages.

Books:

Text:

1. Zed A. Shaw, "Learn PYTHON The Hard Way", Pearson, ISBN: 978-93-325-8210-1
2. Kenneth A Lambert and B L Juneja, "Fundamentals of PYTHON", CENGAGE Learning, ISBN:978-81-315-2903-4
3. Peng, Roger D and Elizabeth Matsui, "The Art of Data Science." A Guide for Anyone Who Works with Data. Skybrude Consulting 200 (2015): 162.
4. Evans, James R., and Carl H. Lindner, "Business analytics: the next frontier for decision sciences." Decision Line 43.2 (2012): 4-6.

Reference:

1. Allen B Downey, "Think PYTHON", O'Rielly, ISBN: 13:978-93-5023-863-9, 4th Indian Reprint 2015
2. Jiawei Han and Micheline Kamber, Morgan Kaufman, "Learning R, Richard Cotton", O'Reilly, ISBN: 13:978-93-5110-286-1, First Edition, Fourth Indian Reprint 2015

Suggested List of Laboratory Assignments on PYTHON

1. Getting Started with Python (Example Word count exercise)
2. Build the Hangman Game using Python.

3.	Write python code loads the any dataset (example Game_medal.csv), and plot the graph.
4.	Write python code loads the any dataset (example Game_medal.csv), and does some basic data cleaning. Add component on data set.

Suggested List of Laboratory Assignments on DATA Science with R

1.	Getting Started with R installation, R objects and basic statistics.
2.	Using R for data preprocessing, exploratory analysis, visualization.
3.	Using R for correlation and regression analysis.
4.	Data analysis case study using R for readily available data set using any one machine learning algorithm

Suggested Mini Project on PYTHON and DATA Science with R

1. Implementing a simple Recommender System based on user buying pattern.
2. Twitter Sentiment Analysis in Python
3. Applying linear regression model to a real world problem.

SD Module-III Advanced JAVA and GROOVY on GRAILS

Theory Content for Lab

ADVANCED JAVA

Data Structures in Java: Enumeration, BitSet, Vector, Stack, Dictionary, Hash table, Properties. **Generics and Collection Framework:** Generic Methods and Generic Classes. Interfaces (Set, List, Queue, and Dequeue) and classes (ArrayList, Vector, LinkedList, PriorityQueue, HashSet, LinkedHashSet, and TreeSet). **Serialization and Networking:** Serializing an Object and Deserializing an Object, Socket Programming. **Database Connectivity and Multithreading:** SQL, JDBC, Thread life cycle, Thread methods, Thread Pools, Executor Service. **GUI in JAVA:** AWT, Applet, Swing.

GROOVY on GRAIL

Introduction to Grails: Object Relational Mapping (GORM), Basic CRUD, Scaffolding JSON, REST API, DataSources and Environments.
Web Layer: Model, View, **Controllers** (MVC), Redirects and Chaining, Data Binding, Groovy Server Pages, URL Mappings, Plug-in, Grails and Hibernate.
Books:

Text:

1. Herbert Schildt, —Java: The Complete Reference", TMG Publication, ISBN 9780070636774
2. Thomas Powell, —Java Generics and collections", O'Reilly Media, ISBN: 0596527756.
3. Christopher M. Judd, Joseph Faisal Nusairat, and James Shingler, —Beginning Groovy and Grails From Novice to Professional", Apress, ISBN-13: 978-1-4302-1045-0

Reference:

1. Sharanam Shah and Vaishali Shah, —JAVA EE 7 for Beginners", SPD, ISBN: 13:978-93-5110-349-3
2. Official Website http://docs.grails.org/latest/

Suggested List of Laboratory Assignments for Advanced JAVA

1.	Design a system with the help of advance data structures in Java and enhance the system using collections and generics.
2.	Enhance the above system with the help of socket programming use client server architecture.
3.	Enhance above system by using JDBC, Multithreading, concurrency, synchronous and asynchronous callbacks, Thread Pools using Executor Service.
4.	Transform the above system from command line system to GUI based application

Suggested List of Laboratory Assignments on GROOVY on GRAILS

1. Download Install and Configure IDE with Grails Plug-in on Windows/Linux platform.
2. Design a simple web application using Scaffolding data source for CRUD operations
3. Design a simple web application using MySQL for CRUD operations

Suggested Mini Project on Advanced JAVA and GROOVY on GRAILS

Design a **dynamic** web application system(Ex, Employee Payroll System, Student Result System)

SD Module-IV SCHEME and SCALA and GROOVY on GRAILS

Theory Content for Lab

SCHEME and SCALA

SCHEME: lambda calculus, Atoms, Lists, lambda expressions. Functions as first class objects. Control structures, Recursion and continuations, operations on objects, basic input output, Exceptions and conditions, lazy evaluation and streams.

SCALA: Classes and Objects, Data Types, Control structures, composition and inheritance. Packages. Pattern matching. Collections API. Working with XML. Actors and concurrency. GUI programming in SCALA.

GROOVY on GRAILS

Introduction to Grails: Object Relational Mapping (GORM), Basic CRUD, Scaffolding JSON, REST API, DataSources and Environments

Web Layer: Model ,View ,Controllers (MVC), Redirects and Chaining, Data Binding, Groovy Server Pages, URL Mappings, Plug-in, Grails and Hibernate

Books:

Text:

1. R Kent Dybvig, –the Scheme Programming Language", MIT Press, ISBN 978-0-262-51298-5.
2. Martin Odersky, Lex Spoon, and Bill Venners, –Programming in SCALA", Artima. ISBN :-13: 978-0-9815316-1-8.
3. Beginning Groovy and Grails From Novice to Professional, Christopher M. Judd, Joseph Faisal Nusairat, and James Shingler, Apress, ISBN-13: 978-1-4302-1045-0

Reference:

1. Cay S Horstmann, –Scala for the Impatient", Pearson, ISBN: 978-81-317-9605-4,
2. Scala Cookbook, Alvin Alexander, O'Reilly, SPD,ISBN: 978-93-5110-263-2
3. Jason Swartz, –Learning Scala", O'REILLY, ISBN: 13:978-93-5213-256-0
4. Official Website http://www.groovy-lang.org/download.html
5. Official Website https://en.wikipedia.org/wiki/Scheme_(programming_language)
6. Official Website https://www.scala-lang.org/
7. Official Website https://grails.org/

Suggested List of Laboratory Assignments on SCHEME and SCALA

1. Create a recursive function in Scheme that displays the sum of n odd numbers starting from 1.
2. Write a program to find sum and product of all the elements of a list in scheme without using built in functions.
3. Write a SCALA Program to perform following operations on Strings:
   1. Create a String Object.
   2. Check String is palindrome or not.
   3. Check length of String
   4. Replace all _a' in a string with _A'
4. Develop a SCALA pattern matching programming which matches a given Person object and displays whether he is Eligible for Election or not. Use name, age and eligibility as class members.

Suggested List of Laboratory Assignments on GROOVY on GRAILS

1. Download Install and Configure IDE with Grails Plugins on Windows/Linux platform.
2. Design a simple web application using Scaffolding data source for CRUD operations
3. Design a simple web application using MySQL for CRUD operations

Suggested Mini Project on SCHEME and SCALA and GROOVY on GRAILS

Design a dynamic web application system Use Front End: Groovy on Grails, Back End: Scheme and Scala (Ex, Employee Payroll System, Student Result System)

SD Module-V Advanced JAVA and Data Science with R

Theory Content for Lab

ADVANCED JAVA

Data Structures in Java: Enumeration, BitSet, Vector, Stack, Dictionary, Hash table, Properties. **Generics and Collection Framework:** Generic Methods and Generic Classes. Interfaces (Set, List, Queue, and Dequeue) and classes (ArrayList, Vector, LinkedList, PriorityQueue, HashSet, LinkedHashSet, and TreeSet). **Serialization and Networking:** Serializing an Object and Deserializing an Object, Socket Programming. **Database Connectivity and Multithreading:** SQL, JDBC, Thread life cycle, Thread methods, Thread Pools, Executor Service. **GUI in JAVA:** AWT, Applet, Swing.

DATA SCIENCE WITH R

Introduction to Data Science- What is Data Science? Current landscape of perspectives, Skill sets needed, The Data Science Process life cycle, Role of Data Scientist. Data pre-processing. ETL – extract, transform, and load.

Introduction to R-What is R? Installation of R. Basic features of R. R Objects. Creating Vectors and Matrices. Getting Data in and out of R. Using different packages related to data science. Managing Data frames and Functions.

Descriptive Statistics using R - Discrete and continuous random variables, densities and distributions .Data Summarization: Measures of Central Tendency, Measures of Dispersion (quartiles, five number summary, variance, standard deviation), Measures of shape (skewness, kurtosis), Measures of association (covariance, correlation), Outliers. Using R for descriptive statistics and data visualization using ggplot2 package.

Predictive Analysis using Machine Learning Techniques using R: Machine learning - what, how, where. Supervised, unsupervised and semi-supervised learning. Training, validation, testing, generalization, over fitting. Building a Regression model using R. Features and feature engineering. Using Decision trees, Linear classifiers, Naïve Bayes, Nearest neighbor methods in R packages.

Books:

Text:

1. Herbert Schildt, —Java: The Complete Reference" ,TMG Publication, ISBN 9780070636774
2. Thomas Powell, —Java generics and collections", O'Reilly Media, ISBN: 0596527756, 2006.
3. Peng, Roger D., and Elizabeth Matsui. "The Art of Data Science." A Guide for Anyone Who Works with Data. Skybrude Consulting 200 (2015): 162.
4. Evans, James R., and Carl H. Lindner. "Business analytics: the next frontier for decision sciences." Decision Line 43.2 (2012): 4-6.

Reference:

1. JAVA EE 7 for Beginners, Sharanam Shah and Vaishali Shah, SPD, ISBN: 13:978-93-5110-349-3
2. Data Mining: Concepts and Techniques, Jiawei Han and Micheline Kamber, Morgan Kaufman, ISBN 978-81-312-0535-8
3. Learning R, Richard Cotton, O'Reilly, ISBN: 13:978-93-5110-286-1

Suggested List of Laboratory Assignments for Advanced JAVA

1. Design a system with the help of advance data structures in Java and enhance the system using

	collections and generics.
2.	Enhance the above system with the help of socket programming use client server architecture.
3.	Enhance above system by using JDBC, Multithreading, concurrency, synchronous and asynchronous callbacks, Thread Pools using Executor Service.
4.	Transform the above system from command line system to GUI based application

Suggested List of Laboratory Assignments on Data Science with R

1.	Getting Started with R installation, R objects and basic statistics.
2.	Using R for data preprocessing, exploratory analysis, visualization.
3.	Using R for correlation and regression analysis.
4.	Data analysis case study using R for readily available data set using any one machine learning algorithm

Suggested Mini Project on Advanced JAVA and Data Science with R

1. Implementing a simple Recommender System based on user buying pattern.
2. Applying linear regression model to a real world problem.

SD Module-VI **Aptitude Development**

Quantitative Aptitude, Logical Reasoning and Verbal Ability

An aptitude is a component of a competence to do a certain kind of work at a certain level. Outstanding aptitude can be considered "talent". An aptitude may be physical or mental. Aptitude is inborn potential to do certain kinds of work whether developed or undeveloped. Ability is developed knowledge, understanding, learned or acquired abilities (skills) or attitude. The innate nature of aptitude is in contrast to skills and achievement, which represent knowledge or ability that is gained through learning. (Ref: https://en.wikipedia.org/wiki/Aptitude).

Aptitude and ability tests are designed to assess your logical reasoning or thinking performance. The statistics reveal that 70 percent of world's recruitment companies use aptitude test as a part of their recruitment procedure. These types of tests often permit potential companies to learn more about candidate's personality and abilities.

It is well said that aptitude isn't really something one can easily improve, but surely practice can help to improve. Solving number of high level of questions will surely help to succeed while subsequent practices of solving same. Each attempt should aim to attain a level of efficiency. Practice of solving hundreds of similar questions helps to choose right approach to solve.

It is recommended to conduct few expert talks and conduct practice tests for students for minimum 15 minutes per week in current semester and continue in semester VI, VII and VIII.

Text:

1. R.S Aggarwal, "Quantitative Aptitude", S Chand Publisher, ISBN- 9788121924986
2. Aptipedia- Aptitude Encyclopedia, Wiley, ISBN:978-81-265-6223-7
3. Shakuntala Devi, "Puzzles to Puzzle You" and "More Puzzles to Puzzle You", Orient Paperbacks, 2005. ISBN, 8122200141, 9788122200140

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310247:Database Management System Lab

Teaching Scheme:
Practical : 04 Hours/Week

Credit
02

Examination Scheme:
Practical: 50 Marks
Term Work: 25 Marks

Companion Course: Database Management System (310242)

Course Objectives:

- To develop basic, intermediate and advanced Database programming skills
- To develop basic Database administration skills
- To percept transaction processing

Course Outcomes:

On completion of the course, student will be able to–

- Develop the ability to handle databases of varying complexities
- Use advanced database Programming concepts

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of prologue, Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign, Theory- Concept in brief, Database design, test cases, conclusion/analysis. **Program codes with sample output of all performed assignments are to be submitted as softcopy.**

As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal may be avoided. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints at Laboratory

Guidelines for Assessment

Continuous assessment of laboratory work is done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Guidelines for Practical Examination

Both internal and external examiners should jointly set problem statements. During practical assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation of the problem statement. The supplementary and relevant questions may be asked at the time of evaluation to test the student's for advanced learning, understanding of the fundamentals, effective and efficient implementation. So encouraging efforts, transparent evaluation and fair approach of the evaluator will not create any uncertainty or doubt in the minds of the students. So adhering to these principles will consummate our team efforts to the promising start of the student's academics.

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites,

technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications. Encourage students for appropriate use of Hungarian notation, proper indentation and comments. Use of open source software is to be encouraged.

In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus.

Set of suggested assignment list is provided in groups- A and B. Each student must perform at least 13 assignments (8-Mandotory plus 4 from remaining 8 assignments) from group A , 5 from group B and 2 mini projects from Group C

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended: SQL, PL/SQL, Front End: Java/Perl/PHP/Python/Ruby/.net, Backend : Monod/MYSQL/Oracle, Database Connectivity : ODBC/JDBC

Books:

References:

1. Ivan Bayross, –SQL, PL/SQL: The Programming Language of Oracle", BPB Publication, ISBN-10: 8176560723; ISBN-13: 978-8176560726
2. Kristina Chodorow, Michael Dirolf, –MangoDB: The Definitive Guide", O'Reilly Publications, ISBN: 9781449381561
3. Import, Tidy, Transform," R for Data Science", O'REILLY, ISBN: 13:978-93-5213-497-7
4. http://www.tutorialspoint.com/json/ & http://docs.mongodb.org/manual/

Suggested List of Laboratory Assignments

Group A- Database Programming Languages – SQL, PL/SQL

1. Study of Open Source Relational Databases : MySQL
2. Design and Develop SQL DDL statements which demonstrate the use of SQL objects such as Table, View, Index, Sequence, Synonym
3. Design at least 10 SQL queries for suitable database application using SQL DML statements: Insert, Select, Update, Delete with operators, functions, and set operator.
4. Design at least 10 SQL queries for suitable database application using SQL DML statements: all types of Join, Sub-Query and View.
5. Unnamed PL/SQL code block: Use of Control structure and Exception handling is mandatory. Write a PL/SQL block of code for the following requirements:-
   Schema:
   1. Borrower(Rollin, Name, DateofIssue, NameofBook, Status)
   2. Fine(Roll_no,Date,Amt)
   - Accept roll_no & name of book from user.
   - Check the number of days (from date of issue), if days are between 15 to 30 then fine amount will be Rs 5per day.
   - If no. of days>30, per day fine will be Rs 50 per day & for days less than 30, Rs. 5 per day.
   - After submitting the book, status will change from I to R.
   - If condition of fine is true, then details will be stored into fine table.

   Frame the problem statement for writing PL/SQL block inline with above statement.
6. Cursors: (All types: Implicit, Explicit, Cursor FOR Loop, Parameterized Cursor)
   Write a PL/SQL block of code using parameterized Cursor, that will merge the data available in the newly created table N_RollCall with the data available in the table O_RollCall. If the data in the first table already exist in the second table then that data should be skipped.
   Frame the separate problem statement for writing PL/SQL block to implement all types

of Cursors inline with above statement. The problem statement should clearly state the requirements.

7. PL/SQL Stored Procedure and Stored Function.
   Write a Stored Procedure namely proc_Grade for the categorization of student. If marks scored by students in examination is <=1500 and marks>=990 then student will be placed in distinction category if marks scored are between 989 and900 category is first class, if marks 899 and 825 category is Higher Second Class
   Write a PL/SQL block for using procedure created with above requirement.
   Stud_Marks(name, total_marks) Result(Roll,Name, Class)
   Frame the separate problem statement for writing PL/SQL Stored Procedure and function, inline with above statement. The problem statement should clearly state the requirements.
8. Database Trigger (All Types: Row level and Statement level triggers, Before and After Triggers). Write a database trigger on Library table. The System should keep track of the records that are being updated or deleted. The old value of updated or deleted records should be added in Library_Audit table.
   Frame the problem statement for writing Database Triggers of all types, in-line with above statement. The problem statement should clearly state the requirements.

Group B Large Scale Databases

1. Study of Open Source NOSQL Database: MongoDB (Installation, Basic CRUD operations, Execution)
2. Design and Develop MongoDB Queries using CRUD operations. (Use CRUD operations, SAVE method, logical operators)
3. Implement aggregation and indexing with suitable example using MongoDB.
4. Implement Map reduces operation with suitable example using MongoDB.
5. Design and Implement any 5 query using MongoDB
6. Create simple objects and array objects using JSON
7. Encode and Decode JSON Objects using Java/Perl/PHP/Python/Ruby

Group C Mini Project : Database Project Life Cycle

1. Write a program to implement MogoDB database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit etc.) using ODBC/JDBC.
2. Implement MYSQL/Oracle database connectivity with PHP/ python/Java Implement Database navigation operations (add, delete, edit,) using ODBC/JDBC.
3. Using the database concepts covered in Part-I & Part-II & connectivity concepts covered in Part C, students in group are expected to design and develop database application with following details:

   Requirement Gathering and Scope finalization

   Database Analysis and Design:

   - Design Entity Relationship Model, Relational Model, Database Normalization

   Implementation :

   - Front End : Java/Perl/PHP/Python/Ruby/.net
   - Backend : MongoDB/MYSQL/Oracle
   - Database Connectivity : ODBC/JDBC

   Testing : Data Validation

   Group of students should submit the Project Report which will be consist of documentation related to different phases of Software Development Life Cycle: Title of the Project, Abstract, Introduction, scope, Requirements, Data Modeling features, Data Dictionary, Relational Database Design, Database Normalization, Graphical User Interface, Source Code, Testing document, Conclusion. Instructor should maintain progress report of mini project throughout the semester from project group and assign marks as a part of the term work

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310248: Computer Networks Lab

Teaching Scheme:	Credit	Examination Scheme:
PR: 02 Hours/Week	01	TW: 25 Marks
		PR: 50 Marks

Companion Course: 310245 Computer Networks (CN)

Course Objectives:

- To establish communication among the computing nodes in P2P and Client-Server architecture
- Configure the computing nodes with understanding of protocols and technologies.
- Use different communicating modes and standards for communication
- Use modern tools for network traffic analysis
- To learn network programming.

Course Outcomes:

On completion of the course, student will be able to–

- Demonstrate LAN and WAN protocol behavior using Modern Tools.
- Analyze data flow between peer to peer in an IP network using Application, Transport and Network Layer Protocols.
- Demonstrate basic configuration of switches and routers.
- Develop Client-Server architectures and prototypes by the means of correct standards and technology.

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

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In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus.

Set of suggested assignment list is provided in groups- A and B. Each student must perform at least 8 assignments (4-Mandotory plus 4 from remaining 8 assignments) from group A and 4 from group B (2-Mandotory plus 2 from remaining 5 assignments).

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended: - Open Source C,C++, JAVA, PYTHON,

Programming tool like G++/GCC, Wireshark, Etheral and Packet Tracer

Books:

References:

1. Thomas D. Nadean and Ken Gray, –Software Defined Networks", O'REILLY, ISBN: 13:978-93-5110-264-9
2. Robert Faludi, –Building Wireless Sensor Networks", O'REILLY, ISBN: 13:978-93-5023-289-7

Suggested List of Laboratory Assignments

Group A

All assignments should be implemented using Open Source Linux flavors, Open Source Tools: Wireshark and Packet Tracer and C/C++, JAVA, PYTHON.

1. **Lab Assignment on Unit I: (Mandatory Assignment)**
   Part A: Setup a wired LAN using Layer 2 Switch and then IP switch of minimum four computers. It includes preparation of cable, testing of cable using line tester, configuration machine using IP addresses, testing using PING utility and demonstrate the PING packets captured traces using Wireshark Packet Analyzer Tool.
   Part B: Extend the same Assignment for Wireless using Access Point
2. **Lab Assignment on Unit II: (Use C/C++)**
   Write a Program with following four options to transfer-
   a. Characters separated by space b. One Strings at a time
   b. One Sentence at a time c. file
   between two RS 232D or USB ports using C/C++. (To demonstrate Framing, Flow control, Error control).

3.	**Lab Assignment on Unit II: (Use C/C++)** Write a program for error detection and correction for 7/8 bits ASCII codes using Hamming Codes or CRC. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.(50% students will perform Hamming Code and others will perform CRC)
4.	**Lab Assignment on Unit II: (Use JAVA/PYTHON)** Write a program to simulate Go back N and Selective Repeat Modes of Sliding Window Protocol in peer to peer mode and demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
5.	**Lab Assignment on Unit IV: (Use JAVA/PYTHON)** Write a program to demonstrate subletting and find the subnet masks.
6.	**Lab Assignment on Unit IV: (Use JAVA/PYTHON)** Write a program to simulate the behavior of link state routing protocol to find suitable path for transmission.
7.	**Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)** Write a program using TCP socket for wired network for following a. Say Hello to Each other (For all students) b. File transfer (For all students) c. Calculator (Arithmetic) (50% students) d. Calculator (Trigonometry) (50% students) Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
8.	**Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)** Write a program using UDP Sockets to enable file transfer (Script, Text, Audio and Video one file each) between two machines. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
9.	**Lab Assignment on Unit V: (Mandatory Assignment) (Use C/C++)** Write a program to analyze following packet formats captured through Wireshark for wired network. 1. Ethernet 2. IP 3.TCP 4. UDP
10.	Write a program to simulate the behavior of Slow Start and AIMD (Additive Increase and Multiplicative Decrease) congestion control protocols. **(Use JAVA/PYTHON)**
11.	**Lab Assignment on Unit VI: (Use JAVA/PYTHON)** Write a program for DNS lookup. Given an IP address input, it should return URL and vice-versa.
12.	**Lab Assignment on Unit VI:** Installing and configure DHCP server and write a program to install the software on remote machine.
	Group B
1.	**Lab Assignment on Unit II: (Use JAVA/PYTHON)** Write a Program to transfer- By using Bluetooth **a.** Characters separated by space **b.** One Strings at a time **c.** One Sentence at a time d. File
2.	**Lab Assignment on Unit IV: (Use JAVA/PYTHON)** Study of any network simulation tools - To create a network with three nodes and establish a TCP connection between node 0 and node 1 such that node 0 will send TCP packet to node 2 via node 1
3.	**Lab Assignment on Unit V: (Use JAVA/PYTHON)** Write a program using TCP sockets for wired network to implement a. Peer to Peer Chat b. Multiuser Chat

	Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
4.	**Lab Assignment on Unit V: (Use JAVA/PYTHON)** Write a program using UDP sockets for wired network to implement a. Peer to Peer Chat b. Multiuser Chat Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
5.	**Lab Assignment on Unit V: (Use JAVA/PYTHON)** Write a program to prepare TCP and UDP packets using header files and send the packets to destination machine in peer to peer mode. Demonstrate the packets captured traces using Wireshark Packet Analyzer Tool for peer to peer mode.
6.	**Lab Assignment on Unit IV and Unit V: (Mandatory Assignment)** Use network simulator NS2 to implement: a. Monitoring traffic for the given topology b. Analysis of CSMA and Ethernet protocols c. Network Routing: Shortest path routing, AODV. d. Analysis of congestion control (TCP and UDP).
7.	**Lab Assignment on Unit IV: (Mandatory Assignment)** Configure RIP/OSPF/BGP using packet Tracer.

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310249: Audit Course 3

In addition to credits, it is recommended that there should be audit course in preferably in each semester from second year to supplement their knowledge and skills. Student will be awarded the bachelor_s degree if he/she earns 190 credits and clears all the audit courses specified in the syllabus. The student will be awarded grade as AP on successful completion of audit course. The student may opt for one of the audit courses per semester, starting in second year first semester. Though not mandatory, such a selection of the audit courses helps the learner to explore the subject of interest in greater detail resulting in achieving the very objective of audit course's inclusion. List of options offered is provided. Each student has to choose one audit course from the list per semester. Evaluation of audit course will be done at institute level itself. Method of conduction and method of assessment for audit courses are suggested.

Criteria:

The student registered for audit course shall be awarded the grade AP (Audit Course Pass) and shall be included such AP grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the Savitribai Phule Pune University and satisfactory in-semester performance and secured a passing grade in that audit course. No grade points are associated with this 'AP' grade and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. Evaluation of audit course will be done at institute level itself. (Ref- http://www.unipune.ac.in/Syllabi_PDF/revised-2015/engineering/UG_RULE_REGULATIONS_FOR_CREDIT_SYSTEM-2015_18June.pdf)

Guidelines for Conduction and Assessment (Any one or more of following but not limited to)

- Lectures/ Guest Lectures
- Visits (Social/Field) and reports
- Demonstrations
- Surveys
- Mini Project
- Hands on experience on specific focused topic

Guidelines for Assessment (Any one or more of following but not limited to)

- Written Test
- Demonstrations/ Practical Test
- Presentations
- IPR/Publication
- Report

Audit Course 3 Options

AC3- I	Cyber Security
AC3-II	Professional Ethics and Etiquettes
AC3-III	Emotional Intelligence
AC3-IV	MOOC-Learn New Skills
AC3-V	Foreign Language (one of Japanese/ Spanish/French/German). Course contents for **Japanese (Module 3) are provided. For other languages institute may design suitably.**

Note: It is permitted to opt one of the audit courses listed at SPPU website too, if not opted earlier http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202017/Forms/AllItems.aspx

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310249: Audit Course 3
AC3 – I: Cyber Security

Effective information security at the enterprise level requires participation, planning, and practice. It is an ongoing effort that requires management and staff to work together from the same script. Fortunately, the information security community has developed a variety of resources, methods, and best practices to help modern enterprises address the challenge. Unfortunately, employing these tools demands a high degree of commitment, understanding, and skill attributes that must be sustained through constant awareness and training.

Course Objectives:

- To assess the current security landscape, including the nature of the threat, the general status of common vulnerabilities, and the likely consequences of security failures;
- To critique and assess the strengths and weaknesses of general cyber security models, including the CIA triad
- To appraise the interrelationships among elements that comprise a modern security system, including hardware, software, policies, and people;
- To assess how all domains of security interact to achieve effective system-wide security at the enterprise level.

Course Outcome:

On completion of the course, learner will be able to–

- Compare the interrelationships among security roles and responsibilities in a modern information-driven enterprise—to include interrelationships across security do mains (IT, physical, classification, personnel, and so on)
- Assess the role of strategy and policy in determining the success of information security;
- Estimate the possible consequences of misaligning enterprise strategy, security policy, and security plans;

Course Contents:

1. **Cyber Security Basics:** Introduction, Elements of Information security, Security Policy, Techniques, Operational Model of Network Security, Terminologies in Network Security
2. **Introduction to Cryptography:** Introduction, Encryption Methods: Symmetric, Asymmetric, Public Key and Management, Authentication methods, Digital Signatures
3. **Security requirements:** Electronic Mail Security: Pretty Good Privacy, MIME, S/MIME, And Comparison. WEB Security, Secure Electronic Transaction(SET).
4. **Intrusion and Firewall:** Introduction to threats, Intrusion detection, IDS: Need, Methods, Types of IDS, Password Management, Limitations and Challenges, Firewall Introduction, Characteristics and types, Benefits and limitations. Firewall architecture, Trusted Systems, Access Control
5. **Security perspective of Hacking and its counter majors :** Introduction to Hacking, Counter majors: General Strategies

Books:

1. William Stallings, —Cryptography and Network Security", Pearson, ISBN:978-93-325-1877-3
2. Oded Goldreich, —Foundations of Cryptography: Basic Tools", Cambridge University Press, ISBN-10: 0521035368; ISBN-13: 978-0521035361
3. Jonathan Katz and Yehuda Lindell, —Introduction to Modern Cryptography", CRC Book

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310249: Audit Course 3
AC3 – II: Professional Ethics and Etiquettes

Professional ethics is the underlying concept behind the successful accomplishment of any act of a professional towards achieving the individual and societal goals. These goals should ultimately result in morally, legally, ethically and even culturally acceptable good things for all. Engineers being special group of professionals need to be more conscious of their acts since their duties, rights and responsibilities permeate into the society and the surroundings. To practice professional ethics, understanding of values and concepts are essential.

Course Objectives:

- To create awareness on professional ethics and Human Values.
- To provide basic familiarity about Engineers as responsible Experimenters, Research Ethics, Codes of Ethics, Industrial Standards.
- To inculcate knowledge and exposure on Safety and Risk.
- To expose students to right attitudinal and behavioral aspects

Course Outcome:

On completion of the course, learner will be able to–

- understand the basic perception of profession, professional ethics, various moral issues & uses of ethical theories
- Understand various social issues, industrial standards, code of ethics and role of professional ethics in engineering field.
- Follow Ethics as an engineering professional and adopt good standards & norms of engineering practice.
- apply ethical principles to resolve situations that arise in their professional lives

Course Contents:

1. **Human Values And Engineering Ethics:** Morals, values and Ethics, Integrity, Work ethic, Civic virtue , Valuing time, Cooperation, Commitment, Empathy, Self-confidence , stress management, Senses of Engineering Ethics, Kohlberg"s theory, Gilligan"s theory, Models of professional roles, Uses of Ethical Theories.
2. **Research Ethics and Codes of Ethics:** Industrial standardization, ethical code and its importance, ethical accountability, law in engineering, engineering as social experimentation.
3. **Safety, Responsibilities And Rights:** Safety and Risk, Assessment of Safety and Risk, Risk Benefit Analysis and Reducing Risk collegiality, Collective Bargaining , Confidentiality , Conflicts of Interest, Professional Rights, Employee Rights, Intellectual Property Rights (IPR), Discrimination, Utilitarianism
4. **Professional Etiquette:** Etiquette at Meetings, Public Relations Office(PRO)_s Etiquettes, Technology Etiquette Phone Etiquette, Email Etiquette, Social Media Etiquette, Video Conferencing Etiquette, Interview Etiquette, Dressing Etiquettes : for Interview, offices and social functions, Ethical Values: Importance of Work Ethics.

Books:

1. Caroline Whitbeck, –Ethics in Engineering Practice and Research", Cambridge Press, ISBN:978-1-107-66847-8
2. Prabhuddha Ganguli: —Intellectual Property Rights‖ Tata Mc-Graw –Hill, New Delhi, ISBN-10:0070077177
3. Professional Ethics and Etiquette (Mastering Career Skills), Checkmark, ISBN-10: 0816071179
4. A Alavudeen, "Professional Ethics And Human Values" Firewall, ISBN13 : 8131803066

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310249: Audit Course 3
AC3 – III: Emotional Intelligence

Prerequisite Audit Courses: Audit Course AC1-V(210250), AC2-V(210258)

This Emotional Intelligence (EI) training course will focus on the five core competencies of emotional intelligence: self-awareness, self-regulation, motivation, empathy and interpersonal skills. Participants will learn to develop and implement these to enhance their relationships in work and life by increasing their understanding of social and emotional behaviors, and learning how to adapt and manage their responses to particular situations. Various models of emotional intelligence will be covered.

Course Objectives:

- To develop an awareness of EI models
- To recognize the benefits of EI
- To understand how you use emotion to facilitate thought and behavior
- To know and utilize the difference between reaction and considered response

Course Outcomes:

On completion of the course, learner will be able to–

- Expand your knowledge of emotional patterns in yourself and others
- Discover how you can manage your emotions, and positively influence yourself and others
- Build more effective relationships with people at work and at home
- Positively influence and motivate colleagues, team members, managers
- Increase your leadership effectiveness by creating an atmosphere that engages others
- EI behaviors and supports high performance

Course Contents:

1. **Introduction to Emotional Intelligence (EI) :** Emotional Intelligence and various EI models, The EQ competencies of self-awareness, self-regulation, motivation, empathy, and interpersonal skills, Understand EQ and its importance in life and the workplace
2. **Know and manage your emotions:** emotions, The different levels of emotional awareness, Increase your emotional knowledge of yourself, Recognize _negative' and _positive' emotions. The relationship between emotions, thought and behavior, Discover the importance of values, The impact of not managing and processing _negative' emotions, Techniques to manage your emotions in challenging situations
3. **Recognize emotions in others :** The universality of emotional expression, Learn tools to enhance your ability to recognize and appropriately respond to others' emotions, Perceiving emotions accurately in others to build empathy
4. **Relate to others**: Applying EI in the workplace, the role of empathy and trust in relationships, Increase your ability to create effective working relationships with others (peers, subordinates, managers, clients, Find out how to deal with conflict, Tools to lead, motivate others and create a high performing team.

Books:

1. Daniel Goleman," Emotional Intelligence – Why It Matters More Than IQ," , Bantam Books, ISBN-10: 055338371X13: 978-0553383713
2. Steven Stein , –The EQ Edge" , Jossey-Bass, ISBN : 978-0-470-68161-9
3. Drew Bird , –The Leader's Guide to Emotional Intelligence" , ISBN: 9781535176002

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310249: Audit Course 3
AC3 – IV: MOOC-learn New Skill

Course Objectives:

- To promote interactive user forums to support community interactions among students, professors, and experts
- To promote learn additional skills anytime and anywhere
- To enhance teaching and learning on campus and online

Course Outcome:

On completion of the course, learner will acquire additional knowledge and skill.

About Course:

MOOCs (Massive Open Online Courses) provide affordable and flexible way to learn new skills, pursue lifelong interests and deliver quality educational experiences at scale. Whether you're interested in learning for yourself, advancing your career or leveraging online courses to educate your workforce, SWYAM, NPTEL, edx or similar ones can help.

World's largest SWAYAM MOOCs, a new paradigm of education for anyone, anywhere, anytime, as per your convenience, aimed to provide digital education free of cost and to facilitate hosting of all the interactive courses prepared by the best more than 1000 specially chosen faculty and teachers in the country. SWAYAM MOOCs enhances active learning for improving lifelong learning skills by providing easy access to global resources.

SWAYAM is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

This is done through an indigenous developed IT platform that facilitates hosting of all the courses, taught in classrooms from 9th class till post-graduation to be accessed by anyone, anywhere at any time. All the courses are interactive, prepared by the best teachers in the country and are available, free of cost to the residents in India. More than 1,000 specially chosen faculty and teachers from across the Country have participated in preparing these courses.

The courses hosted on SWAYAM is generally in 4 quadrants – (1) video lecture, (2) specially prepared reading material that can be downloaded/printed (3) self-assessment tests through tests and quizzes and (4) an online discussion forum for clearing the doubts. Steps have been taken to enrich the learning experience by using audio-video and multi-media and state of the art pedagogy / technology. In order to ensure best quality content are produced and delivered, seven National Coordinators have been appointed: They are NPTEL for engineering and UGC for post-graduation education.

Guidelines:

Instructors are requested to promote students to opt for courses with proper mentoring. The departments will take care of providing necessary infrastructural and facilities for the learners.

References:

1. https://swayam.gov.in/
2. https://onlinecourses.nptel.ac.in/
3. https://www.edx.org

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310249: Audit Course 3
AC3 – V: Foreign Language(Japanese Module 3)

Prerequisite Courses: Audit Course AC1-V(210250), AC2-V(210258)

About Course:

With changing times, the competitiveness has gotten into the nerves and _Being the Best_ at all times is only the proof of it. Nonetheless, _being the best_ differs significantly from Communicating the best_. The best can merely be communicated whilst using the best suited Language!

Japanese is the new trend of 21st century. Not only youngsters but even the professionals seek value in it. It is the engineer_s companion in current times with an assertion of a thriving future. Pune has indisputably grown to become a major center of Japanese Education in India while increasing the precedence for Japanese connoisseurs.

Japanese certainly serves a great platform to unlock a notoriously tough market & find a booming career. While the companies prefer candidates having the knowledge of the language, it can additionally help connect better with the native people thus prospering in their professional journey. Learning Japanese gives an extra edge to the _resume_ since the recruiters consciously make note of the fact it requires real perseverance and self-discipline to tackle one of the most complex languages.

It would be easy for all time to quit the impossible; however it takes immense courage to reiterate the desired outcomes, recognize that improvement is an ongoing process and ultimately soldier on it. The need of an hour is to introduce Japanese language with utmost professionalism to create awareness about the bright prospects and to enhance the proficiency and commitment. It will then prove to be the ultimate path to the quest for professional excellence!

Course Objectives:

- To meet the needs of ever growing industry with respect to language support.
- To get introduced to Japanese society and culture through language.

Course Outcome:

On completion of the course, learner will be able to–

- Have ability of basic communication.
- Have the knowledge of Japanese script.
- Get introduced to reading, writing and listening skills for language Japanese.
- Develop interest to pursue professional Japanese Language course

Course Contents:

1. Introduction to Kanji Script, Describing one's daily routine. To ask what someone does. Expressions of Giving & Receiving.
2. Adjectives (Types of adjectives), Asking impression or an opinion about a thing / person / place that the listener, has experienced, visited, or met, Describing things / person / places with the help of the adjectives.
3. Expressions of Like & Dislikes. Expressing one's ability, hobby, Comparison between objects, persons & cities, which resulted from a certain action in the past.

References:

1. Minna No Nihongo, —Japanese for Everyonel, Elementary Main Text book 1-1 (Indian Edition), Goyal Publishers & Distributors Pvt. Ltd.
2. http://www.tcs.com (http://www.tcs.com/news_events/press_releases/Pages/TCS-Inaugurates-Japan-centric-Delivery-Center-Pune.aspx

SEMESTER II

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310250: Design and Analysis of Algorithms

Teaching Scheme:	Credit	Examination Scheme:
TH: 04 Hours/Week	04	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite Courses: Discrete Mathematics (210241), Data Structures (210243, 210252), Theory of Computation (310241)

Course Objectives:

- To develop problem solving abilities using mathematical theories
- To analyze the performance of algorithms
- To study algorithmic design strategies

Course Outcomes:

On completion of the course, student will be able to–

- Formulate the problem
- Analyze the asymptotic performance of algorithms
- Decide and apply algorithmic strategies to solve given problem
- Find optimal solution by applying various methods

Course Contents

Unit I **Fundamentals** **09 Hours**

The Role of Algorithms in Computing - What are algorithms, Algorithms as technology, Evolution of Algorithms, Design of Algorithm, Need of Correctness of Algorithm, Confirming correctness of Algorithm – sample examples, Iterative algorithm design issues.

Unit II **Models and Design** **09 Hours**

Functional Model – Features, Recursive processes, Scope rules, Tail recursion, Checking correctness of Iterative process. Imperative Model – Basics, Specifications and Prototyping, Stepwise Refinement, Proof Rules – Basics, For loops, Goto and Exit loops, Functions and Procedures, Problem Solving using Greedy strategy - Knapsack problem, Huffman code generation algorithm.

Unit III **Abstract Algorithms** **09 Hours**

Dynamic Programming, Divide and Conquer, Greedy strategy, Branch-n-Bound, Natural Algorithms –Evolutionary Algorithms and Evolutionary Computing, Introduction to Genetic Algorithm, Simulated Annealing, Artificial Neural Network and Tabu Search.

Unit IV **Complexity Theory** **09 Hours**

Complexity theory – Counting Dominant operators, Growth rate, upper bounds, asymptotic growth, O, Ω, Θ, o and ω notations, polynomial and non-polynomial problems, deterministic and non-deterministic algorithms, P-class problems, NP-class of problems, Polynomial problem reduction NP complete problems- vertex cover and 3-SAT and NP hard problem - Hamiltonian cycle.

Unit V **Amortized Analysis** **09 Hours**

Amortized Analysis – Binary, Binomial and Fibonacci heaps, Dijkstra's Shortest path algorithm, Splay Trees, Time-Space tradeoff, Introduction to Tractable and Non-tractable Problems, Introduction to Randomized and Approximate algorithms, Embedded Algorithms: Embedded system scheduling (power optimized scheduling algorithm), sorting algorithm for embedded systems.

Unit VI	**Multithreaded and Distributed Algorithms**	**09 Hours**

Multithreaded Algorithms - Introduction, Performance measures, Analyzing multithreaded algorithms, Parallel loops, Race conditions.

Problem Solving using Multithreaded Algorithms - Multithreaded matrix multiplication, Multithreaded merge sort.

Distributed Algorithms - Introduction, Distributed breadth first search, Distributed Minimum Spanning Tree.

String Matching- Introduction, The Naive string matching algorithm, The Rabin-Karp algorithm

Books:

Text:

1. Parag Himanshu Dave, Himanshu Bhalchandra Dave, "Design And Analysis of Algorithms", Pearson Education, ISBN 81-7758-595-9
2. Gilles Brassard, Paul Bratley, "Fundamentals of Algorithmics", PHI, ISBN 978-81-203-1131-2

References:

1. Michael T. Goodrich, Roberto Tamassia , "Algorithm Design: Foundations, Analysis and Internet Examples", Wiley, ISBN 978-81-265-0986-7
2. Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest and Clifford Stein, "Introduction to Algorithms", MIT Press; ISBN 978-0-262-03384-8
3. Horowitz and Sahani, "Fundamentals of Computer Algorithms", University Press, ISBN: 978 81 7371 6126, 81 7371 61262
4. Rajeev Motwani and Prabhakar Raghavan, "Randomized Algorithms", Cambridge University Press, ISBN: 978-0-521-61390-3
5. Dan Gusfield, "Algorithms on Strings, Trees and Sequences", Cambridge University Press,ISBN:0-521-67035-7

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310251: Systems Programming and Operating System

Teaching Scheme:	Credit	Examination Scheme:
TH: 04 Hours/Week	04	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite Courses: Fundamentals of Programming Languages(110011,110003), Data Structures (210243,210252)

Companion Course: Systems Programming and Operating System Lab (310257)

Course Objectives:

- To understand basics of System Programming.
- To learn and understand data structures used in design of system software.
- To learn and understand basics of compilers and tools.
- To understand functions of operating system.
- To learn and understand process, resource and memory management.

Course Outcomes:

On completion of the course, student will be able to–

- Analyze and synthesize system software
- Use tools like LEX & YACC.
- Implement operating system functions.

Course Contents

Unit I	Introduction	09 Hours

Introduction: Components of System Software: Text editors, Loaders, Assemblers, Macro processors, Compilers, Debuggers. Machine Structure, Machine language and Assembly Language. Assemblers: General design procedure, design of two pass assembler

Unit II	Macro Processor, Linker and Loader	09 Hours

Macro Processor: Macro instructions, Features of macro facility, Design of two-pass, single pass and nested macro processor. Loaders: Loader schemes: Compile and go, General Loader Scheme, Absolute loaders, subroutine linkages, relocating loaders, direct linking loaders, overlay structure. Design of an absolute loader, Design of direct linking loader. Linkers: Relocation and linking concepts, Design of linker, self relocating programs, Static and dynamic link libraries, use of call back functions. Case Study: Loading phases using Java.

Unit III	Language Translator	09 Hours

Role of lexical analysis -parsing & Token, patterns and Lexemes & Lexical Errors, regular definitions for the language constructs & strings, sequences, Comments & Transition diagram for recognition of tokens, reserved words and identifiers, examples Introduction to Compilers and Interpreters: General Model of Complier, Program interpretation, Comparison of compiler and Interpreter, Use of Interpreter and components of Interpreter. Case Study: Overview of LEX and YACC specification and features.

Unit IV	Operating Systems	09 Hours

Operating Systems: Introduction to different types of operating Real Time Operating Systems, System Components, OS services, System structure- Layered Approach.

Process Management: Process Concept- Process states, Process control block, Threads, Process Scheduling: Types of process schedulers, Types of scheduling: Preemptive, Non preemptive. Scheduling algorithms: FCFS, SJF, RR, Priority,

Deadlocks: Methods of handling deadlocks, Deadlock prevention, avoidance and detection, Recovery from deadlocks.

Case Study: Process Management in multi-cores OS.

Unit V **Memory Management** **09 Hours**

Memory management: Review of Programming Model of Intel 80386, Contiguous and non-contiguous, Swapping, Paging, Segmentation, Segmentation with Paging. Virtual Memory: Background, Demand paging, Page replacement scheme- FIFO, LRU, Optimal, Thrashing.

Case Study: Memory Management in multi-cores OS.

Unit VI **I/O Management** **09 Hours**

I/O Management: I/O Devices, Organization of I/O function, I/O Buffering, Disk Scheduling- Disk Scheduling policies like FIFO, LIFO, STTF, SCAN, C-SCAN.

File Management: Concept, Access methods, Directory Structure, Protection, File System implementation, Directory Implementation, Allocation methods, Free Space management.

Case Study: I/O and File Management in multi-cores OS

Case Study: Light weight and heavy weight OS: Linux, Tizen

Books:

Text:

1. John Donovan, "System Programming", McGraw Hill, ISBN 978-0--07-460482-3.
2. Silberschatz, Galvin, Gagne, "Operating System Principles", 9th Edition, Wiley, ISBN 978-1-118-06333-0

References:

1. Dhamdhere D., "Systems Programming and Operating Systems", McGraw Hill, ISBN 0 - 07 - 463579 – 4
2. Randal Bryant and David O'Hallaron, "Computer Systems: A Programmer's Perspective", Pearson, ISBN 10: 0-13-610804-0
3. Stallings W., "Operating Systems", 6th Edition, Prentice Hall, ISBN-978-81-317-2528-3.
4. John. R. Levine, Tony Mason and Doug Brown, "Lex and Yacc", O'Reilly, 1998, ISBN: 1-56592-000-7

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310252: Embedded Systems and Internet of Things

Teaching Scheme:	Credit	Examination Scheme:
TH: 04 Hours/Week	04	In-Sem (Paper): 30 Marks End-Sem (paper): 70 Marks

Prerequisite Course: Computer Networks (310245)

Companion Course: Embedded Systems and IoT Lab (310258)

Course Objectives:

- To understand fundamentals of IoT and embedded system including essence, basic design strategy and process modeling.
- To introduce students a set of advanced topics in embedded IoT and lead them to understand research in network.
- To develop comprehensive approach towards building small low cost embedded IoT system.
- To understand fundamentals of security in IoT,
- To learn to implement secure infrastructure for IoT
- To learn real world application scenarios of IoT along with its societal and economic impact using case studies

Course Outcomes:

On completion of the course, student will be able to–

- Implement an architectural design for IoT for specified requirement
- Solve the given societal challenge using IoT
- Choose between available technologies and devices for stated IoT challenge

Course Contents

Unit I **Introduction to Embedded System and Internet of Things** **09 Hours**

Embedded Systems: Application Domain and Characteristic of Embedded System, Real time systems and Real time scheduling, Processor basics and System-On-Chip, Introduction to ARM processor and its architecture. **IoT:** Definition and characteristics of IoT, Internet of Things: Vision, Emerging Trends, Economic Significance, Technical Building Blocks, Physical design of IoT, Things of IoT, IoT Protocols, Logical design of IoT, IoT functional blocks, IoT communication models, IoT Communication APIs, IoT enabling technologies, IoT levels and deployment templates, IoT Issues and Challenges, Applications

Unit II **Embedded IoT Platform Design Methodology** **09 Hours**

Purpose and requirement specification, Process specification, Domain model specification, information model specification, Service specifications, IoT level specification, Functional view specification, Operational view specification, Device and component integration, Application development

Unit III **Pillars of Embedded IoT and Physical Devices** **09 Hours**

Horizontal, verticals and four pillars of IoT, M2M: The internet of devices, RFID: The internet of objects, WSN: The internet of transducer, SCADA: The internet of controllers, DCM: Device, Connect and Manage, Device: Things that talk, Connect: Pervasive Network, Mangae: To create business values. IoT Physical Devices and Endpoints: Basic building blocks of and IoT device, Exemplary device: Raspberry Pi, Raspberry Pi interfaces, Programming Raspberry Pi with Python, Other IoT Devices.

Unit IV	IoT Protocols and Security	09 Hours

Protocol Standardization for IoT, Efforts, M2M and WSN Protocols, SCADA and RFID Protocols, Issues with IoT Standardization, Unified Data Standards, Protocols – IEEE 802.15.4, BACNet Protocol, Modbus, KNX, Zigbee Architecture, Network layer, APS layer.

IoT Security: Vulnerabilities of IoT, Security Requirements, Challenges for Secure IoT, Threat Modeling, Key elements of IoT Security: Identity establishment, Access control, Data and message security, Non-repudiation and availability, Security model for IoT.

Unit V	Web of Things and Cloud of Things	09 Hours

Web of Things versus Internet of Things, Two Pillars of the Web, Architecture Standardization for WoT, Platform Middleware for WoT, Unified Multitier WoT Architecture, WoT Portals and Business Intelligence. Cloud of Things: Grid/SOA and Cloud Computing, Cloud Middleware, Cloud Standards – Cloud Providers and Systems, Mobile Cloud Computing, The Cloud of Things Architecture.

Unit VI	IoT Physical Servers, Cloud Offerings and IoT Case Studies	09 Hours

Introduction to Cloud Storage Models, Communication API, WAMP: AutoBahn for IoT, Xively Cloud for IoT, Python Web Application Framework: Djanjo, Amzon Web Services for IoT, SkyNet IoT Messaging Platform. Case Studies: Home Intrusion Detection, Weather Monitoring System, Air Pollution Monitoring, Smart Irrigation.

Books:

Text:

1. Arshdeep Bahga, Vijay Madisetti, –Internet of Things – A hands-on approach", Universities Press, ISBN: 0: 0996025510, 13: 978-0996025515
2. Honbo Zhou, –The Internet of Things in the Cloud: A Middleware Perspective", CRC Press, 2012. ISBN : 9781439892992
3. Dieter Uckelmann, Mark Harrison, Florian Michahelles, –Architecting the Internet of Things", Springer, 2011. ISBN: 978-3-642-19156-5
4. Lyla B. Das, —Embedded Systems: An Integrated Approach" Pearson , ISBN: 9332511675, 9789332511675.

References:

1. David Easley and Jon Kleinberg, –Networks, Crowds, and Markets: Reasoning About a Highly Connected World", Cambridge University Press, 2010, ISBN:10: 0521195330
2. Olivier Hersent, Omar Elloumi and David Boswarthick, –The Internet of Things: Applications to the Smart Grid and Building Automation", Wiley, 2012, 9781119958345
3. Olivier Hersent, David Boswarthick, Omar Elloumi , –The Internet of Things – Key applications and Protocols", Wiley, 2012, ISBN:978-1-119-99435-0
4. Barrie Sosinsky, –Cloud Computing Bible", Wiley-India, 2010.ISBN : 978-0-470-90356-8
5. Adrian McEwen, Hakim Cassimally, –Designing the Internet of Things", Wiley, 2014, ISBN: 978-1-118-43063-7
6. Christopher Hallinan, –Embedded Linux Primer", Prentice Hall, ISBN:13: 978-0-13-167984-9

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310253: Software Modeling and Design

Teaching Scheme:	Credits	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks
		End-Sem (Paper): 70 Marks

Prerequisite Course: Software Engineering and Project Management (310243)

Course Objectives:

- To understand and apply Object Oriented(OO) concept for designing OO based model/application
- To transform Requirement document to Appropriate design
- To understand different architectural designs and to transform them into proper model
- To choose and use modern design tools for project development and implementation.
- To choose and use appropriate test tool for testing web-based/desktop application

Course Outcomes:

On completion of the course, student will be able to–

- Analyze the problem statement (SRS) and choose proper design technique for designing web-based/ desktop application
- Design and analyze an application using UML modeling as fundamental tool
- Apply design patterns to understand reusability in OO design
- Decide and apply appropriate modern tool for designing and modeling
- Decide and apply appropriate modern testing tool for testing web-based/desktop application

Course Contents

Unit I **Introduction** **07 Hours**

Introduction to software design, design methods- procedural / structural and object oriented, Requirement Vs Analysis Vs Architecture Vs Design Vs Development 4+1 Architecture, case study of transferring requirement to design, UP, COMET use case based software life cycle, Introduction to UML -Basic building blocks, Reusability, Use case modeling, Use case template

Case study – Transferring requirements into design using advanced tool

Unit II **Static Modelling** **08 Hours**

Analysis Vs Design, Class diagram- Analysis - Object & classes finding analysis & Design- design classes, refining analysis relationships, Inheritance & polymorphism, Object diagram, Component diagram- Interfaces & components, deployment diagram, Package diagram

Unit III **Dynamic Modelling** **07 Hours**

Interaction & Interaction overview diagram, sequence diagram, Timing diagram, Communication diagram, Advanced state machine diagram, Activity diagram

Unit IV **Architecture Design** **08 Hours**

Introduction to Architectural design, overview of software architecture, Object oriented software architecture, Client server Architecture, Service oriented Architecture, Component based Architecture, Real time software Architecture

Unit V **Design patterns** **07 Hours**

Introduction to Creational design pattern – singleton, Factory ,Structural design pattern- Proxy design pattern, Adapter design pattern, Behavioral – Iterator design pattern, Observer design pattern

Unit VI **Testing** **08 Hours**

Introduction to testing, Error, Faults, Failures, verification and validation, Whit Box Testing, Black Box Testing, Unit testing, Integration testing, GUI testing, User acceptance Validation testing, integration testing, scenario testing, performance testing. Test cases and test plan. Case studies expected for developing usability test plans and test cases.

Note: Instructor should frame appropriate case studies/ mini-project (different case study for a group of 6-8 students) on unit-I to unit-V. The case study framed for unit-I may be continued/carry forward for next units if necessary. The same case studies/mini-projects should be tested using appropriate testing tool (preferably open source like Selenium).

Books:

Text Books:

1. Jim Arlow, Ila Neustadt, –UML 2 and the unified process –practical object-oriented analysis and design" Addison Wesley, Second edition, ISBN 978-0201770605
2. Hassan Gomaa, –Software Modeling and Design- UML, Use cases, Patterns and Software Architectures" Cambridge University Press, 2011, ISBN 978-0-521-76414-8
3. Srinivasan Desikan, Gopalaswamy Ramesh, –Software testing- Principles and practices" Prentice Hall, 2007, ISBN 9788177581218

References Books:

1. Eric J. Braude, –Software Design: from Programming to Architecture", J. Wiley, 2004, ISBN 978-0-471-20459-6
2. Gardy Booch, James Rambaugh, Ivar Jacobson, –The unified modeling language user guide" , Pearson Education, Second edition, 2008, ISBN 0-321-24562-8

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310254: Web Technology

Teaching Scheme:	Credit	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Prerequisite Courses: Computer Network (310245) , Database Management Systems (310242)

Companion Course: Web Technology Lab (310256)

Course Objectives:

- To understand the principles and methodologies of web based applications development process
- To understand current client side and server side web technologies
- To understand current client side and server side frameworks
- To understand web services and content management

Course Outcomes:

On completion of the course, student will be able to–

- analyze given assignment to select sustainable web development design methodology
- develop web based application using suitable client side and server side web technologies
- develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management

Course Contents

Unit I **Web Development Process, Front End Tools** **07 Hours**

Introduction to web technology, internet and www, Web site planning and design issues, HTML: structure of html document , HTML elements: headings, paragraphs, line break, colors & fonts, links, frames, lists, tables, images and forms, Difference between HTML and HTML5. CSS: Introduction to Style Sheet, Inserting CSS in an HTML page, CSS selectors, XML: Introduction to XML, XML key component, Transforming XML into XSLT, DTD: Schema, elements, attributes, Introduction to JSON.

Unit II **Client Side Technologies** **08 Hours**

JavaScript: Overview of JavaScript, using JS in an HTML (Embedded, External), Data types, Control Structures, Arrays, Functions and Scopes, Objects in JS, DOM: DOM levels, DOM Objects and their properties and methods, Manipulating DOM, JQuery: Introduction to JQuery, Loading JQuery, Selecting elements, changing styles, creating elements, appending elements, removing elements, handling events.

Unit III **Server Side Technologies** **08 Hours**

Introduction to Server Side technology and TOMCAT, Servlet: Introduction to Servlet, need and advantages, Servlet Lifecycle, Creating and testing of sample Servlet, session management. JSP: Introduction to JSP, advantages of JSP over Servlet , elements of JSP page: directives, comments, scripting elements, actions and templates, JDBC Connectivity with JSP.

Unit IV **Server Side Technologies** **07 Hours**

PHP: Introduction to PHP, Features, sample code, PHP script working, PHP syntax, conditions & Loops, Functions, String manipulation, Arrays & Functions, Form handling, Cookies & Sessions, using MySQL with PHP, WAP & WML, AJAX: Introduction, Working of AJAX, AJAX processing steps, coding AJAX script.

Unit V	Client and Server Side Frameworks	07 Hours

Angular JS : Overview, MVC architecture, directives, expression, controllers, filters, tables, modules, forms, includes, views, scopes, services, dependency injection, custom directives, Internationalization, Introduction to NodeJS. Struts: Overview, architecture, configuration, actions, interceptors, result types, validations, localization, exception handling, annotations.

Unit VI	Web Services	08 Hours

Web Services: Overview, types of WS, difference between SOAP and REST, EJB: types of EJB, benefits, Architecture, EJB technology, JNDI lookup, Introduction to Content Management System(CMS) ,Wordpress / Joomala, Advanced Technology: Bootstrap, JSF, Spring.

Books:

Text:

1. Achyut Godbole & Atul Kahate, "Web Technologies: TCP/IP to Internet Application Architectures", McGraw Hill Education publications, ISBN, 007047298X, 9780070472983
2. Ralph Moseley & M. T. Savaliya, "Developing Web Applications", Wiley publications, ISBN 13 : 9788126538676

References:

1. Adam Bretz & Colin J Ihrig, "Full Stack Javascript Development with MEAN", SPD, ISBN-13: 978-0992461256
2. Giulio Zambon, "Beginning JSP, JSF and Tomcat", Apress Publication, ISBN-10: 1430246235; ISBN-13: 978-1430246237
3. Jeremy McPeak& Paul Wilton," Beginning JavaScript", Wrox Publication, ISBN-13: 978-0470525937
4. Black Book, "Struts 2", Dreamtech Press, ISBN 13, : 9788177228700
5. Black Book, "JDBC 4.2, Servlet 3.1 & JSP 2.3", Dreamtech Press, ISBN-13: 978-8177228700
6. Sandeep Panda, "Angular JS: Novice To Ninja", SPD, First Edition 2014, ISBN-13: 978-0992279455
7. B. V. Kumar, S. Sangeetha, S. V. Subrahmanya,, "J2EE Architecture, an illustrative gateway to enterprise solutions", Tata McGraw Hill Publishing Company. ISBN: 9780070621633
8. Brian Fling, "Mobile Design and Development", O'REILLY, ISBN: 13:978-81-8404-817-9
9. Robin Nixon, "Learning PHP, Mysql and Javascript with JQuery, CSS & HTML5", O'REILLY, ISBN: 13:978-93-5213-015-3
10. Allan Cole, Raeiva Jackson Armitage Brandon R. Jones Jeffrey Way, "Build Your Own Wicked Wordpress Themes", SPD, ISBN: 978-93-5213-154-9
11. Ed Burnette, "Hello , Android Introducing Google' Mobile Development Platform", SPD, ISBN: 13:978-93-5213-085-6

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310255: Seminar and Technical Communication

Teaching Scheme:	Credit	Examination Scheme:
TUT: 01 Hour/Week	01	TW: 50 Marks

Course Objectives:

- To explore the basic principles of communication (verbal and non-verbal) and active, empathetic listening, speaking and writing techniques.
- To expose the student to new technologies, researches, products, algorithms, services

Course Outcomes:

On completion of the course, student will–

- be able to be familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation.
- be able to improve skills to read, understand, and interpret material on technology.
- improve communication and writing skills

Guidelines:

- Each student will select a topic in the area of Computer Engineering and Technology preferably keeping track with recent technological trends and development beyond scope of syllabus avoiding repetition in consecutive years.
- The topic must be selected in consultation with the institute guide.
- Each student will make a seminar presentation using audio/visual aids for a duration of 20-25 minutes and submit the seminar report prepared in Latex only.
- Active participation at classmate seminars is essential.
- BoS has circulated the Seminar Log book and it is recommended to use it.

Guidelines for Assessment:

Panel of staff members along with a guide would be assessing the seminar work based on these parameters-Topic, Contents and Presentation, regularity, Punctuality and Timely Completion, Question and Answers, Report, Paper presentation/Publication, Attendance and Active Participation.

Recommended Format of the Seminar Report:

- Title Page with Title of the topic, Name of the candidate with Exam Seat Number / Roll Number, Name of the Guide, Name of the Department, Institution and Year & University
- Seminar Approval Sheet/Certificate
- Abstract and Keywords
- Acknowledgements
- Table of Contents, List of Figures, List of Tables and Nomenclature
- Chapters Covering topic of discussion- Introduction with section including organization of the report, Literature Survey/Details of design/technology/Analytical and/or experimental work, if any/ …..,Discussions and Conclusions ,Bibliography/References
- Plagiarism Check report
- Report Documentation page

References:

1. Rebecca Stott, Cordelia Bryan, Tory Young, –Speaking Your Mind: Oral Presentation and Seminar Skills (Speak-Write Series)", Longman, ISBN-13: 978-0582382435
2. Johnson-Sheehan, Richard, –Technical Communication", Longman. ISBN 0-321-11764-6
3. Vikas Shirodka, –Fundamental skills for building Professionals", SPD, ISBN 978-93-5213-146-5

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310256: Web Technology Lab

Teaching Scheme:	Credit	Examination Scheme:
PR: 02 Hours/Week	01	TW: 25 Marks
		PR: 50 Marks

Companion Course: Web Technology (310254)

Course Objectives:

- To use current client side and server side web technologies
- To implement communication among the computing nodes using current client side and server side technologies
- To design and implement web services with content management

Course Outcomes:

On completion of the course, student will be able to–

- develop web based application using suitable client side and server side web technologies
- develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of prologue, Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign, Theory- Concept/technology/tool in brief, design, test cases, conclusion/analysis. **Program codes with sample output of all performed assignments are to be submitted as softcopy.**

As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal may be avoided. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints at Laboratory.

Guidelines for Assessment

Continuous assessment of laboratory work is done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Guidelines for Practical Examination

Both internal and external examiners should jointly set problem statements. During practical assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation of the problem statement. The supplementary and relevant questions may be asked at the time of evaluation to test the student's for advanced learning, understanding of the fundamentals, effective and efficient implementation. So encouraging efforts, transparent evaluation and fair approach of the evaluator will not create any uncertainty or doubt in the minds of the students. So adhering to these principles will consummate our team efforts to the promising start of the student's academics.

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications. Encourage students for appropriate use of Hungarian notation, proper indentation and comments. Use of open source software is to be encouraged. In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus.

Suggested List of Laboratory Assignments

1.	**Lab Assignment on Unit I:** **Assignment 1a:** Installation and Configuration of Web Application Servers Tomcat, Apache, WebSphere, JBoss, GlassFish. **Assignment 1b:** Design and develop any suitable web application using HTML, CSS and XML in consultation of course instructor.
2.	**Lab Assignment on Unit II: Assignment 2:** Perform validation of all fields in **assignment no.1** by using Java script/JQuery.
3.	**Lab Assignment on Unit III:** **Assignment 3:** Add dynamic web application essence in **assignment no. 2** using Servlet, JSP and backend.
4.	**Lab Assignment on Unit IV:** **Assignment 4:** Add dynamic web application essence in **assignment no. 2** using PHP, MySQL database connectivity and AJAX controls.
5.	**Lab Assignment on Unit V:** **Assignment 5:** Re-Design, develop and deploy **assignment no. 3 of unit –III** using Strut Re-Design, develop and deploy **assignment no. 4 of unit –IV** using Angular JS
6.	**Lab Assignment on Unit VI:** **Assignment 6:** Design, Develop and Deploy separate web application using EJB/CMS/JSF/Spring/Bootstrap.

Reference Books:

1. Aleksa Vukotic and James Goodwill, –Apache Tomcat 7", Apress, 2011, ISBN: 10: 1430237236
2. Bryan Basham, Kathy Sierra, Bert Bates, –JSP: Passing the Sun Certified Web Component Developer Exam", O'Reilly Media ISBN: 978-0-596-51668-0
3. Chirag Rathod, Jonathan Wetherbee, Peter Zadrozny, and Raghu R. Kodali, –Beginning EJB 3: Java EE 7 Edition", Apress, 2013, ISBN : 9781430246923
4. Richard Monson-Haefel, –J2EE Web Services", Addison-Wesley Professional, First Edition, 2004, ISBN: 10: 0321146182
5. Chuck Cavaness, –Programming Jakarta Struts", O'relly Media, second edition 2004, ISBN: 978-0-596-00651-8;
6. Michael Morrison, Lynn Beighley, –Head First PHP & MySQL: A Brain-Friendly Guide", O'relly Media, second edition 2008, ISBN :13: 9788184046588
7. Dan Rahmel, –Advanced Joomla!", Apress, First Edition, 2013, ISBN: 13: 9781430216285
8. Iwein Fuld, Marius Bogoevici, Mark Fisher, Jonas Partner", Spring Integration in Action", Manning, 2012, ISBN : 13: 9781935182436.

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310257: System Programming &Operating System Lab

Teaching Scheme:	Credit	Examination Scheme:
PR: 04 Hours/Week	02	TW: 25 Marks
		PR: 50 Marks

Companion Course: Systems Programming and Operating System (310251)

Course Objectives:

- To implement basic language translator by using various needed data structures
- To implement basic Macroprocessor
- To design and implement Dynamic Link Libraries
- To implement scheduling schemes

Course Outcomes:

On completion of the course, student will be able to–

- Understand the internals of language translators
- Handle tools like LEX & YACC.
- Understand the Operating System internals and functionalities with implementation point of view

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

Guidelines for Student Journal

The laboratory assignments are to be submitted by student in the form of journal. Journal consists of prologue, Certificate, table of contents, and **handwritten write-up** of each assignment (Title, Objectives, Problem Statement, Outcomes, software & Hardware requirements, Date of Completion, Assessment grade/marks and assessor's sign, Theory- Concept in brief, algorithm, flowchart, Design, test cases, conclusion/analysis. **Program codes with sample output of all performed assignments are to be submitted as softcopy.**

As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal may be avoided. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints at Laboratory.

Guidelines for Assessment

Continuous assessment of laboratory work is done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Guidelines for Practical Examination

Both internal and external examiners should jointly set problem statements. During practical assessment, the expert evaluator should give the maximum weightage to the satisfactory implementation of the problem statement. The supplementary and relevant questions may be asked at the time of evaluation to test the student's for advanced learning, understanding of the fundamentals, effective and efficient implementation.

So encouraging efforts, transparent evaluation and fair approach of the evaluator will not create any uncertainty or doubt in the minds of the students. So adhering to these principles will consummate our team efforts to the promising start of the student's academics.

Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications. Encourage students for appropriate use of Hungarian notation, proper indentation and comments. Use of open source software is to be encouraged. In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned.

Set of suggested assignment list is provided in groups- A, B, C, D (All Compulsory)

Operating System recommended :- 64-bit Open source Linux or its derivative

Programming tools recommended: - Eclipse IDE

References:

1. Paul Gries Jennifer Campbll, Jason Montojo, "Practical Programming Second Edition", SPD, ISBN: 978-93-5110-469-8

Suggested List of Laboratory Assignments

Group A

1.	Design suitable data structures and implement pass-I of a two-pass assembler for pseudo-machine in Java using object oriented feature. Implementation should consist of a few instructions from each category and few assembler directives.
2.	Implement Pass-II of two pass assembler for pseudo-machine in Java using object oriented features. The output of assignment-1 (intermediate file and symbol table) should be input for this assignment.
3.	Design suitable data structures and implement pass-I of a two-pass macro-processor using OOP features in Java
4.	Write a Java program for pass-II of a two-pass macro-processor. The output of assignment-3 (MNT, MDT and file without any macro definitions) should be input for this assignment.

Group B

1.	Write a program to create Dynamic Link Library for any mathematical operation and write an application program to test it. (Java Native Interface / Use VB or VC++).
2.	Write a program using Lex specifications to implement lexical analysis phase of compiler to generate tokens of subset of 'Java' program.
3.	Write a program using Lex specifications to implement lexical analysis phase of compiler to count no. of words, lines and characters of given input file.
4.	Write a program using YACC specifications to implement syntax analysis phase of compiler to validate type and syntax of variable declaration in Java.
5.	Write a program using YACC specifications to implement syntax analysis phase of compiler to recognize simple and compound sentences given in input file.

Group C

1.	Write a Java program (using OOP features) to implement following scheduling algorithms: FCFS , SJF (Preemptive), Priority (Non-Preemptive) and Round Robin (Preemptive)
2.	Write a Java program to implement Banker's Algorithm
3.	Implement UNIX system calls like ps, fork, join, exec family, and wait for process management (use shell script/ Java/ C programming).
4.	Study assignment on process scheduling algorithms in Android and Tizen.

Group D

Write a Java Program (using OOP features) to implement paging simulation using

1. Least Recently Used (LRU)
2. Optimal algorithm

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310258: Embedded Systems & Internet of Things Lab

Teaching Scheme:	Credit	Examination Scheme:
PR: 02 Hours/Week	01	TW: 25 Marks
		PR: 50 Marks

Companion Course-Embedded Systems & Internet of Things (310252)

Course Objectives:

- To understand functionalities of various single board embedded platforms fundamentals
- To develop comprehensive approach towards building small low cost embedded IoT system.
- To implement the assignments based on sensory inputs

Course Outcomes:

On completion of the course, student will be able to–

- Design the minimum system for sensor based application
- Solve the problems related to the primitive needs using IoT
- Develop full fledged IoT application for distributed environment

Guidelines for Instructor's Manual

The instructor's manual is to be developed as a hands-on resource and reference. The instructor's manual need to include prologue (about University/program/ institute/ department/foreword/ preface etc), University syllabus, conduction & Assessment guidelines, topics under consideration-concept, objectives, outcomes, set of typical applications/assignments/ guidelines, and references.

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As a conscious effort and little contribution towards Green IT and environment awareness, attaching printed papers as part of write-ups and program listing to journal may be avoided. Use of DVD containing students programs maintained by lab In-charge is highly encouraged. For reference one or two journals may be maintained with program prints at Laboratory.

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Continuous assessment of laboratory work is done based on overall performance and lab assignments performance of student. Each lab assignment assessment will assign grade/marks based on parameters with appropriate weightage. Suggested parameters for overall assessment as well as each lab assignment assessment include- timely completion, performance, innovation, efficient codes, punctuality and neatness.

Guidelines for Practical Examination

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Guidelines for Laboratory Conduction

The instructor is expected to frame the assignments by understanding the prerequisites, technological aspects, utility and recent trends related to the topic. The assignment framing policy need to address the average students and inclusive of an element to attract and promote the intelligent students. The instructor may set multiple sets of assignments and distribute among batches of students. It is appreciated if the assignments are based on real world problems/applications.

In addition to these, instructor may assign one real life application in the form of a mini-project based on the concepts learned. Instructor may also set one assignment or mini-project that is suitable to respective branch beyond the scope of syllabus.

Set of suggested assignment list is provided in groups- A, B, C, D, and E. Each student must perform at least 13 assignments as at least 3 from group A, 3 from group B, 2 from group C, 2 from group D and 1 from group E.

References:

1. Nitesh Dhanjani, –Abusing the Internet of Things", O'REILLY, ISBN: 13:978-93-5313-217-1
2. Cuno Pfister, –Getting Started with the Internet of Things", O'REILLY, ISBN: 13:978-93-53023-413-6
3. Massimo Banzi and Michael Shiloh, –Getting Started with Arduino", MAKER MEDIA, ISBN: 13:978-93-5110-907-5
4. Don Wilcher, –BASIC Arduino Projects", MAKER MEDIA, ISBN: 13:978-93-5110-503-9
5. Cefn Hoile, Clare Bowman, Sjoerd Dirk Meijer, Brian Corteil, Lauren Orsini, –Raspberry Pi and AVR Projects", MAKER MEDIA, ISBN: 13:978-93-5110-914-3
6. Wolfrom Donot, –A Raspberry Pi Controlled Robot", MAKER MEDIA, ISBN: 13:978-93-5110-913-6
7. Kimmo Karvinen and Tero Karvinen, –Arduino Bots and Gadgets", O'REILLY, ISBN: 13:978-93-5023-374-0
8. Derek Molley, –Exploring Beaglebone", Willey, ISBN: 978-1-118-935125
9. Matt Richardson and Shawn Wallace, –Getting with Raspberry Pi", MAKER MEDIA, ISBN: 978-93-5213-450-2
10. Dr. Simon Monk, —Rspberry PiCook-Book", O'REILLY, ISBN: 978-93-5213-389-5

Suggested List of Laboratory Assignments

Group A

1.	Study of Raspberry-Pi, Beagle board, Arduino and other micro controller (History & Elevation)
2.	Study of different operating systems for Raspberry-Pi /Beagle board. Understanding the process of OS installation on Raspberry-Pi /Beagle board
3.	Study of Connectivity and configuration of Raspberry-Pi /Beagle board circuit with basic peripherals, LEDS. Understanding GPIO and its use in program.
4.	Understanding the connectivity of Raspberry-Pi /Beagle board circuit with temperature sensor. Write an application to read the environment temperature. If temperature crosses a threshold value, the application indicated user using LEDSs

Group B

5.	Understanding the connectivity of Raspberry-Pi /Beagle board circuit with IR sensor. Write an application to detect obstacle and notify user using LEDs.
6.	Understanding and connectivity of Raspberry-Pi /Beagle board with camera. Write an application to capture and store the image.
7.	Understanding and connectivity of Raspberry-Pi /Beagle board with a Zigbee module. Write a network application for communication between two devices using Zigbee.
8.	Study of different CPU frequency governors. Write an application to change CPU frequency of Raspberry-Pi /Beagle board

	Group C
9.	Write an application using Raspberry-Pi /Beagle board to control the operation of stepper motor.
10.	Write an application using Raspberry-Pi /Beagle board to control the operation of a hardware simulated traffic signal.
11.	Write an application using Raspberry-Pi /Beagle board to control the operation of a hardware simulated lift elevator
	Group D
12.	Write a server application to be deployed on Raspberry-Pi /Beagle board. Write client applications to get services from the server application.
13.	Create a small dashboard application to be deployed on cloud. Different publisher devices can publish their information and interested application can subscribe.
14.	Create a simple web interface for Raspberry-pi/Beagle board to control the connected LEDs remotely through the interface.
	Group D
15.	Develop a Real time application like smart home with following requirements: When user enters into house the required appliances like fan, light should be switched ON. Appliances should also get controlled remotely by a suitable web interface. The objective of this application is student should construct complete Smart application in group.
16.	Develop a Real time application like a smart home with following requirements: If anyone comes at door the camera module automatically captures his image send it to the email account of user or send notification to the user. Door will open only after user's approval.

Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310259: Audit Course 4

In addition to credits, it is recommended that there should be audit course in preferably in each semester from second year to supplement their knowledge and skills. Student will be awarded the bachelor_s degree if he/she earns 190 credits and clears all the audit courses specified in the syllabus. The student will be awarded grade as AP on successful completion of audit course. The student may opt for one of the audit courses per semester, starting in second year first semester. Though not mandatory, such a selection of the audit courses helps the learner to explore the subject of interest in greater detail resulting in achieving the very objective of audit course's inclusion. List of options offered is provided. Each student has to choose one audit course from the list per semester. Evaluation of audit course will be done at institute level itself. Method of conduction and method of assessment for audit courses are suggested.

Criteria:

The student registered for audit course shall be awarded the grade AP (Audit Course Pass) and shall be included such AP grade in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the Savitribai Phule Pune University and satisfactory in-semester performance and secured a passing grade in that audit course. No grade points are associated with this 'AP' grade and performance in these courses is not accounted in the calculation of the performance indices SGPA and CGPA. Evaluation of audit course will be done at institute level itself. (Ref- http://www.unipune.ac.in/Syllabi_PDF/revised-2015/engineering/UG_RULE_REGULATIONS_FOR_CREDIT_SYSTEM-2015_18June.pdf)

Guidelines for Conduction and Assessment (Any one or more of following but not limited to)

- Lectures/ Guest Lectures
- Visits (Social/Field) and reports
- Demonstrations
- Surveys
- Mini Project
- Hands on experience on specific focused topic

Guidelines for Assessment (Any one or more of following but not limited to)

- Written Test
- Demonstrations/ Practical Test
- Presentations
- IPR/Publication
- Report

Audit Course 3 Options

AC4- I	Digital and Social Media Marketing
AC4-II	Green Computing
AC4-III	Sustainable Energy Systems
AC4-IV	Leadership and Personality Development
AC4-V	Foreign Language (one of Japanese/ Spanish/French/German). Course contents for **Japanese (Module 4) are provided. For other languages institute may design suitably.**

Note: It is permitted to opt one of the audit courses listed at SPPU website too, if not opted earlier http://collegecirculars.unipune.ac.in/sites/documents/Syllabus%202017/Forms/AllItems.aspx

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310259: Audit Course 4
AC4 – I: Digital & Social Media Marketing

The importance of social media's role in modern marketing efforts can no longer be ignored. It's an integral component in almost all successful marketing strategies. With this increasing emphasis on integrated social media strategies, there is an Irrefutable need for marketing professionals and organizations to have end- to- end social media expertise. Through case studies, interactive sessions, and class exercises, students will learn best practices and develop the skills to connect business objectives with social media strategy, platforms and tactics. Topics will include choosing appropriate platforms, creating effective and engaging social media content, content management, social listening and creating a social media policy

Course Objectives:

- Identify best practices for Social Media Marketing, including platform level best practices.
- Connect business objectives to appropriate Social Media tactics.
- Create strong content that engages their target audience with their marketing message.

Course Outcome:

On completion of the course, learner will be able to–

- Create editorial calendars to manage content distribution.
- Use Social Listening tools to create timely, relevant content.
- Create Social Media policies that combine business objectives with appropriate use of social media channels and content.

Course Contents:

1. Introductions and review class objectives, Discuss class goals and individual goals, Fill out questionnaire, Introduction to Blogging, Create a blog post for your project. Include headline, imagery, links and post.
2. Introduction to Facebook and channel advertising and campaigns, Introduction to Twitter and channel advertising and campaigns, Creative Campaign examples across social channels
3. Introduction to both Google+ and LinkedIn. Provide an overview on LinkedIn advertising, Create Google+ and LinkedIn outlines for your project and include: types of posts and an example post for each platform.
4. Introduction to both Instagram and Pinterest as well as channel advertising and campaigns, Create Instagram and Pinterest outlines for your project and include: types of posts and an example post for each platform, review a content calendar, Lay out your own content calendar.

References:

1. Vandana Ahuja, Digital Marketing, Oxford Press, ISBN: 9780199455447,
2. Wiley, Jeanniey Mullen, David Daniels, David Gilmour –Email Marketing: An Hour a Day", ISBN: 978-0-470-38673-6
3. David Scott, –The New Rules of Marketing and PR", Wiley India, ISBN: 978-1-119-07048-1

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310259: Audit Course 4
AC4 – II: Green Computing

Green computing is the study and practice of using computing resources efficiently. Green computing or green IT, refers to environmentally sustainable computing or IT. The goals of green computing are similar to green chemistry; reduce the use of hazardous materials, Maximize energy efficiency during the product's lifetime, and promote the recyclability or biodegradability of defunct products and factory waste.

Course Objectives:

- To acquire knowledge to adopt green computing practices to minimize negative impacts on the environment.
- To examine technology tools that can reduce paper waste and carbon footprint by user.
- To understand how to minimize equipment disposal requirements.
- To gain skill in energy saving practices in their use of hardware

Course Outcome:

On completion of the course, learner will be able to–

- Understand the concept of green IT and relate it to sustainable development.
- Apply the green computing practices to save energy.
- Discuss how the choice of hardware and software can facilitate a more sustainable operation,
- Use methods and tools to measure energy consumption

Course Contents:

1. **Fundamentals of Green IT:** Green IT Fundamentals: Business, IT, and the Environment – Green computing: carbon foot Print - Measuring, Details, reasons to bother, Plan for the Future, Cost Savings: Hardware, Power.
2. **Green Assets and Power Problems:** Green Assets: Buildings, Data Centers, Networks, and Devices, Green Information Systems : Design and Development Models, Monitoring Power Usage, Servers, Low-Cost Options, Reducing Power Use, Data De-Duplication, Low-Power Computers and peripheral devices
3. **Greening Information Systems:** Initial Improvement Calculations, Selecting Metrics, Tracking Progress, Change Business Processes, Customer Interaction, Paper Reduction, Green Supply Chain, Improve Technology Infrastructure, Reduce PCs and Servers, Shared Services, Hardware Costs, Cooling
4. **Green Grid Framework:** Virtualization of IT systems – Role of electric utilities, Telecommuting, teleconferencing and teleporting – Materials recycling – Best ways for Green PC – Green Data center Case Studies – Applying Green IT Strategies and Applications to a Home Hospital, Packaging Industry and Telecom Sector

References:

1. Woody Leonhard, Katherrine Murray, –Green Home Computing for Dummies", August2009, ISBN: 978-0-470-46745-9
2. Alvin Galea, Michael Schaefer, Mike Ebbers, –Green Data Center: steps for the Journey", Shoff/IBM rebook, 2011. ISBN: 10: 1-933742-05-4; 13: 978-1-933742-05-2
3. John Lamb, –The Greening of IT", Pearson Education, 2009, ISBN 10: 0137150830
4. Jason Harris, –Green Computing and Green IT- Best Practices on regulations & industry",Lulu.com, 2008, ISBN: 1558604898
5. Bud E. Smith, –Green Computing Tools and Techniques for Saving Energy, Money and Resources", CRC Press, 2014, 9781466503403

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310259: Audit Course 4
AC4 – III: Sustainable Energy Systems

Course Objectives:

- To understand the impact of engineering solutions on a global, economic, environmental, and societal context.
- To design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

Course Outcome:

On completion of the course, learner will be able to–

- To demonstrate an overview of the main sources of renewable energy.
- To understand benefits of renewable and sustainable energy systems.

Course Contents:

1. Introduction and Energy Fundamentals, Sustainable Energy Systems: Issues for the 21st century, the critical challenges for a sustainable energy future, Sustainable energy systems: definitions, indicators, Physics of Energy: Laws of Thermodynamics Energy Forms and Conversion, First and Second Laws and Efficiencies Devices: Heat Engines, Refrigerators and Heat Pumps Instantaneous and Average Power.
2. Introduction to Renewable Energy, Wind Energy Wind Turbine Technologies Wind Resources and Modeling Energy Performance and Environmental Impacts Economics and Economic Development Impacts, Photovoltaic: PV and BIPV Technologies Solar Resources and Modeling Energy Performance and Environmental Impacts, Economics and Net Metering
3. Biomass: Electricity Biomass Technologies Introduction Biomass Productivity and Modeling Biopower: MSW, willows/switch grass/ poplar, wood waste, Biomass: Transport Fuels Biofuels, Bioethanol, Biodiesel, Algal, Jatropha Biofuels and Water Land Use Impacts, Food vs Fuel, Renewable Fuels Standards
4. Building Energy Technologies and Policy, Smart buildings, Lighting and LEDs, Heating/cooling, technologies.

References:

1. İbrahim Dinçer, Calin Zamfirescu, –Sustainable Energy Systems and Applications", Springer; 2012 edition, ISBN-10: 0387958606
2. D. Mukherjee, –Fundamentals of Renewable Energy Systems", Atlantic, ISBN: 10: 8122415407
3. John R. Barker and Marc H. Ross Am. J. Phys ,–An introduction to global warming", ISBN: 0-632-03779-2

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310259: Audit Course 4
AC4 – IV: Leadership and Personality Development

Personality is considered as one of the integral part of an individual's existence. Where a student is concerned paying close attention to **Personality** which is extremely important. To enhance holistic development of students and improve their employability skills

Course Objectives:

- To develop inter personal skills and be an effective goal oriented team player.
- To develop professionals with idealistic, practical and moral values.
- To develop communication and problem solving skills.
- To re-engineer attitude and understand its influence on behavior

Course Outcome:

On completion of the course, learner will be able to–

- Enhanced holistic development of students and improve their employability skills

Course Contents:

1. **Introduction to Personality and working towards developing it:** Definition & Basics of personality, Analyzing strength & weaknesses, Corporate theories on personality Development, Increasing Vocabulary, Body Language, Preparation of Self Introduction
2. **Communication skill and handling attitude:** Communication Skills, Listening, Communication Barriers, Overcoming these Barriers Building Self Esteem and Self Confidence, Working on attitudes .i.e. aggressive, assertive, and submissive
3. **Leadership Techniques in Personality development:** Introduction to Leadership, Leadership Styles, Group Dynamics, Team Building
4. **Stress and time management skills:** Interpersonal Relationships, Analysis of Ego States, transactions, & Life positions, Stress Management, Causes, Impact & Managing Stress, Introduction to conflict management, Time Management, Concept of time management, Steps towards better time management

References:

1. SOFT SKILLS, ―Career Development Centre", Green Pearl Publications
2. Covey Sean," Seven Habits of Highly Effective Teens", New York, Fireside Publishers, 1998, ISBN: 978-1476764665
3. Carnegie Dale, ―How to win Friends and Influence People", New York: Simon & Schuster, 1998, ISBN: 1-4391-6734-6
4. Thomas A Harris, I am ok, You are ok , New YorkHarper and Row, 1972, ISBN 13: 978-0060724276ISBN:
5. Daniel Coleman, Emotional Intelligence, Bantam Book, 2006, ISBN: 055380491X, 9780553804911
6. Shiv Khera, ―You Can Win", A&C Black, ISBN: 9780230331198.

Savitribai Phule Pune University, Pune
Third Year of Computer Engineering (2017 Course)
310259: Audit Course 4
AC4 – V: Foreign Language(Japanese Module 4)

Prerequisite Courses: Audit Course AC1-V(210250), AC2-V(210258), AC3-V(310249)

About Course:

With changing times, the competitiveness has gotten into the nerves and _Being the Best_ at all times is only the proof of it. Nonetheless, _being the best_ differs significantly from Communicating the best_. The best can merely be communicated whilst using the best suited Language!

Japanese is the new trend of 21st century. Not only youngsters but even the professionals seek value in it. It is the engineer_s companion in current times with an assertion of a thriving future. Pune has indisputably grown to become a major center of Japanese Education in India while increasing the precedence for Japanese connoisseurs.

Japanese certainly serves a great platform to unlock a notoriously tough market & find a booming career. While the companies prefer candidates having the knowledge of the language, it can additionally help connect better with the native people thus prospering in their professional journey. Learning Japanese gives an extra edge to the _resume_ since the recruiters consciously make note of the fact it requires real perseverance and self-discipline to tackle one of the most complex languages.

It would be easy for all time to quit the impossible; however it takes immense courage to reiterate the desired outcomes, recognize that improvement is an ongoing process and ultimately soldier on it. The need of an hour is to introduce Japanese language with utmost professionalism to create awareness about the bright prospects and to enhance the proficiency and commitment. It will then prove to be the ultimate path to the quest for professional excellence!

Course Objectives:

- To meet the needs of ever growing industry with respect to language support.
- To get introduced to Japanese society and culture through language.

Course Outcome:

On completion of the course, learner will be able to–

- Have ability of basic communication.
- Have the knowledge of Japanese script.
- Get introduced to reading, writing and listening skills for language Japanese.
- Develop interest to pursue professional Japanese Language course

Course Contents:

1. Stating existence or a presence of thing (s), person (s), Relative positions, Counters
2. Expressing one's Desire & wants, Verb groups, Asking, Instructing a person to do something
3. Indicating an action or motion is in progress, Describing habitual action, describing a certain continuing state which resulted from a certain action in the past. Express permission & prohibition

References:

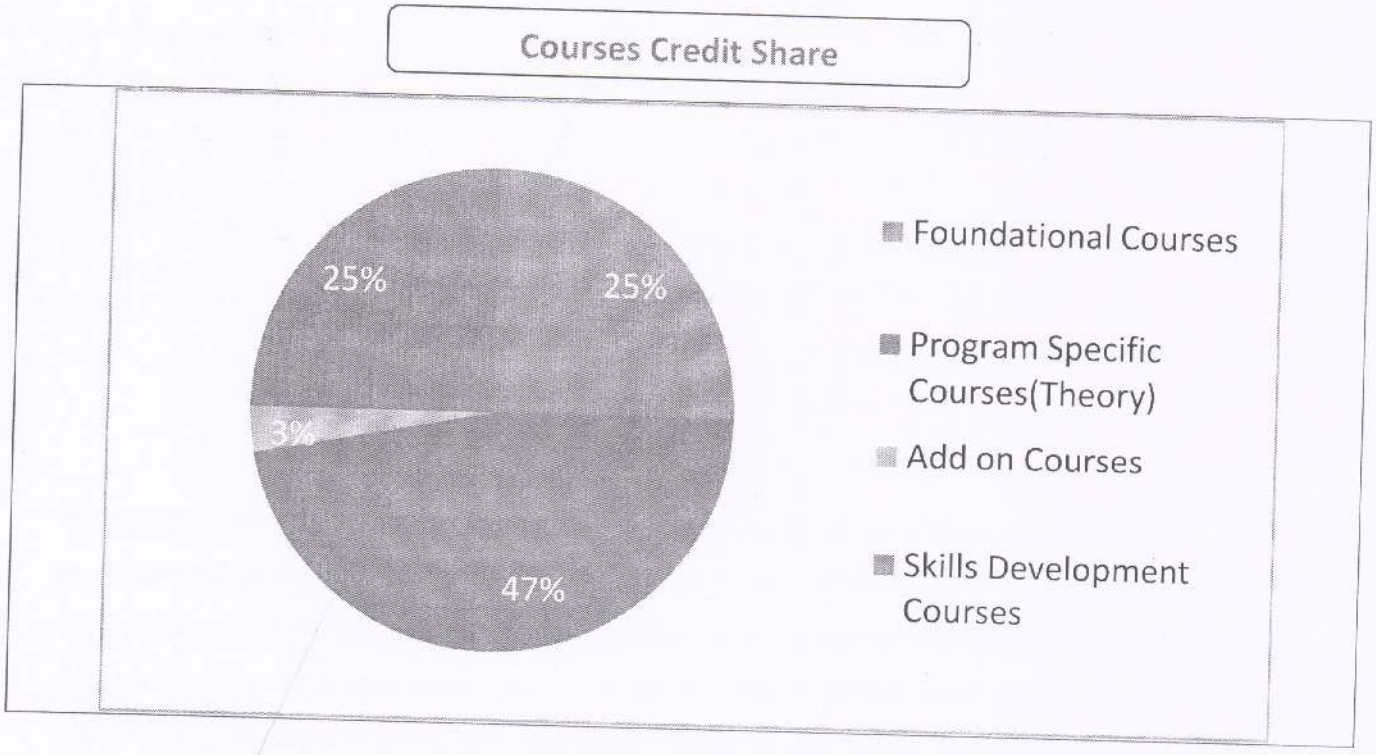
1. Minna No Nihongo, —Japanese for Everyonel, Elementary Main Text book 1-1 (Indian Edition), Goyal Publishers & Distributors Pvt. Ltd.
2. http://www.tcs.com (http://www.tcs.com/news_events/press_releases/Pages/TCS-Inaugurates-Japan-centric-Delivery-Center-Pune.aspx

Savitribai Phule Pune University
Computer Engineering All Courses (2015 Revision)
Total Credits- 190

First Year 50 Credit	Second Year 50 Credit	Third Year 46 Credit	Fourth Year (Proposed) 44 Credit
		Semester I	
FPL I	Discrete Mathematics	Theory of Computation	Parallel Architectures and Concurrent Computing
Engineering Maths I	Digital Electronics and Logic Design	Database Management Systems (DBMS)	Big data Analytics
Engineering Physics	Data Structures and Algorithms	Software Engineering & Project Management	Software Testing & Quality Assurance
Basic Electrical Engineering	Computer Organization and Architecture	Information Systems & Engineering Economics	Elective I – • Digital Signal Processing • Advanced Databases, • Artificial Intelligence, • Wireless Sensor Networks
Engineering Graphics I	Object Oriented Programming+ OOP Lab	Computer Networks (CN)	Elective II- • Cloud Computing, • Soft Computing • Software Architecture & Design • Operation Research
Basic Civil and Environmental Engineering	Digital Electronics Lab	Skill Development Lab	Lab I
Workshop Practice	Data Structures Lab	DBMS Lab	Lab II
Engineering Physics Lab	Soft Skills Lab	CN Lab	Project Stage I
	Audit Course 1	Audit Course 3	Audit Course 5
		Semester II	
FPL II	Engineering Mathematics III	Design & Analysis of Algorithms	Distributed Systems
Engineering Maths II	Computer Graphics	Systems Programming & Operating System (SP& OS)	Information Security
Engineering Chemistry	Advanced Data Structures	Embedded Systems & Internet of Things (ES & IoT) AND ES & IoT Lab	**Elective-III :** • Data Mining & Data Warehouse • Mobile Communication, • Image Processing • Human Computer Interface
Basic Electronics Engineering	Microprocessor	Software Modeling and Design	**Elective-IV :** • Principles of Compiler Design • Embedded & Real Time OS, • Pervasive and Ubiquitous Computing • Open Elective
Basic Mechanical Engineering	Principles of Programming Languages	Web Technology (WT)	Lab III
Engineering Mechanics	Computer Graphics Lab	Seminar & Technical Communication	Lab IV
Engg Graphics II	Advanced Data Structures Lab	Web Technology Lab	Project Work
Engg Chemistry Lab	Microprocessor Lab	SP & OS Lab	Audit Course 6
	Audit Course 2	Audit Course 4	

Savitribai Phule Pune University
Computer Engineering (2015 Course)
Courses-Credit Share

Sr. No	Category	Comprised of (Total Credit)	% of Credit Share
1	Foundational Courses (47 Credit)	• Mathematics (18) • Engineering Sciences (10) • Fundamentals of Core Engineering Domain (19)	25%
2	Program Specific Courses (Theory) (90 Credit)	Core (40)	47%
		Advanced (38)	
		Elective + Open Elective (12)	
3	Add on Courses (Audit +Credit Courses) (05 Credit)	• Social Awareness • Environmental • Personal Development • Economics (04) • Soft Skills (01)	3%
4	Skills Development Courses (48 Credit)	• Project (major) (08) • Seminar (01) • Labs + Mini-Project (39)	25%



Faculty of Science and Technology
Savitribai Phule Pune University
Maharashtra, India

http://unipune.ac.in

Curriculum
for
Second Year of Computer Engineering
(2019 Course)
(With effect from 2020-21)

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2020-21)

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Savitribai Phule Pune University
Bachelor of Computer Engineering
Program Outcomes (POs)

Learners are expected to know and be able to–

PO1	Engineering knowledge	Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.
PO2	Problem analysis	Identify, formulate, review research literature and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.
PO3	Design / Development of Solutions	Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and Environmental considerations.
PO4	Conduct Investigations of Complex Problems	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	Modern Tool Usage	Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	The Engineer and Society	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practices.
PO7	Environment and Sustainability	Understand the impact of the professional Engineering solutions in societal and Environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Ethics	Apply ethical principles and commit to professional ethics and responsibilities and norms of Engineering practice.
PO9	Individual and Team Work	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communication Skills	Communicate effectively on complex Engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Project Management and Finance	Demonstrate knowledge and understanding of Engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary Environments.
PO12	Life-long Learning	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO)

A graduate of the Computer Engineering Program will demonstrate-

PSO1 **Professional Skills**-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexities.

PSO2 **Problem-Solving Skills**- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3 **Successful Career and Entrepreneurship**- The ability to employ modern computer languages, environments and platforms in creating innovative career paths to be an entrepreneur and to have a zest for higher studies.

Savitribai Phule Pune University
Second Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
	Total	15	12	01	150	350	125	75	-	700	Total Credit 15	06	01	22

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
	Total	15	10	02	150	350	150	25	25	700	Total Credit 15	05	02	22

Savitribai Phule Pune University



Syllabus

FOR

S.E. Mechanical and Automobile Engineering

2015 Course

UNDER FACULTY OF ENGINEERING

EFFECTIVE FROM June 2016

Structure of S.E. (Mechanical Engineering/ Automobile Engineering)
2015 Course

Semester-I

Subject Code	Subject	Teaching Scheme Hours/Week			Examination Scheme					Total Marks	Credits	
		L	Tut.	PR	In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
207002	Engineering Mathematics – III	04	01	-	50	50	25	-	-	125	05	-
202041	Manufacturing Process-I	03	-	02	50	50	50	-	-	150	03	01
202042	Computer Aided Machine Drawing	01	-	02	--	--		50	-	50	01	01
202043	Thermodynamics	04	-	02	50	50	-	-	50	150	04	01
202044	Material Science	03	01	-	50	50	25	-	-	125	03	01
202051	Strength of Materials	04	-	02	50	50	-	-	50	150	04	01
202055	Audit course											
					--	--						
	Total	**19**	**02**	**08**	**250**	**250**	100	50	100	**750**	**20**	**05**
	Total of Part-I	**29 Hrs**				**750**					**25**	

Note: Material Science and Engineering Mathematics-III practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

Semester-II

Subject Code	Subject	Teaching Scheme Hours/Week			Examination Scheme					Total Marks	Credits	
		L	Tut.	PR	In-Sem (online)	End-Sem	TW	PR.	Oral		Lect/Tut	PR/OR
202045	Fluid Mechanics	04	-	02	50	50	-	50	-	150	04	01
202047	Soft Skills	-	-	02	--	--	25	-	-	25	-	01
202048	Theory of Machines – I	04	01	-	50	50	25	-	25	150	04	01
202049	Engineering Metallurgy	03	01	-	50	50	-	-	25	125	03	01
202050	Applied Thermodynamics	04	-	02	50	50	-	50	-	150	04	01
203152	Electrical and Electronics Engineering	03	-	02	50	50	25	-	-	125	03	01
202053	Machine Shop – I	-	-	02	--	--	25	-	-	25	-	01
	Total	**18**	**02**	**10**	**250**	**250**	**100**	**100**	**50**	**750**	**18**	**07**
	Total of Part-II	**30 Hrs**				**750**					**25**	

Note: Theory of Machine-I and Engineering Metallurgy practical may be carried out fortnightly for two hours, so that the tutorial hours may be used as practical.

SAVITRIBAI PHULE PUNE UNIVERSITY

FACULTY OF ENGINEERING

SYLLABUS FOR
T. E. (MECHANICAL ENGINEERING)
(2015 Course)

WITH EFFECT FROM YEAR 2017-2018

Savitribai Phule Pune University
T.E. Mechanical Engineering 2015 – Course
T. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302041	Design of Machine Elements-I	4	-	2	30@	70@	50	-		150	4	1
302042	Heat Transfer*	4	-	2	30	70		50	-	150	4	1
302043	Theory of Machines-II$	3	1		30	70	25	-	25	150	3	1
302044	Turbo Machines	3	-	2	30	70	-	-	25	125	3	1
302045	Metrology and Quality Control$	3	-	2	30	70	-	-	25	125	3	1
302046	Skill Development	-	-	2	-	-	25	25	-	50	-	1
Total		17	1	10	150	350	100	75	75	750	17	6
											23	

T. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In-Sem	ESE	TW	PR	OR		Th	TW / PR / OR
302047	Numerical Methods and Optimization*	4	-	2	30	70	-	50	-	150	4	1
302048	Design of Machine Elements-II	4	-	2	30@	70@	25	-	25	150	4	1
302049	Refrigeration and Air Conditioning	3	-	2	30	70	-	-	25	125	3	1
302050	Mechatronics%	3	1		30	70	-	-	25	125	3	1
302051	Manufacturing - Process-II$	3	-	-	30	70	-	-	-	100	3	-
302052	Machine Shop-II$	-	-	2	-	-	50	-	-	50	-	1
302053	Seminar$	-	-	2	-	-	25	-	25#	50	-	1
302054	Audit Course*	--	--	--	--	--	-	-	-	-	-	-
Total		17	1	10	150	350	100	50	100	750	17	6
											23	

 # Though it is under Oral head Internal Panel to be appointed by Principal and HOD. Examination schedule will not be prepared at University level.

*** Marked subjects are common with TE (Auto. Engg.) and TE Mech. Sandwich**

$ Marked subjects are common with TE (Auto. Engg.) only

% Marked subjects are common with TE Mech. Sandwich only

@ Examination time for Insem examination 1 Hr 30 Min. and Endsem examination 3Hrs.

Savitribai Phule Pune University

Faculty of Science and Technology

Syllabus for Final Year of Mechanical Engineering

(Course 2015)

Savitribai Phule Pune University

B. E. (Mechanical) (2015 Course) Semester – I

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
402041	Hydraulics and Pneumatics	3	-	2	30	70	25	-	25	150	3	1
402042	CAD CAM Automation	3	-	2	30	70	25	50	-	175	3	1
402043	Dynamics of Machinery	4	-	2	30	70	25	-	25	150	4	1
402044	Elective-I	3	-	2	30	70	25	-	-	125	3	1
402045	Elective-II	3	-	-	30	70	-	-	-	100	3	-
402046	Project-I	-	-	4	-	-	25	-	25	50	-	2
Total		16	-	12	150	350	125	50	75	750	16	6
											22	

B. E. (Mechanical) (2015 Course) Semester – II

Code	Subject	Teaching Scheme Hrs / week			Examination Scheme					Total Marks	Credits	
		Lecture	Tut	Pract	In Sem	End Sem	TW	PR	OR		Theory	TW/ Pr/OR
402047	Energy Engineering	3	-	2	30	70	25	-	25	150	3	1
402048	Mechanical System Design	4	-	2	30 (1.5 Hrs)	70 (3 Hrs)	25	-	50	175	4	1
402049	Elective-III	3	-	2	30	70	25	-	-	125	3	1
402050	Elective-IV	3	-	-	30	70	-	-	-	100	3	-
402051	Project-II	-	-	12	-	-	100	-	100	200	-	6
Total		13	-	18	120	280	175	-	175	750	13	9
											22	

Elective – I		Elective – II	
Code	Subject	Code	Subject
402044 A	Finite Element Analysis	402045 A	Automobile Engineering
402044 B	Computational Fluid Dynamics	402045 B	Operation Research
402044 C	Heating Ventilation and Air Conditioning	402045 C	Energy Audit and Management
		402045 D	Open Elective**

Elective – III		Elective – IV	
402049 A	Tribology	402050 A	Advanced Manufacturing Processes
402049 B	Industrial Engineering	402050 B	Solar & Wind Energy
402049 C	Robotics	402050 C	Product Design and Development
		402050 D	Open Elective**

Savitribai Phule Pune University
Faculty of Science & Technology



Revised Structure

For

First Year
Bachelor of Engineering
(Choice Based Credit System)

(2019 Course)

(With Effect from Academic Year 2019-20)

TABLE -1 First Engineering _Structure for Semester-I														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Instructions:

- PR/Tutorial must be conducted in three batches per division.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Every Student should appear for Engineering Physics, Engineering Chemistry, Engineering Mechanics, Basic Electrical Engineering, Basic Electronics Engineering, Programming and Problem solving during the year.
- College is allowed to distribute Teaching workload of subjects Engineering Physics, Engineering Chemistry, Basic Electrical Engineering, Basic Electronics Engineering, Engineering Mechanics, Programming and Problem solving in semester I and II dividing number of FE divisions into two appropriate groups.
- Assessment of tutorial work has to be carried out as term-work examination. Term-work Examination and Practical Examination at first year of engineering course **shall be internal continuous assessment only.**

Ω 1 Credit for Engineering Graphics theory has to be awarded on the basis of End semester examination of 50 marks while 1 credit of tutorial and practical **shall be awarded on internal continuous assessment only**.

@ Credit for the course of workshop practical is to be awarded on the basis of continuous assessment / submission of job work.

§ Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload a load of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.

& Audit course for Environmental Studies and II (As per D.O.No.F.13-1/2000 (EA/ENV/COS-I) dated 14 May, 2019) is mandatory but non-credit course. Examination has to be conducted at the end of Sem I & II respectively for award of grade at college level. Grade awarded for audit course shall not be calculated for grade point &CGPA.

Audit course for Physical education is mandatory non-credit course. Examination has to be conducted at the end of Semester for award of grade at college level. Grade awarded for audit course shall not be calculated for grade point &CGPA.

Savitribai Phule Pune University

UG CHOICE BASED CREDIT SYSTEM

RULES AND REGULATIONS

FOR

UNDER GRADUATE ROGRAMME IN ENGINEERING

UNDER

FACULTY OF SCIENCE AND TECHNOLOGY

WITH EFFECTIVE FROM A.Y. 2019-20

Course Structure, Guidelines, Rules and Regulations

Preamble

Economic progress of country is strongly linked with quality of technical education. Engineering education is gaining new heights and it contributes substantial share in overall education system. Engineering graduates are to be educated and trained with a view of employability and sustainability. With the advent of technology and ever-changing expectations from the Industry and Society, revision of curriculum is need of the day, making it contemporary and relevant. In a bid to fine tune our technical education system to the global standards & practices, the Credit-Grade based performance and assessment system has been already implemented with effect from June 2015 onwards for all the Under Graduate Programme (UG) under the Faculty of Science & Technology.

To fulfill the necessities, the youngsters pursuing engineering studies need to be well equipped and acquaint with the latest technological trends and industrial requirements. This is possible only when the students undergo studies with an updated and evolving curriculum to match global scenario. The faculty of Science & Technology has shouldered the idea of incorporating latest advances and to upgrade the course contents with latest and relevant topics and know-how. Accordingly the new structure and curriculum are being introduced to be implemented from the academic year 2019-20 for First Year Engineering and the process will continue for subsequent years for second, third and fourth year engineering.

General Guidelines

1. All undergraduate programmes in Engineering under faculty of Science & Technology will be of **four years** duration and **eight semesters**.
2. The total number of credits required to earn for the **completion of the programme is 170 credits** in a minimum period of **eight semesters**.
3. All UG programme, under Faculty of Science & Technology shall be offered with **170 credit**; one credit is approximately equivalent to 15 contact hours.
4. Assessments in Choice based Credit System consists of
   A) In-semester examination
   B) End-semester examination
   C) Continuous assessment for various examination heads.
   Assessment and Evaluation is to be done as per guidelines provided by competent authority.
5. Semester 1 and semester 2 will be part of First Year of Engineering (FE),
   Semester 3 and semester 4 will be part of Second Year of Engineering (SE),
   Semester 5 and semester 6 will be part of Third Year of Engineering (TE),
   Semester 7 and semester 8 will be part of Final Year of Engineering (BE)
6. **Induction Program**

   Induction programme for first year students is introduced to familiarize them to the new environment and encourage them to learn beyond classrooms. Objective is to help new students adjust and feel comfortable in the new environment, inculcate in them the ethos and culture of the institution, help them build bonds with other students and faculty members, and expose them to a sense of larger purpose and self exploration. Induction Program should be preferably of 3 weeks **(2 weeks at beginning first semester and 1 week at the beginning of second semester)**. In order to implement the (SIP) in the College the following activities can be taken at College.

   - Physical Activity: - This would involve a daily routine of physical activity with games and sports.
   - Creative Arts: - Every students would chose one skill related to arts whether visual arts or performing arts.
   - Mentoring and Universal Human values:-Mentoring and connecting the students with faculty members and other students is the most important part of student induction. This can be effectively done by forming a group of 22-24 students with a

faculty mentor each. This can be implemented through group discussion and real life activities rather than only lecturing.

- Familiarization with College, Department and Branch :-The incoming student should be told about the credit, grading system and scheme of the examination. They should be explained how the study in College differs from the study in school. They should be taken on College tour and shown important facilities such as library, canteen, gymkhana etc. They should be shown their own department.
- Literary Activity:-Literary Activity would compass reading book, writing a summary, debating, enacting a play etc.
- Proficiency modules: - The modules can be designed to overcome some critical lacunas that students might have like English Speaking, Computer familiarity etc.
- Lectures by Eminent People: - The lectures of Eminent people be organized to expose the students to social activity and public life.
- Visit to local Area:-A couple of visits to the landmarks of the city or a hospital are orphanage could be organized.
- Extracurricular activities in College:-The new students should be introduced to the extracurricular activities at the College.
- Feedback and Report on the program:-Students should be asked to give their mid program Feedback wherein each group of 22-24 students should be asked to prepare a single report on their experience of the program.

To summarize the above activity the sequence of activities can be planned as given below:

- Address by Principal, HOD's and other functionaries and welcome the new students along with their parents.
- The branch wise allocation of students to be done and a group of 22-24 students is to be formed along with one faculty as mentor.
- A detail time table of various activities is to be prepared and displayed for all students. The timetable should give details of location and details of faculty in charge of the activity.
- The visit to local areas can be arranged on Saturdays.
- The various activities to be carried out can be divided into three phases :-
  1. Initial phase:- Which may include Address by Principal, HOD's and other functionaries College and Dept Visit, interaction with parents Forming of students group and assigning of mentor mentee.
  2. Regular Phase:- This phase may include the activities such as creative arts / universal Human values Games & Sports in the morning session and in the afternoon session. Literary activities, Proficiency module, Lectures & workshop, Extracurricular Activities etc. can be scheduled.
  3. Closing Phase:- This phase may include taking feedback of students, preparation of Report by each group, Test of creative Arts, Human Values can be taken.

These are summarized guidelines to be given to the student inducing induction programme (SIP). Please refer SIP Manual published by AICTE for detail guidelines[2].

7. **Project based Learning:**

For better learning experience, along with traditional classroom teaching and laboratory work based learning, project based learning has been introduced with an objective to motivate students to learn by working in group (**5 to 6 students per group**) courteously to

solve a problem. Students may undertake a problem which can be theoretical, practical, social, technical, symbolic, cultural and/or scientific and grows out of students' wondering within different disciplines and professional environments. A chosen problem has to be **exemplary**. The problem may involve an interdisciplinary approach in both the analysis and solving phases. Such practice will also increase their capacity and learning through shared cognition. [3] [5].

8. **Laboratory Course:**
   The laboratory work will be based on completion of experiments/ lab assignments confined to the related companion courses of the semester.
9. **Seminar:**
   Seminar shall be on state-of-the-art topic selected by student and approved by the authority. The student shall submit the duly certified seminar report in standard format, for satisfactory completion of the work by the concerned Guide and head of the department/institute.
10. **Project Work at Final Year:**
    Project work in the seventh semester is an integral part of the project work. The project work shall be based on the knowledge acquired by the student during the graduation and preferably it should meet and contribute towards the needs of the society. The project aims to provide an opportunity of designing and building complete system or subsystems based on area where the student likes to acquire specialized skills. The student shall prepare the duly certified final report of project work in standard format for satisfactory completion of the work by the concerned guide and head of the Department/Institute.
11. **Internship**
    Internships are educational and career development opportunities, providing practical experience in a field or discipline. Internships are far more important as employers are looking for employees who are properly skilled. They are structured, short-term, supervised placements often focused around particular tasks or projects with defined time scales. Core objective is to expose technical students to the industrial environment, which cannot be simulated/experienced in the classroom and hence creating competent professionals in the industry and to understand the social, economic and administrative considerations that influence the working environment of industrial organizations. Student may choose to undergo Internship at Industry/Govt./NGO/MSME/Rural Internship/ Innovation/ IPR/Entrepreneurship. Student may choose either to work on innovation or entrepreneurial activities resulting in start-up or undergo internship with industry/NGO's/Government organizations/Micro/Small/ Medium enterprises to make themselves ready for the industry [4]. Conduction, monitoring, assessment, and evaluation is to be done as per guidelines provided by AICTE [4].
12. **Abbreviations:**
    TW: Term Work **TH:** Theory **OR:** Oral **TUT**: Tutorial **PR**: Practical
    Sem: Semester, **PROJ**: Project Work, **ESE**: End Semester Examination **ISE**: In Semester Examination, CA: Continuous Assessment, **DW:** Drawing.

Definition of Credit [1]:**

1 Hour Lecture (L) per week	1 credit for 1 Hour
Tutorial (T) per week	1 credit for 1 Hour
Practical (P) per week 2 Hours Practical(Lab)/week	1 credit for 2 Hours

** The head of Tutorial and Practical (as a special case) may be merged for common credit with the permission of authority.

This document includes following sections-

I. Undergraduate Engineering Programme Structure
II. Examination Scheme
III. Structure of Question Paper
IV. Assessment
V. Rules of Passing
VI. Rules of ATKT (Allowed To Keep Term)
VII. Assessment and Grade Point Average
VIII. Performance Indices
IX. Result
References

1) UG Programme Structure and Credit Distribution:

Each B.E. / B. Tech. programme is of 4 years duration. The minimum total number of credit requirement for each programme is 170. In the structure, the credits are distributed over 8 semesters. The open elective included, gives the student a wide choice of subjects from other programme. The Credit structure for Bachelor of Engineering programme is given below in Table 1.

TABLE 1: Credit Structure for UG programme in Engineering

Credits offered									
Course Work	Semester								Total
	I	II	III	IV	V	VI	VII	VIII	
Professional Theory Courses *	17	16	15	15	12	06	06	06	90
Elective Courses^	-	-	-	-	03	03	06	06	18
Laboratory Courses/ continuous assessment/TW	05	04	07	05	05	05	06	02	42
Seminar &Communication Skills	-	-	-		01	01		-	02
Project Work	-	-	-	-	-	02	02	06	10
Project Based Learning		02		02	--	--	--	--	04
Internship$	--	--	--	--		04	--	--	04
Total	22	22	22	22	21	21	20	20	170
Mandatory Non_Credit_Graded_Audit Course# per semester									
Induction Program at first year Engineering	3 week duration (2 week at the beginning of Sem-I & 1 week at the beginning of Sem -II)								

*: Professional Courses include - Engineering Science Courses including Workshop, Drawing, basics of Electrical/Electronics/Mechanical/Computer/Civil Engineering, Humanities and Social Sciences including Management/Finance Management courses, Basic Science courses and Professional core courses.

^: Professional Elective courses relevant to chosen specialization/branch and Open Electives (interdisciplinary and /or emerging technology)

#: There will be mandatory **Non_Credit Course** per Semester viz- Environmental Studies, Indian Constitution, Essence of Indian Traditional Knowledge, financial Management and courses introduced time to time by university or apex bodies.

$: Internship to be completed after semester 5 and to be assessed in semester 6. Internship will be of 4 to 6 weeks maximum.

TABLE -2 First Engineering _Structure for Semester-I														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
Total		16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -3 First Engineering_ Structure for Semester-II														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
Total		15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Instructions:

- PR/Tutorial must be conducted in three batches per division.
- Minimum number of required Experiments/Assignments in PR/ Tutorial shall be carried out as mentioned in the syllabi of respective subjects.
- Every Student should appear for Engineering Physics, Engineering Chemistry, Engineering Mechanics, Basic Electrical Engineering, Basic Electronics Engineering, Programming and Problem solving during the year.
- College is allowed to distribute Teaching workload of subjects Engineering Physics, Engineering Chemistry, Basic Electrical Engineering, Basic Electronics Engineering, Engineering Mechanics, Programming and Problem solving in semester I and II dividing number of FE divisions into two appropriate groups.
- Assessment of tutorial work has to be carried out as term-work examination. Term-work Examination and Practical Examination at first year of engineering course **shall be internal continuous assessment only.**

Ω 1 Credit for Engineering Graphics theory has to be awarded on the basis of End semester examination of 50 marks while 1 credit of tutorial and practical **shall be awarded on internal continuous assessment only**.

@ Credit for the course of workshop practical is to be awarded on the basis of continuous assessment / submission of job work.

§ Project based learning (PBL) requires continuous mentoring by faculty throughout the semester for successful completion of the tasks selected by the students per batch. While assigning the teaching workload a load of 2 Hrs/week/batch needs to be considered for the faculty involved. The Batch needs to be divided into sub-groups of 5 to 6 students. Assignments / activities / models/ projects etc. under project based learning is carried throughout semester and Credit for PBL has to be awarded on the basis of internal continuous assessment and evaluation at the end of semester.

& Audit course for Environmental Studies and II (As per D.O.No.F.13-1/2000 (EA/ENV/COS-I) dated 14 May, 2019) is mandatory but non-credit course. Examination has to be conducted at the end of Sem I & II respectively for award of grade at college level. Grade awarded for audit course shall not be calculated for grade point &CGPA.

Audit course for Physical education is mandatory non-credit course. Examination has to be conducted at the end of Semester for award of grade at college level. Grade awarded for audit course shall not be calculated for grade point &CGPA.

TABLE -4 Structure for Semester-III

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	TW Marks	Credits
Theory	15	150	350			15
PR/OR/Tut	14			100	100	07
Total	29	150	350	100	100	22

TABLE -5 Structure for Semester-IV

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	TW Marks	Credits
Theory	15	150	350			15
PR/OR/Tut	10			100	50	05
Project based learning	04				50	02
Total	29	150	350	100	100	22

TABLE -6 Structure for Semester-V

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	TW Marks	Credits
Theory	15	150	350			15
PR/OR/Tut	10			100	50	05
Seminar	01				50	01
Total	26	150	350	100	100	21

TABLE -7 Structure for Semester-VI

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	TW Marks	Credits
Theory	12	120	280			12
PR/OR/Tut	10			100	100	05
Internship	04				100	04
Total	26	120	280	100	200	21

TABLE -8 Structure for Semester-VII

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	**TW Marks**	Credits
Theory	12	120	280			12
PR/OR/Tut	08			100	50	04
Moocs etc.					50	02
Project Stage-1	04			50	50	02
Total	24	120	280	150	150	20

Credits of MOOCs Courses shall be awarded based on completion of relevant course (recommended by college / University) of equivalent or more credits and submission of Certificate to college. College shall submit the same to university through online process to be followed in due course.

TABLE -9 Structure for Semester-VIII

Subject Head	Duration (Hrs/week)	ISE	ESE	PR/OR Marks	TW Marks	Credits
Theory	12	120	280			12
PR/OR/Tut	04			100	50	02
Project Stage-2	12			50	100	06
Total	28	120	280	150	150	20

Note: Any Course offered (Semester-III to Semester-VIII) should be of minimum 2 credits.

2. Examination Scheme:

R.21

The theory examination shall be conducted in two phases for all the subjects of semester-I to semester-VIII.

R2.1.1: Phases of Examination

Phase I as In-Semester Examination of 30 marks written theory examination based on Unit-1 and Unit-2 of course syllabus scheduled by university

Phase II as End-Semester Examination of 70 marks written theory examination based on unit number 3, 4, 5, 6 of course syllabus scheduled by university.

3. Structure of Question Paper:

R3.1 Two units (Unitl and Unit 2) will be covered for 30 Marks for Phase 1 (ISE). Equal weightage will be given to both the units (15 Marks each)

R3.2 Four units (Unit 3, Unit 4, Unit 5 and Unit 6) shall have weightage of 70 Marks for Phase 2 (ESE). Marks weightage for the unit 3, unit 4, unit 5 and unit 6 shall be as shown in Table no.10

- Marks weightage to be given for questions per unit is as –

TABLE -10. Marks weightage per unit for examination

Unit Number	Phase I ISE Marks Weightage	Phase II ESE Marks Weightage
1	15	--
2	15	--
3		18
4	-	17
5	--	18
6	-	17

R3.3 Paper will have only one section and two questions for ISE and four questions for ESE. For each question there will be alternate Question based on same unit and of the same marks.

R3.4 Framing of questions should be according to Anderson/Blooms Taxonomy and disseminated through the question papers with a mention of course outcomes as well.

4. Assessment

A. Theory:

R4.1

ISE assessment will be done at the centralized assessment programme (CAP) Centre of the College by the Expert who is appointed as an examiner for the courses as per 48(3) panel of Maharashtra public university act 2016.

R4.2

ESE assessment will be done at the CAP Centre designated by the University by the Expert who is appointed as an examiner for the subject as per 48(3) panel.

B. Term work:

R4.3

Term Work assessment shall be conducted for the Lab Practice, Project, Tutorials and Seminar. Term work is continuous assessment based on work done, submission of work in the form of report/journal, timely completion, attendance, and understanding. It should be assessed by subject teacher of the institute for first to sixth semester and by the external examiner at seventh and eighth semester. At the end of the semester, the final grade for a Term Work shall be assigned based on the performance of the student and is to be submitted to the Savitribai Phule Pune University (SPPU). A student who fails in the Term Work on account of unsatisfactory performance shall be given F grade and on the account of inadequate attendance shall be given FX grade. Failing in a particular course Term Work shall not be the criteria for detention in the semester.

C. Practical/Oral/Presentation:

R.4.5

Practical/Oral/presentation is to be conducted and assessed jointly by internal and external examiners. The performance in the Practical/Oral/Presentation examination shall be assessed by at

least one pair of examiners appointed as examiners by the Savitribai Phule Pune University. The examiners will prepare the mark / grade sheet in the format as specified by the Savitribai Phule Pune University and authenticate it.

D. Project Based Learning

R4.6

It is recommended that the all activities are to be record and regularly, regular assessment of work to be done and proper documents are to be maintained at college end by both students as well as mentor (you may call it PBL work book). Continuous Assessment Sheet (CAS) is to be maintained by all mentors/department and institutes.

Recommended parameters for assessment, evaluation and weightage:

- Idea Inception **(5%)**
- Outcomes of PBL/ Problem Solving Skills/ Solution provided/ Final product **(50%)** (Individual assessment and team assessment)
- Documentation (Gathering requirements, design & modeling, implementation/execution, use of technology and final report, other documents) **(25%)**
- Demonstration (Presentation, User Interface, Usability etc) **(10%)**
- Contest Participation/ publication **(5%)**
- Awareness /Consideration of -Environment/ Social /Ethics/ Safety measures/Legal aspects **(5%)**

PBL workbook will serve the purpose and facilitate the job of students, mentor and project coordinator. This workbook will reflect accountability, punctuality, technical writing ability and work flow of the work undertaken.

E. Internship

R4.7

Student may choose to undergo Internship at Industry/Govt./NGO/MSME/Rural Internship/ Innovation/ IPR/Entrepreneurship. Student may choose either to work on innovation or entrepreneurial activities resulting in start-up or undergo internship with industry/NGO's/Government organizations/Micro/Small/ Medium enterprises to make themselves ready for the industry[4].

Every student is required to prepare a maintain documentary proofs of the activities done by him. The evaluation of these activities will be done by Programme Head/Cell In-charge/ Project Head/ faculty mentor or Industry Supervisor based on- Overall compilation of internship activities, sub-activities, the level of achievement expected, evidence needed to assign the points and the duration for certain activities.

Based on internship the assessment and evaluation parameters may include as-

- Working for consultancy/ research project,
- Participation at Events (Technical / Business)
- Participation in innovation related completions for eg. Hackathon etc.),
- Contribution in Incubation/ Innovation/ Entrepreneurship Cell/ Institutional Innovation Council,
- Learning at Departmental Lab/Tinkering Lab/ Institutional workshop,
- Development of new product/ Business Plan/ registration of start-up,
- Participation in IPR workshop/Leadership Talks/ Idea/ Design/ Innovation/ Business Completion/ Technical Expos.

It is necessary to produce participation certificate, if applicable.

F. Seminar and Communication Skills

R4.8

Seminar is the first formal curricular activity at the UG level, where students are supposed to exhibit their communication skills and knowledge by undertaking the study of the chosen topics. Core objective is to explore the basic principles of communication (verbal and non-verbal) and

active, empathetic listening, speaking and writing techniques. It exposes the student to new technologies, researches, products, and services.

Authorities/ examiner (optional) along with a guide would be assessing the seminar work based on various parameters which may include- Topic selection, Contents and Presentation, regularity, Punctuality and Timely Completion, Question and Answers, Report, Paper Presentation/Publication, Attendance and Active Participation in overall class activity.

G. Project Work at Final Year

R4.9

Progress of project work is monitored regularly on weekly project slot/project day. Regular interval presentations are to be arranged to review and assess the work. During process of monitoring and continuous assessment AND evaluation the individual and team performance is to be measured. Project work is monitored and continuous assessment is done by guide and authorities. During university examination Internal examiner (preferably the guide) and External examiners jointly, evaluate the project work. Recommended performance measure parameters may include-Problem definition and scope of the project, Literature Survey, Appropriate Engineering approach used, Exhaustive and Rational Requirement Analysis, Comprehensive Implementation- Design, modeling, documentation, Usability, Optimization considerations(Time, Resources, Costing), Thorough Testing, Project Presentation and Demonstration(ease of use and usability), Social and environment aspects, Presentation of work in the form of Project Report(s), Understanding individual capacity, Role & involvement in the project, Team Work (Distribution of work, intra-team communication and togetherness), Participation in various contests, Publications and IPR, Manuals(Project Report, Quick reference, System, Installation guide) among other parameters.

5. Rules of Passing

R5.1

To pass the Term Work / Practical / Oral/ presentation the student has to earn Minimum of 40 percent marks in each respective examination head.

R5.2

To pass the Theory Subject head the student has to earn minimum of 40 percent marks in End-Semester examination and 40 percent total marks (In-Semester Examination and End-Semester Examination).

R5.3

The failing student can repeat the End-semester examination to pass the head in any semester and the In-Semester Examination marks will be retained as it is. OR the failing student can repeat for the End-Semester Examination as well as In-semester examination for the head of Even semester in the Even semester only and for the head of Odd semester in the Odd semester only for the theory head

R5.4

To earn credits of a course (Theory/term work/practical/oral/presentation) student must pass the course with minimum passing marks/grade.

R5.5

Student can apply only for the Revaluation/Photocopying of End-Semester theory examination.

6. Rules of ATKT (Allowed To Keep Term):

R6.1

A student can register for the third semester (SE), if he/she earns minimum 50% credits of the total of first and second semesters (FE).

R6.2

A student can register for the fifth semester (TE), if he/she earns minimum 50% credits of the total of third and forth semesters (SE) and all the credits of first and second semester (FE).

R6.3

A student can register for the seventh semester(BE), if he/she earns minimum 50% credits of the total of fifth and sixth semesters(TE) and all the credits of third and forth semester(SE).

R6.4

A student will be awarded the bachelor's degree if he/she earns 170 credits and clears all the mandatory non credit courses in respective semesters

7. Assessment and Grade Point Average:

R7.1 Marks/Grade/Grade Point

A grade is assigned to each head based on marks obtained by a student in examination of the course. The marks obtained in In-semester and end-semester examination are considered together to calculate the grade of the course. These grades, their equivalent grade points are given in Table 11.

TABLE 11. Grade and Grade Point

Grade	Grade Point	Percentage of Marks Obtained	Remarks
O	10	90-100	Outstanding
A	9	80-89	Very Good
B	8	70-79	Good
C	7	60-69	Fair
D	6	50-59	Average
E	5	40-49	Below Average
F	0	Below 40	Fail
FX	0	--	Detained, Repeat the Course
IC	0	--	Incomplete Course-- Absent for Exam but continue for the course
AC	--	--	Audit Course Completed
ACN	--	--	Audit Course Not Completed

7. Passing Grade:

- The grades O, A, B, C, D, E are passing grades.
- A candidate acquiring any one of these grades in a course shall be declared as PASS. And student shall earn the credits for a course only if the student gets passing grade in that course.
- F Grade -The grade F shall be treated as a failure grade.
- The student with F grade will have to pass the concerned course by re-appearing for the examination.
- The student with F grade for any stage of the Project Work, will have to carry out additional work/ improvement as suggested by the examiners and re-appear for the examination.
- AC and ACN Grade -The student registered for audit course shall be awarded the grade AC after satisfactory completion of audit course and shall be included in the Semester grade report for that course, provided student has the minimum attendance as prescribed by the SPPU and satisfactory In-semester performance and secured a passing grade in that course. Student who is unable to complete audit course will be awarded as ACN grade.
- FX Grade-The grade FX in a course is awarded by the college, if a student does not maintain the minimum attendance in the Lecture / Tutorial class as prescribed by the SPPU and/or his performance during the semester is not satisfactory and/or he/she fails in the Term Work head of that course.
- The student with FX grade in a given course is not permitted to take the end of semester examination in that course. Such a student will have to re-register for the course.
- The student with F / FX in a course shall not be awarded any credits for that course.

8. Performance Indices:

R8.1

The semester end grade sheet will contain grades for the courses along with titles and SGPA. Final grade sheet and transcript shall contain CGPA.

R8.2

SGPA -The performance of a student in a semester is indicated by a number called the Semester Grade Point Average (SGPA). The SGPA is the weighted average of the grade points obtained in all the courses, seminars and projects registered by the student during the semester.

Semester Grade Point Average (SGPA) $= \frac{\sum_{i=1}^{p} CiGi}{\sum_{i=1}^{p} Ci}$

$$SGPA = \frac{\sum GradePointsEarnedXCreditsForEachCourse}{TotalCredits}$$

For Example: suppose in a given semester a student has registered for five courses having credits C1, C2, C3, C4, C5 and his / her grade points in those courses are G1, G2, G3, G4, G5 respectively. Then students

$$SGPA = \frac{C1G1+C2G2+C3G3+C4G4+C5G5}{C1+C2+C3+C4+C5}$$

SGPA and CGPA is calculated up to two decimal places by rounding off.

R8.3

CGPA- The CGPA is the weighted average of the grade points obtained in all the courses (Theory/term work/practical/oral/presentation) of first semester to eighth semester for the students admitted in the First year and third to eighth semester for the students directly admitted at Second year.

CGPA is calculated in the same manner as the SGPA.

R8.4

In case of a student passing a failed course or in case of improvement, the earlier grade would be replaced by the new grade in calculation of the SGPA and CGPA.

9. Result:

R9.1

Based on the performance of the student in the semester examinations, the Savitribai Phule Pune University will declare the results and issue the Semester Grade sheets. The class shall be awarded to a student on the CGPA calculated. The award of the class shall be as per Table 12.

Table 12. CGPA and Class awarded

Sr. No.	CGPA	Class of the Degree Awarded
1.	7.75 or More than 7.75	First Class with Distinction
2.	6.75 or more but less than 7.75	First Class
3.	6.25 or more but less than 6.75	Higher Second Class
4.	5.5 or more but less than 6.25	Second Class

X. References

[1] https://www.aicte-india.org/sites/default/files/Vol.%20I_UG.pdf

[2] https://www.aicte-india.org/sites/default/files/induction-guide-jun17-aicte%20(1).pdf

[3]https://www.aicteindia.org/sites/default/files/ FINAL%20BEST%20PRACTICES% 20 IN %20AICTE%20APPROVED%20INSTITUTUIONS.pdf

[4] https://www.aicte-india.org/sites/default/files/AICTE%20Internship%20Policy.pdf

[5] https://www.aicte-india.org/sites/default/files/ExaminationReforms.pdf

[6] https://www.aicte-india.org/education/model-syllabus

Faculty of Engineering
Savitribai Phule Pune University, Pune
Maharashtra, India



Syllabus

for

Fourth Year of Computer Engineering
(2015 Course)

(with effect from 2018-19)

Prologue

It is with great pleasure and honor that I share the syllabi for Fourth Year of Computer Engineering (2015 Course) on behalf of Board of Studies (BoS), Computer Engineering. We, members of BoS are giving our best to streamline the processes and curricula design at both UG and PG programs.

It is always the strenuous task to balance the syllabus with the blend of core subjects, current developments and exotic subjects. By considering all the aspects with adequate prudence the contents are designed to make the graduate competent enough as far as employability is concerned. It is absolutely necessary and justified to add sufficient flexibility in the given constraints leading the curriculum design near to perfection.

It may be highly subjective to include or exclude the courses, but benefit of the learner is always the nucleus the process. Many thoughts, suggestions, recommendations and directions help us to come up with the final contents. For the final year finishing touch is absolutely necessary which is provided with project based learning at the most.

I sincerely thank all the minds and hands who work adroitly to materialize these tasks. I really appreciate everyone's contribution and suggestions in finalizing the contents.

Dr. Varsha H. Patil
Coordinator, Board of Studies (Computer Engineering), SPPU, Pune

[This document contents Program Educational Objectives - Program Outcomes - Program Specific Outcomes(page 3),Courses (teaching scheme, examination, marks and credit)(page 4-5), Courses syllabi(page 7-85) and FE to BE courses at a glance(Page 86-87)].

Other related Syllabus Links:
Syllabus for First Year Engineering (2015 Course)
Syllabus for Second Year Computer Engineering (2015 Course)
Syllabus for Third Year Computer Engineering (2015 Course)

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester I

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410241	High Performance Computing	04	--	30	70	--	--	--	100	04	--
410242	Artificial Intelligence and Robotics	03	--	30	70	--	--	--	100	03	--
410243	Data Analytics	03	--	30	70	--	--	--	100	03	--
410244	Elective I	03	--	30	70	--	--	--	100	03	--
410245	Elective II	03	--	30	70	--	--	--	100	03	--
410246	Laboratory Practice I	--	04	--	--	50	50	--	100	--	02
410247	Laboratory Practice II	--	04	--	--	50	--	*50	100	--	02
410248	Project Work Stage I	--	02	--	--	--	--	*50	50	--	02
									Total Credit	16	06
	Total	**16**	**10**	**150**	**350**	**100**	**50**	**100**	**750**	**22**	
410249	Audit Course 5									**Grade**	

Elective I	Elective II
410244 (A) Digital Signal Processing	**410245 (A)** Distributed Systems
410244 (B) Software Architecture and Design	**410245 (B)** Software Testing and Quality Assurance
410244 (C) Pervasive and Ubiquitous Computing	**410245 (C)** Operations Research
410244 (D) Data Mining and Warehousing	**410245 (D)** Mobile Communication

410249-Audit Course 5 (AC5) Options:

AC5-I Entrepreneurship Development

AC5-II: Botnet of Things

AC5-III: 3D Printing

AC5-IV: Industrial Safety and Environment Consciousness

AC5-V: Emotional Intelligence

AC5-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical

Sem: Semester ***PRE:** Project/ Mini-Project Presentation

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410250	Machine Learning	03	--	30	70	--	--	--	100	03	--
410251	Information and Cyber Security	03	--	30	70	--	--	--	100	03	--
410252	Elective III	03	--	30	70	--	--	--	100	03	--
410253	Elective IV	03	--	30	70	--	--	--	100	03	--
410254	Laboratory Practice III	--	04	--	--	50	50	--	100	--	02
410255	Laboratory Practice IV	--	04	--	--	50	--	*50	100	--	02
410256	Project Work Stage II	--	06	--	--	100	--	*50	150	--	06
	Total	**12**	**14**	**120**	**280**	**200**	**50**	**100**	**750**	**Total Credit 22**	**10**
410257	Audit Course 6									**Grade**	

Elective III	Elective IV
410252 (A) Advanced Digital Signal Processing	**410253 (A)** Software Defined Networks
410252 (B) Compilers	**410253 (B)** Human Computer Interface
410252 (C) Embedded and Real Time Operating Systems	**410253 (C)** Cloud Computing
410252 (D) Soft Computing and Optimization Algorithms	**410253 (D)** Open Elective

410259-Audit Course 6 (AC6) Options:

AC6-I: Business Intelligence
AC6-II: Gamification
AC6-III: Quantum Computing
AC6-IV: Usability Engineering
AC6-V: Conversational Interfaces
AC6-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical
Sem: Semester ***PRE**: Project/ Mini-Project Presentation

Faculty of Engineering
Savitribai Phule Pune University, Pune



Syllabus

for

Third Year of Computer Engineering
(2015 Course)

(With effect from 2017-18)

Prologue

It is with great pleasure and honor that I share the syllabi for Third Year of Computer Engineering (2015 Course) on behalf of Board of Studies, Computer Engineering. We, members of BOS are giving our best to streamline the processes and curricula design.

While revising syllabus, honest and sincere efforts are put to tune Computer Engineering program syllabus in tandem with the objectives of Higher Education of India, AICTE, UGC and affiliated University (SPPU) by keeping an eye on the technological advancements and industrial requirements globally.

Syllabus revision is materialized with sincere efforts, active participation, expert opinions and suggestions from domain professionals. Sincere efforts have been put by members of BOS, teachers, alumni, industry experts in framing the draft with guidelines and recommendations.

For better perception and appropriate applicability the case Studies are included in majority of courses. Course instructor is recommended to discuss appropriate related recent technology/upgrade/Case Studies to encourage students to study from course to the scenario and think through the largest issues/ recent trends/ utility/ developing real world/ professional skills.

I am sincerely indebted to all the minds and hands who work adroitly to materialize this task.

Thanks

Dr. Varsha H. Patil
Coordinator, Board of Studies (Computer Engineering), SPPU, Pune
Tuesday, March 28, 2017

[This document contents Program Educational Objectives - Program Outcomes- Program Specific Outcomes (page 3), Courses (teaching scheme, examination, marks and credit) (page 4-5), Courses syllabi (page 6-62), all four year courses (page 63), Course-Credit share (page 64)]

Savitribai Phule Pune University, Pune
Computer Engineering

Program Educational Objectives

1. To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.
2. To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.
3. To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.
4. To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams.

Program Outcomes

Students are expected to know and be able –

1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
2. To analyze the problem by finding its domain and applying domain specific skills
3. To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
4. To find solutions of complex problems by conducting investigations applying suitable techniques.
5. To adapt the usage of modern tools and recent software.
6. To contribute towards the society by understanding the impact of Engineering on global aspect.
7. To understand environment issues and design a sustainable system.
8. To understand and follow professional ethics.
9. To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
10. To demonstrate effective communication at various levels.
11. To apply the knowledge of Computer Engineering for development of projects, and its finance and management.
12. To keep in touch with current technologies and inculcate the practice of lifelong learning.

Program Specific Outcomes (PSO)

A graduate of the Computer Engineering Program will demonstrate-

PSO1: Professional Skills-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying.

PSO2: Problem-Solving Skills- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3: Successful Career and Entrepreneurship- The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

Savitribai Phule University of Pune
Third Year Computer Engineering (2015 Course)
(with effect from 2017-18)

Semester I

Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TUT	PR
310241	Theory of Computation	03	--	--	30	70	--	--	--	100	03	--
310242	Database Management Systems (DBMS)	03	--	--	30	70	--	--	--	100	03	--
310243	Software Engineering & Project Management	03	--	--	30	70	--	--	--	100	03	--
310244	Information Systems & Engineering Economics	03	--	--	30	70	--	--	--	100	03	--
310245	Computer Networks (CN)	04	--	--	30	70	--	--	--	100	04	--
310246	Skills Development Lab	--	02	04	--	--	50	--	50	100	02	02
310247	DBMS Lab	--	--	04	--	--	25	50	--	75	--	02
310248	CN Lab	--	--	02	--	--	25	50	--	75	--	01
										Total Credit	18	05
	Total	16	02	10	150	350	100	100	50	750	23	
310249	Audit Course 3										Grade	

310249-Audit Course 3 (AC3) Options:

AC3-I: Cyber Security
AC3-II: Professional Ethics and Etiquettes
AC3-III: Emotional Intelligence
AC3-IV: MOOC- Learn New Skills
AC3-V: Foreign Language (Japanese- Module 3)

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical **Sem:** Semester

Savitribai Phule University of Pune
Third Year Computer Engineering (2015 Course)
(with effect from 2017-18)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TUT	PR
310250	Design & Analysis of Algorithms	04	--	--	30	70	--	--	--	100	04	
310251	Systems Programming & Operating System (SP & OS)	04	--	--	30	70	--	--	--	100	04	--
310252	Embedded Systems & Internet of Things (ES & IoT)	04	--	--	30	70	--	--	--	100	04	--
310253	Software Modeling and Design	03	--	--	30	70	--	--	--	100	03	--
310254	Web Technology	03	--	--	30	70	--	--	--	100	03	--
310255	Seminar & Technical Communication	--	01	--	--	--	50	--	--	50	01	--
310256	Web Technology Lab	--	--	02	--	--	25	50	--	75	--	01
310257	SP & OS Lab	--	--	04	--	--	25	50	--	75	--	02
310258	ES & IoT Lab	--	--	02	--	--	50	--	--	50	--	01
	Total	18	01	08	150	350	150	100	--	750	Total Credit 23	19 04
310259	Audit Course 4										Grade	

310259-Audit Course 4(AC4) Options:

AC4-I: Digital and Social Media Marketing
AC4-II: Green Computing
AC4-III: Sustainable Energy Systems
AC4-IV: Leadership and Personality Development
AC4-V: Foreign Language (Japanese- Module 4)

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical **Sem:** Semester

Syllabus

Savitribai Phule Pune University

Faculty of Engineering

Second Year of Computer Engineering

(Course 2015)

(with effect from June 2016)

Savitribai Phule University of Pune, Pune
Computer Engineering

Program Education Objectives-

1) To prepare globally competent graduates having strong fundamentals, domain knowledge, updated with modern technology to provide the effective solutions for engineering problems.

2) To prepare the graduates to work as a committed professional with strong professional ethics and values, sense of responsibilities, understanding of legal, safety, health, societal, cultural and environmental issues.

3) To prepare committed and motivated graduates with research attitude, lifelong learning, investigative approach, and multidisciplinary thinking.

4) To prepare the graduates with strong managerial and communication skills to work effectively as individual as well as in teams.

Program Outcomes-

Students are expected to know and be able -

1. To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modelling to the solution of complex engineering problems.
2. To analyse the problem by finding its domain and applying domain specific skills
3. To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, and cultural, societal, and environmental considerations.
4. To find solutions of complex problems by conducting investigations applying suitable techniques.
5. To adapt the usage of modern tools and recent software.
6. To contribute towards the society by understanding the impact of Engineering on global aspect.
7. To understand environment issues and design a sustainable system.
8. To understand and follow professional ethics.
9. To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
10. To demonstrate effective communication at various levels.
11. To apply the knowledge of Computer Engineering for development of projects, finance and management.
12. To keep in touch with current technologies and inculcate the practice of lifelong learning.

Savitribai Phule University of Pune, Pune
Second Year of Computer Engineering (2015 Course)
(With effect from Academic Year 2016-17)

Semester I

Course Code	Course Name	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW	PR+OR
210241	Discrete Mathematics	04	--	--	50	50	--	--	--	100	04	--
210242	Digital Electronics and Logic Design	04	--	--	50	50	--	--	--	100	04	--
210243	Data Structures and Algorithms	04	--	--	50	50	--	--	--	100	04	--
210244	Computer Organization and Architecture	04	--	--	50	50	--	--	--	100	04	--
210245	Object Oriented Programming	04	--	--	50	50	--	--	--	100	04	--
210246	Digital Electronics Lab	--	--	02	--	--	25	50	--	75	--	01
210247	Data Structures Lab	--	--	04	--	--	25	50	--	75	--	02
210248	Object Oriented Programming Lab	--	--	02	--	--	25	50	--	75	--	01
210249	Soft Skills	--	--	02	--	--	25	--	--	25	--	01
										Total	20	05
210250	Audit Course 1	--	--	--	--	--	--	--	--	--	Grade	
Total		20	--	10	250	250	100	150	--	750	25	

Abbreviations:

TW: Term Work
OR: Oral
PR: Practical

TH: Theory
TUT: Tutorial
Sem: Semester

Savitribai Phule University of Pune, Pune
Second Year of Computer Engineering (2015 Course)
(With effect from Academic Year 2016-17)
Semester II

Course Code	Course Name	Teaching Scheme Hours / Week			Semester Examination Scheme of Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TW TUT	PR+OR
207003	Engineering Mathematics III	04	01	--	50	50	25	--	--	125	05	--
210251	Computer Graphics	04	--	--	50	50	--	--	--	100	04	--
210252	Advanced Data Structures	04	--	--	50	50	--	--	--	100	04	--
210253	Microprocessor	04	--	--	50	50	--	--	--	100	04	--
210254	Principles of Programming Languages	03	--	--	50	50	--	--	--	100	03	--
210255	Computer Graphics Lab	--	--	02	--	--	25	50	--	75	--	01
210256	Advanced Data Structures Lab	--	--	04	--	--	25	50	--	75	--	02
210257	Microprocessor Lab	--	--	04	--	--	25	50	--	75	--	02
										Total	20	05
210258	Audit Course 2		--	--	--	--	--	--	--	--	Grade	
Total		19	01	10	250	250	100	150	--	750	25	

Abbreviations:

TW: Term Work
TH: Theory
OR: Oral
TUT: Tutorial
PR: Practical
Sem: Semester

SAVITRIBAI PHULE PUNE UNIVERSITY



First Year Engineering

Credit System Syllabus

2015 Course

$: Mandatory subjects of first, second and third semester must include at least 40 credits for Engineering Physics, Engineering Chemistry, Engineering Mathematics, social science and soft skills
In addition to above credits, there should be audit courses in semester five, six and seven to develop the various skills.
The detail structure is given in Tables

TABLE - 2 Structure for Semester-1

	Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
							Theory		TW	PR	OR	Max. Marks	
				Lectures	Tutorials	PR/DRG	In-Semester Exam	End-Semester Exam					
	107001	Engineering Mathematics I		4	1	–	50	50	25	–	–	125	5
#	107002 / 107009.	Engineering Physics OR Engineering Chemistry		4	–	2	50	50	25	–	–	125	5
	102006	Engineering Graphics I		3	–	2	50	50	–	-	–	100	4
#	103004 / 104012	Basic Electrical Engineering OR Basic Electronics Engineering		3	–	2	50	50	25	–	–	125	4
	101005	Basic Civil and Environmental Engineering		3	–	2	50	50	25	–	–	125	4
	110003	Fundamentals of Programming Languages I		1	–	2	-	-	–	50*	–	50	2
	111007	Workshop Practice		–	–	2	–	–	50	–	–	50	1
	Total of Semester I			18	1	12	250	250	150	50	–	700	25

TABLE - 3 Structure for Semester-2

	Code	Subjects	Short Name	Weekly Work Load (in Hrs)			Semester Examination Scheme of Marks						Credits
							Theory		TW	PR	OR	Max. Marks	
				Lectures	Tutorials	PR/ DRG	In-Semester Exam	End-Semester Exam					
	107008	Engineering Mathematics II		4	–	–	50	50	–	–	–	100	4
#	107009 / 107002	Engineering Chemistry OR Engineering Physics		4	–	2	50	50	25	–	–	125	5
	102013	Basic Mechanical Engineering		3	–	2	50	50	25	-	–	125	4
	101011	Engineering Mechanics		4	–	2	50	50	25	–	–	125	5
#	104012 / 103004.	Basic Electronics Engineering OR Basic Electrical Engineering		3	–	2	50	50	25	–	–	125	4
	110010	Fundamentals of Programming Languages II		1	–	2	-	-	-	50*	–	50	2
	102014	Engineering Graphics II		–	–	2	–	–	50	–	–	50	1
	Total of Semester II			19	–	12	250	250	150	50	–	700	25

Instructions:

1. PR/Tutorial must be conducted in minimum three batches (batch size 22 maximum) per division
2. Minimum number of required Experiments/Assignments in PR/DRG/Tutorial be carried out as mentioned in the syllabi of related subjects.
3. * for FPL-I and FPL-II: S.P. Pune University Online Practical Examination shall be conducted at the semester end.
4. # Every student should appear for Engineering Physics, Engineering Chemistry, Basic Electronics Engineering and Basic Electrical Engineering during the year.
5. # College is allowed to distribute Teaching Workload of subjects Physics, Chemistry, BEE, BXE in semester I and II by dividing number of FE divisions appropriately in two groups.

Bharati Vidyapeeth's College of Engineering Lavale.

CIVL ENGINEERING DEPARTMENT_(A.Y. 2022-23) -1

Sr. No.	Name of Faculty	Class	Subject	Load Allotment		Total
				TH	PR	
1	U S Patil	BE	Transportation Engineering	3	6	
		BE	Project	0	2	11
2	D K Mokashi	SE	Fluid MechanicsM	3	6	
		TE	EEFM	3	0	
		TE	Seminar	0	4	
		BE	Project	0	2	18
3	S C Mane	SE	Strength of Materials	3		
		TE	Design of steel Structures	3	12	20
4	Sangram C Patil	TE	Construction Management	3	6	
		BE	IWRPM	3	6	
		BE	Project	0	2	18
5	N A Gangurde	SE	Building Technlogy and Architectural Planning	3	6	
		Te	Audit coarse	1	0	
		BE	PROJECT	0	2	
		BE	Air Pollution and control	3	4	19
6	Swati A Shegane	TE	Waste watre Engineering	3	6	
		BE	Python	2	6	
		BE	Project		2	19
7	A S Hasabe	FE	Engineering Mechanics	3	6	
		SE	Engineering Geology	3	6	
		SE	Audit coarse	1		
		TE	Audit coarse	1		20
8	S A Kale	SE	Mechanics of Solids	0	8	
		TE	Hydrology and Water Resourses Engineering	3	6	
		FE	Environment Science	2		19
9	S. R Sutar	FE	Environment Science	2	0	
		SE	Mechanics of solids		4	
		SE	Building Technlogy and Architectural Planning		8	
		TE	Seminar		2	
		BE	Foundation Engineering	3	0	19
10	Prashant Kadam	SE	Engineering Mathematics	3	2	5

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING
TOTAL LOAD DISTRIBUTION SHEET

Academic Year:-2022-23 Sem-II

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1.	Dr.Patkar U.C	BE- COMP	DL	03	---	---	02	11
		BE- COMP	LP-V	--	06	---		
2.	Prof.Chate P.J	TE-COMP	DSBDA	04	---	---	02	22
		TE-COMP	DSBDAL	--	12	---		
		E&TC	DAL	--	04	---		
3.	Prof.Ingole A.M	FE	PPS	06	12	---	02	20
4.	Prof.Patil A.R	SE- COMP	PPL	03	--	---	02	21
		TE- COMP	LP-II	--	12	---		
		BE- COMP	HPC	03	--	---		
		BE- COMP	HONOUR COURSE	01	--	--		
5.	Prof.Kadam Y.V	TE- COMP	E-II	04	---	---	02	09
		BE-COMP	E-VI	03	---	---		
6.	Prof.Pawar S.S	SE- COMP	SE	03	---	---	02	21
		SE- COMP	PBL & COC	--	12	01		
		BE- COMP	E-V	03	---	---		
7.	Prof.Patil M.A	SE- COMP	DSA	03	---	---	02	20
		SE- COMP	DSAL	--	12	---		
		BE- COMP	HONOUR COURSE1	01	---	---		
		E&TC	DAL	--	02	---		
8.	Prof.Kadam P.M	SE- COMP	MP	03	---	---	02	22
		SE- COMP	MPL	--	06	---		
		E&TC	OOPL	--	06	---		
		TE-COMP	AI	04	---	---		
		BE- COMP	HONOUR COURSE	01	---	---		
9.	Prof.Pawar P.D	TE- COMP	WT	04	---	---	02	21
		TE- COMP	WTL	--	06	---		
		BE- COMP	LP-IV	--	06	---		
		E&TC	OOP	03	---	---		
10.	Prof.Prashant Kadam	SE COMP	M-III	03	---	01	---	04

TIME-TABLE INCHARGE

Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

H.O.D

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering
Lavale, Pune - 412 115

Bharati Vidyapeeth's College og Engineering Lavale Pune.							
Department of Civil Engineering							
Workload for the Academic Year 2022-23 Term II							
				Load Allotment		Total	Total Load
Sr. No.	Name of Faculty	Class	Subject	TH	PR		
1	U S Patil	BE	QSCT	3	6	9	11
		BE	Project	0	2	2	
2	D K Mokashi	BE	DHS	3	6	9	17
		BE	Project	0	2	2	
		TE	AC	1	0	1	
		SE	PM	3	0	3	
		SE	PBL	0	2	2	
3	S C Mane	BE	Project	0	2	2	17
		TE	DRCS	4	4	8	
		SE	CT	3	4	7	
4	Sangram C Patil	BE	Project	0	2	2	19
		BE	Str.Audit	3	6	9	
		TE	RSGIS	4	4	8	
5	N A Gangurde	BE	Project	0	2	2	19
		BE	TQMMIS	3	0	3	
		SE	PBL	0	6	6	
		TE	ATP	4	4	8	
6	A S Hasabe	BE	Project	0	2	2	19
		SE	GT	3	4	7	
		FE	EM	3	6	9	
		BE	AC	1	0	1	
7	S A Kale	BE	Project	0	2	2	19
		TE	DRCS	0	4	4	
		SE	SA	4	0	4	
		FE	EM	3	6	9	
8	S R Sutar	BE	Project	0	2	2	21
		TE	WWE	4	4	8	
		SE	Survey	3	8	11	
9	Visiting	SE Geology	Geology	3	4	7	7

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2022-23SEM-II**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof. A.B. Wani	TE-E&TC	PM	3	-	-	15
		T.E(E&TC)	MP	-	8	-	
		B.E(E&TC)	DBM	-	-	2	
		B.E(E&TC)	PR-II	-	2	-	
2	Dr. N. S. Shahare	SE-E&TC	SS	3	-	1	15
		TE-E&TC	CN	3	6	-	
		B.E(E&TC)	PR-II	-	2	-	
3	Prof. L. K. Wani	SE-E&TC	PBL	-	4	-	16
		BE-E&TC	SOC	3	2	-	
		BE -E&TC	FOC	3	2	-	
		B.E(E&TC)	PR-II	-	2	-	
4	Prof. S. G .Gawhale	SE-E&TC	ESD	2	6	-	19
		TE-E&TC	PDC	3	6	-	
		B.E(E&TC)	PR-II	-	2	-	
5	Prof. L. B. Choudhari	SE-E&TC	PCS	3	6	-	20
		TE-E&TC	EP	3	6	-	
		B.E(E&TC)	PR-II	-	2	-	
6	Prof. A. S. Pathak	SE-E&TC	CS	3	-	-	17
		SE-E&TC	SCSL	-	3	-	
		BE-E&TC	IE	-	-	2	
		BE-E&TC	ESD	3	2	-	
		TE-E&TC	MP	-	4	-	
7	**Anuradha Thorat**	**SE-E&TC**	**SCSL**	-	**3**	-	**11**
		SE-E&TC	**PBL**	-	**8**	-	
8	**Prof. Prajakta D. Pawar**	**SE-E&TC**	**OOP**	**3**	-	-	**15**
9	**Prof. Pratima M. Kadam**	**SE-E&TC**	**OOP-L**	-	**6**	-	
10	**Prof. P.J. Chate**	**SE-E&TC**	**DAL-L**	-	**6**	-	

HOD

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE,PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING
Total load Distribution Sheet **Academic Year:-2021-22 Sem-I**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof. A.B.Wani	TE-E&TC	ESED	02	04	---	11
		BE-E&TC	EPD	03	---	---	
		S.E-COMP.	DELD	----	02	---	
2	Prof. L.K.Wani	TE-E&TC	DSP	03	04	---	17
		BE-E&TC	VLSI	03	02	---	
		BE-E&TC	RMT	03	02	---	
3	Prof. S.G.Gawhale	SE-E&TC	EDC	03	02	---	19
		TE-E&TC	µC	03	04	---	
		TE-E&TC	DC	03	04	---	
4	Prof. Minakshi Molawade	S.E-E&TC	DE	03	02	---	18
		S.E-COMP.	DELD	04	04	---	
		BE-E&TC	DIP & VP	03	02	---	
5	Prof. Priyanka Yadav	SE-E&TC	DS	03	02	---	18
		TE-E&TC	EMT	03	---	01	
		SE-E&TC	ESD	----	02	---	
		TE-E&TC	Mechatronics	03	04	---	
6	Prof. Atul Bhongale	SE-E&TC	M-III	04	---	01	05
7	Prof. P.J.Chate	BE-E&TC	CN	04	02	---	06
8	Prof. T.S.Hasarmani	SE-E&TC	EC	03	02	----	05

HOD

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE,PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2021-22 Sem-II**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof.A.B.Wani	TE-E&TC	Mini Project	---	08	---	13
		B.E(E&TC)	WSN	03	---	---	
		B.E(E&TC)	Project	---	02		
2	Prof. (Mrs)L.K.Wani	SE-E&TC	ESD	02	06	---	18
		BE-E&TC	BCS	04	04	---	
		B.E(E&TC)	Project	---	02		
3	Prof. (Mrs.)S.G.Gawhale	SE-E&TC	PBL	---	04	---	20
		TE-E&TC	PDC	03	04	---	
		B.E.(E&Tc.)	MC	03	04		
		B.E(E&TC)	Project	---	02		
4	Prof. (Mrs) L.B Chaudhari	SE-E&TC	PCS	03	06	---	18
		TE-E&TC	EP	03	04	---	
		B.E(E&TC)	Project	---	02		
5	Prof.Anuradha Thorat	SE-E&TC	SS	03	06	01	13
		SE-E&TC	CS	03		---	
6	Prof. Pradnya Patange	SE-E&TC	OOP	03	06	---	15
		SE-E&TC	DAL	---	06	---	
7	Prof. Aishwarya Pathak	TE-E&TC	CN	03	04	---	17
		BE-E&TC	AVE	03	04	---	
		T.E (E&TC)	PM	03			

Prof. A.B.Wani

HOD (E&TC)

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TOTAL LOAD DISTRIBUTION SHEET

Academic Year:-2021-22 Sem-I

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1.	Prof.Patkar U.C	BE- COMP	AIR	03	---	---	02	09
		BE- COMP	LP-I	--	04	---		
2.	Prof.Chate P.J	TE-COMP	CNS	03	---	---	---	13
		TE-COMP	CNSL	--	04	---		
		TE-E&TC	CN	04	---	---		
		TE-E&TC	CNL	--	02	---		
3.	Prof.Ingole A.M	TE-COMP	HONOUR COURSE	02	02	---	---	08
		BE- COMP	HPC	04	---	---		
4.	Prof.Kumkum Bala	TE-COMP	TOC	03	---	---	---	08
		TE- COMP	E-I	03	---	---		
		TE- COMP	LP-I	--	02	---		
5.	Prof.Patil A.R	BE- COMP	E-I	03	--	---	---	11
		BE- COMP	HONOUR COURSE	02	02	---		
		BE- COMP	LP-II	--	04	---		
6.	Prof.Kadam Y.V	TE- COMP	DMS	03	---	---	---	06
		BE-COMP	DA	03	---	---		
7.	Prof.Pawar S.S	SE- COMP	CG	03	---	---	---	11
		SE- COMP	CGL	---	04	---		
		TE- COMP	DMSL	--	04	---		
8.	Prof.Salunkhe P.P	TE- COMP	SPOS	03	---	---	---	07
		TE- COMP	HONOUR COURSE	02	02	---		
9.	Prof.Patil M.A	SE- COMP	FDS	03	---	---	---	11
		SE- COMP	DSL	--	04	---		
		BE- COMP	HONOUR COURSE	02	02	---		
10.	Prof.Kadam P.M	SE- COMP	DM	03	---	---	---	09
		SE- COMP	BCS	--	02	---		
		SE- COMP	HSS	--	---	01		
		BE-COMP	E-II	03	---	---		
11.	Prof.Pawar P.D	FE	PPS	03	02	---	---	09
		SE- COMP	OOP	03	---	---		
		TE- COMP	STC	--	01	---		
12.	Prof.Anuradha Thorat	SE- COMP	DELD	03	---	---	---	05
		SE- COMP	DEL	--	02			

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DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2020-21 Sem-I**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof. A.B.Wani	TE-E&TC	ESED	02	04	---	11
		BE-E&TC	EPD	03	---	---	
		S.E-COMP.	DELD	----	02	---	
2	Prof. L.K.Wani	TE-E&TC	DSP	03	04	---	17
		BE-E&TC	VLSI	03	02	---	
		BE-E&TC	RMT	03	02	---	
3	Prof. S.G.Gawhale	SE-E&TC	EDC	03	02	---	19
		TE-E&TC	µC	03	04	---	
		TE-E&TC	DC	03	04	---	
4	Prof. Minakshi Molawade	S.E-E&TC	DE	03	02	---	18
		S.E-COMP.	DELD	04	04	---	
		BE-E&TC	DIP & VP	03	02	---	
5	Prof. Priyanka Yadav	SE-E&TC	DS	03	02	---	18
		TE-E&TC	EMT	03	---	01	
		SE-E&TC	ESD	----	02	---	
		TE-E&TC	Mechatronics	03	04	---	
6	Prof. Atul Bhongale	SE-E&TC	M-III	04	---	01	05
7	Prof. P.J.Chate	BE-E&TC	CN	04	02	---	06
8	Prof. T.S.Hasarmani	SE-E&TC	EC	03	02	----	05

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DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2020-21 Sem-II**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof. A.B.Wani	T.E-E&TC	ESMP	02	04	---	11
		B.E-E&TC	WSN	03	---	---	
		B.E-E&TC	Project phase-II	---	02	---	
2	Prof. L.K.Wani	T.E-E&TC	ITCT	04	04	---	14
		S.E-E&TC	Project Based Learning	---	04	---	
		B.E-E&TC	Project phase-II	---	02	---	
3	Prof. S.G.Gawhale	T.E-E&TC	PE	04	04	---	10
		B.E-E&TC	Project phase-II	---	02	---	
4	Prof. L P Chaudhari	S.E-E&TC	DAL	---	02	---	12
		T.E-E&TC	AP	04	04	---	
		B.E-E&TC	Project phase-II	---	02	---	
5	Prof.M.H.Molawade	T.E-E&TC	BM	03	---	---	05
		B.E-E&TC	Project phase-II	---	02	---	
6	Prof.P.A.Yadav	S.E-E&TC	OOPS	03	02	---	07
		B.E-E&TC	Project phase-II	---	02	---	
7	Prof.P.P.Salunkhe	T.E-E&TC	SPOS	03	02	---	05
8	Prof. Darshit Suratwala	S.E-E&TC	SS	03	01	---	08
		S.E-E&TC	CS	03	01	---	
9	Prof. Asawari Kulkarni	B.E-E&TC	MC	03	02	---	05
10	Prof. Priyanka Takalkar	S.E-E&TC	PCS	03	02	---	05
11	Prof. Shivani Pawar	B.E-E&TC	BCS	04	02	---	06
12	Prof. Anuradha Thorat	S.E-E&TC	ESD	02	02	---	04
13	Prof. Priti Dhongade	B.E-E&TC	AVE	03	02	---	05

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BHARATI VIDYAPEETH'S
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DEPARTMENT OF COMPUTER ENGINEERING

TOTAL LOAD DISTRIBUTION SHEET

Academic Year:-2020-21 Sem-I

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1.	Prof.Patkar U.C	BE- COMP	AIR	03	---	---	---	15
		BE- COMP	LP-I	--	12	---		
2.	Prof.Chate P.J	TE-COMP	CN	04	--	---	---	16
		TE-COMP	CNL	--	06	---		
		TE-E&TC	CN	04	--	---		
		TE-E&TC	CNL	--	02	---		
3.	Prof.Ingole A.M	BE- COMP	HPC	04	--	---	---	10
		BE- COMP	AC-5	--	06	---		
4.	Prof.Kumkum Bala	TE-COMP	TOC	03	--	---	---	17
		TE-COMP	SDL	--	12	02		
5.	Prof.Patil A.R	TE-COMP	ISEE	03	--	---	---	18
		BE- COMP	E-I	03	--	---		
		BE- COMP	LP-II	--	12	---		
6.	Prof.Kadam Y.V	TE-COMP	DBMS	03	---	--	---	10
		TE-COMP	DBMSL	--	04	--		
		BE- COMP	E-II	03	--	---		
7.	Prof.Pawar S.S	SE- COMP	CG	03	--	---	---	15
		SE- COMP	CGL	--	12	---		
8.	Prof.Salunkhe P.P	TE-COMP	SEPM	03	--	---	---	12
		TE- COMP	AC-3	--	06	---		
		BE- COMP	DA	03	--	---		
9.	Prof.Patil M.A	SE- COMP	FDS	03	--	---	---	15
		SE- COMP	DSL	--	12	---		
10.	Prof.Kadam P.M	SE- COMP	DM	03	--	01	---	11
		SE- COMP	HSS	--	--	01		
		SE- COMP	AC-1	--	06	---		
11.	Prof.Pawar P.D	SE- COMP	OOP	03	--	---	---	17
		SE- COMP	BCSL	--	06	--		
		TE-COMP	DBMSL	--	08	--		

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DEPARTMENT OF COMPUTER ENGINEERING
TOTAL LOAD DISTRIBUTION SHEET
Academic Year:-2020-21 Sem-I

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1	Prof.Patkar U.C	BE- COMP	AIR	3	---	---	6	13
		BE- COMP	LP-I	--	4	---		
2	Prof.Chate P.J	TE-COMP	CN	4	--	---	---	16
		TE-COMP	CNL	--	6	---		
		TE-E&TC	CN	4	--	---		
		TE-E&TC	CNL	--	2	---		
3	Prof.Ingole A.M	TE-COMP	ISEE	3	--	---		15
		BE- COMP	HPC	4	--	---		
		BE- COMP	LP-I	--	8	---		
4	Prof.Kumkum Bala	TE-COMP	TOC	3	--	---	---	17
		TE-COMP	SDL	--	12	2		
5	Prof.Patil A.R	BE- COMP	E-I	3	--	---	---	15
		TE- COMP	LP-II	--	12	---		
6	Prof.Kadam Y.V	TE- COMP	DBMS	3	--	---	---	11
		TE- COMP	DBMSL	--	8	---		
7	Prof.Pawar S.S	SE-COMP	CG	3	--	---	---	16
		SE- COMP	CGL	--	12	---		
		SE- COMP	HSS	--	--	1		
8	Prof.Salunkhe P.P	TE- COMP	SEPM	3	--	---	---	10
		BE- COMP	DA	3	--	---		
		TE-COMP	DBMSL	--	4	---		
9	Prof.Patil M.A	SE- COMP	FDS	3	--	--	---	15
		SE- COMP	DSL	--	12	--		
10	Prof.Kadam P.M	SE- COMP	DM	3	--	1	---	13
		BE- COMP	E-II	3	--	---		
		SE- COMP	BCSL	--	6	--		
11	Prof.Pawar P.D	SE-COMP	OOP	3	--	---	---	12
		First Year	PPS	3	--	---		
		First Year	PPSL	--	6	---		

NOTE : AUDIT COURSE MARKS TO BE FILLED BY :

1. AC1 (SE COMP)- M.A. PATIL
2. AC3 (TE- COMP)- P.J.CHATE
3. AC5(BE-COMP)- P.P.SALUNKHE

6/7/2020

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING
TOTAL LOAD DISTRIBUTION SHEET

Academic Year:-2020-21 Sem-I

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1.	Prof.Patkar U.C	BE- COMP	AIR	03	---	---	06	13
		BE- COMP	LP-I	--	04	---		
2.	Prof.Chate P.J	TE-COMP	CN	04	--	---	---	16
		TE-COMP	CNL	--	06	---		
		TE-E&TC	CN	04	--	---		
		TE-E&TC	CNL	--	02	---		
3.	Prof.Ingole A.M	SE- COMP	AC-I	--	02	---	---	17
		TE-COMP	ISEE	03	--	---		
		BE- COMP	HPC	04	--	---		
		BE- COMP	LP-I	--	08	---		
4.	Prof.Kumkum Bala	TE-COMP	TOC	03	--	---	---	17
		TE-COMP	SDL	--	12	02		
5.	Prof.Patil A.R	BE- COMP	E-I	03	--	---	---	15
		TE- COMP	LP-II	--	12	---		
6.	Prof.Kadam Y.V	TE- COMP	DBMS	03	--	---	---	11
		TE- COMP	DBMSL	--	08	---		
7.	Prof.Pawar S.S	SE-COMP	CG	03	--	---	---	16
		SE- COMP	CGL	--	12	---		
		SE- COMP	HSS	--	--	01		
8.	Prof.Salunkhe P.P	TE- COMP	SEPM	03	--	---	---	16
		BE- COMP	DA	03	--	---		
		TE- COMP	AC3	--	04	---		
		BE- COMP	AC5	--	06	---		
9.	Prof.Patil M.A	SE- COMP	FDS	03	--	--	---	17
		SE- COMP	DSL	--	12	--		
		SE- COMP	AC-I		02	--		
10.	Prof.Kadam P.M	SE- COMP	DM	03	--	01	---	17
		BE- COMP	E-II	03	--	---		
		SE- COMP	BCSL	--	06	--		
		TE- COMP	AC3	--	04	---		
11.	Prof.Pawar P.D	SE-COMP	OOP	03	--	---	---	16
		First Year	PPS	03	--	---		
		First Year	PPSL	--	06	---		
		TE-COMP	DBMSL	--	04	---		

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DEPARTMENT OF COMPUTER ENGINEERING

Total load Distribution Sheet Academic Year:-2019-20 Sem-II

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1	Mr. Atul Bhongale	SE-COMP	M-III	04	--	03	00	7
2	Mr. Sanket Sunil Pawar	SE-COMP	CG	04	06	---	00	
		TE-COMP	AC4	--	06	--		16
3	Mrs. Kumkum Bala	TE-COMP	ESIOT	04	06	--	00	
			STC		06			16
4	Mr. Ajitkumar Rajaram Patil	SE-COMP	PPL	03			00	
		BE-COMP	E-IV	03	--	---		18
			LP-IV		12			
6	Mr. Pramod Pandurang Salunkhe	TE-COMP	SMD	03	--	--	00	
		BE-COMP	AC-6		06			14
		TE-E&Tc	SPOS	03	02			
7	Mr. Yogesh Vasant Kadam	TE-COMP	DAA	04	---	---	00	
		BE-COMP	IACS	03	--	---	08	15
8	Mr. Avinash Murlidhar Ingole	FE						
9	Mrs. Parinita Jagannathrao Chate	TE-COMP	SPOS	04	12	--	00	16
10	Mrs. Prajakta Dagadu Pawar	SE-COMP	AC-2	--	03	--	00	
		TE-COMP	WT	03	06	--		12 — 9
11	Mr. Uday Chandrkant Patkar	BE-COMP	ML	03	--	--	02	
			LP-III	--	12	--		17

why less?

HOD Should look more into administration

22/11/2019

Prof. Uday Patkar

HOD

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DEPARTMENT OF COMPUTER ENGINIREENG

Load calculation – 2019-20 Sem-II

S.R No	Class	Probable Strength	Batches Considered	Subject	Sem-I			Total load
					L	Tut	PR	
01	FE	02 Divisions	3 batches	Engineering Mechanics	06	--	12	18
02	SE	73 students	3 batches	All subjects	19	03	30	52
03	TE	80 students	3 batches	All subjects	18	03	24	45
04	BE	70 students	3 batches	All subjects	12	--	42	54
				Total	55	06	108	169

Maximum Load = 169 Hrs (load allocated for Prof-10; Associate Prof-14; Ass. Prof-18)

Sr. No.	Name of Staff	Qualification	Designation	Load Given
01	Prof. U. C.Patkar	M Tech.	HOD & Assistant Prof.	12
02	Prof. A.M.Ingole	M Tech.	Assistant Prof.	18
03	Prof. Kumkum Bala	M Tech.	Assistant Prof.	18
04	Prof. A.R.Patil	M Tech.	Assistant Prof.	18
05	Prof. Y.V.Kadam	M Tech	Assistant Prof.	18
06	Prof. S.S.Pawar	M Tech.	Assistant Prof.	18
07	Prof. P.P.Salunkhe	M Tech.	Assistant Prof.	18
08	Prof. M.A.Patil	M Tech.	Assistant Prof.	18
09	Prof. P.D.Pawar	M Tech.	Assistant Prof.	18
10	Prof. Y.S.Kale	M Tech.	Associate Prof.	Lean Granted
11	Prof. P.J.Chate	M Tech.	Assistant Prof.	Maternity leave
12	Prof. P.M.Kadam	M Tech.	Assistant Prof.	Maternity leave
			Total load allotted	156

Balance load 13 Hrs

Requirement of visiting staff 01 Numbers for semester -02

Payable Amount for the 01 visiting Faculty

07Lectures @ Rs 500+03 Practical's @Rs 500=Rs 5000 per week x 04 weeks x 01 Faculty =Rs 20,000+ Conveyance @ for one month= Rs 6,000

Total = Rs 26,000 for one month

15/6/2019
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Bharati Vidyapeeth College of Engineering
Lavale, Pune- 412 115, Maharashtra State.
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu
Department of Computer Engineering

Ref. No: BV/COEL/ comp/251.A /2019-20 Date: 15/06 /2019

NOTICE

COURSE CO-ORDINATOR LIST (SEM-I AY: 2019-2020)

The Appointment of the following faculty members as Course Coordinator for the subjects in Academic Year 2019-20 are as follows. The roles and responsibilities Of Subject Coordinator are:

1) **Calculation of Attainment for the year 2019-20.**
2) **Conduction of Meeting with the subjects teachers and improve the attainment of the subject.**
3) **To take Continuous Follow-Up of Students Progress.**

SR NO.	SUBJECT NAME	CLASS	COURSE CO-ORDINATOR
1.	Discrete Mathematics	SE COMP	Prof.Sanket Pawar
2.	Digital Electronics and Logic Design	SE COMP	Prof.Minakshi Molawade
3.	Data Structures and Algorithms	SE COMP	Prof.Megha Patil
4.	Computer Organization and Architecture	SE COMP	Prof.Prajakta Pawar
5.	Object Oriented Programming	SE COMP	Prof.Prajakta Pawar
6.	Theory of Computation	TE COMP	Prof.Kumkum Bala
7.	Database Management Systems	TE COMP	Prof.Yogesh Kadam
8.	Software Engineering & Project Management	TE COMP	Prof.Pramod Salunkhe
9.	Information Systems & Engineering Economics	TE COMP	Prof.Ajit Patil
10.	Computer Networks	TE COMP	Prof.Uday Patkar
11.	High Performance Computing	BE COMP	Prof.Avinash Ingole
12.	Artificial Intelligence & Robotics	BE COMP	Prof.Megha Patil
13.	Data Analytics	BE COMP	Prof.Pramod Salunkhe
14.	E-I : Data Mining and Warehousing	BE COMP	Prof.Ajit Patil
15.	E-II : Mobile Communication	BE COMP	Prof.Sanket Pawar

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DEPARTMENT OF COMPUTER ENGINIREENG

Load calculation – 2019-20 Sem-I

S.R No	Class	Probable Strength	Batches Considered	Subject	Sem-I			Total load
					L	Tut	PR	
01	FE	02 Divisions	3 batches	Programming and Problem solving	06	--	12	18
02	SE	73 students	3 batches	All subjects	20	--	30	50
03	TE	80 students	3 batches	All subjects	16	06	30	52
04	BE	70 students	3 batches	All subjects	16	--	30	46
				Total	58	06	102	166

Maximum Load = 166 Hrs (load allocated for Prof-10; Associate Prof-14; Ass. Prof-18)

List of Teaching Staff -2019-20

Sr. No.	Name of Staff	Qualification	Designation	Load Given
01	Prof. U. C.Patkar	M Tech.	HOD & Assistant Prof.	12
02	Prof. A.M.Ingole	M Tech.	Assistant Prof.	18
03	Prof. Kumkum Bala	M Tech.	Assistant Prof.	18
04	Prof. A.R.Patil	M Tech.	Assistant Prof.	18
05	Prof. Y.V.Kadam	M Tech	Assistant Prof.	18
06	Prof. S.S.Pawar	M Tech.	Assistant Prof.	18
07	Prof. P.P.Salunkhe	M Tech.	Assistant Prof.	18
08	Prof. M.A.Patil	M Tech.	Assistant Prof.	18
09	Prof. P.D.Pawar	M Tech.	Assistant Prof.	18
10	Prof. Y.S.Kale	M Tech.	Associate Prof.	Lean Granted
11	Prof. P.J.Chate	M Tech.	Assistant Prof.	Maternity leave
12	Prof. P.M.Kadam	M Tech.	Assistant Prof.	Maternity leave
			Total load allotted	156

Balance load 10 HRs

Requirement of visiting staff 01 Numbers for semester -01

Payable Amount for the 01 visiting Faculty

04 Lectures @ Rs 500+03 Practical's @Rs 500=Rs 3,500 per week x 04 weeks x 01 Faculty

=Rs 14,000+ Conveyance @ for one month= Rs 3200

Total =Rs 17,200 for one month

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DEPARTMENT OF COMPUTER ENGINEERING

Load calculation considering as per AICTE Norms - 2019-20

S.R No	Class	Name of the subject	Sem-I			Total load	Name of the subject	Sem-II			Total Load
			L	T/S	P			L	T	P	
01	FE All Branches	FPL-I	4	--	24	28	FPL-II	4	--	24	28
02	SE computer	All subjects	16	--	40	56	All subjects	15	--	50	65
03	TE computer	All subjects	16	08	40	64	All subjects	18	04	32	54
04	BE computer	All subjects	16	--	40	56	All subjects	12	--	56	68
05	SE E&TC	DSA	4	--	6	10	OOP	3	--	6	9
06	TE E&TC	--	--	--	--	--	SPOS	4	--	6	10
07	BE E&TC	CN	4	--	6	10	--	--	--	--	--
	Total					224		Total			234

Total load for Sem- I = **224** , Total load for Sem II – **234**(Batch (size)-SE-4(20),TE-4(15),BE-4(15))

FE-4 division,SE-73 Students,TE -76 Students, BE -67 students

One class required faculty member is- 03, 3 Divisions x 3Faculty =09 **Faculty Required**

Load required as per keder ratio is- 1:20 = 9 for Computer. **Total Requirement = 9+2 (First Year maximum load 28) =11**

As Per AICTE Norms			Present status			Required		
Professor	Associate Professor	Assistant Professor	Professor	Associate Professor	Assistant Professor	Professor	Associate Professor	Assistant Professor
01	02	08	--	01*	11	01	01	--

As per Maximum work load –Total Load 191Hrs (Prof. 10, Associate professor 14, Assistant professor 18)

As Per AICTE Norms			Present status			Required		
Professor	Associate Professor	Assistant Professor	Professor	Associate Professor	Assistant Professor	Professor	Associate Professor	Assistant Professor
01	02	08	--	01*	11	01	01	--

Prof. Yogesh kale is on muster but he is pursuing PHD from NCA&T University , Prof. P.J.chate & Prof. P.M.Kadam both faculty members are on maternity leave. (12-3=9)

Workload Calculations										
Department: Department Of Computer Engineering										
Sem I										
Class	Sr No	Subject	Load as per Structure			Load as per Intake			Total workload	Class Workload
			L	P	T	L	P	T	L+P+T	
FE	1	PPS	3	2	0	6	12	0	18	
										18
SE COMP	1	DM	3	0	0	3	0	0	3	
	2	FDS	3	0	0	3	0	0	3	
	3	OOP	3	0	0	3	0	0	3	
	4	CG	3	0	0	3	0	0	3	
	5	HSS	0	0	1	0	0	3	3	
	6	DSL	0	4	0	0	12	0	12	
	7	OOP&CGL	0	4	0	0	12	0	12	
	8	BCS	0	2	0	0	6	0	6	
										45
TE COMP	1	DMS	3	0	0	3	0	0	3	
	2	TOC	3	0	0	3	0	0	3	
	3	SPOS	3	0	0	3	0	0	3	
	4	CNS	3	0	0	3	0	0	3	
	5	E-I	3	0	0	3	0	0	3	
	6	DMSL	0	4	0	0	12	0	12	
	7	CNSL	0	4	0	0	12	0	12	
	8	LP-I	0	2	0	0	2	0	6	
	9	STC	0	1	0	0	3	0	3	
										48
BE COMP	1	HPC	4	0	0	4	0	0	4	
	2	AIR	3	0	0	3	0	0	3	
	3	DA	3	0	0	3	0	0	3	
	4	E-I	3	0	0	3	0	0	3	
	5	E-II	3	0	0	3	0	0	3	
	6	LP-I	0	4	0	0	12	0	12	
	7	LP-II	0	4	0	0	12	0	12	
	8	PROJECT STAGE -I	0	2	0	0	6	0	6	
										46
BE ENTC	9	CNS	4	0	0	4	0	0	4	
	10	CNSL	0	2	0	0	6	0	6	
										10
TE COMP	1	HONOUR COURSE	4	2	0	4	6	0	10	

BE COMP	1	HONOUR COURSE	4	2	0	4	6	0	10	
										20
										187

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Lavale, Pune - 412 115.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE,PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2019-20 Sem-I**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof. A.B.Wani	TE-E&TC	ESED	02	04	---	11
		BE-E&TC	EPD	03	---	---	
		S.E-COMP.	DELD	----	02	---	
2	Prof. L.K.Wani	TE-E&TC	DSP	03	04	---	17
		BE-E&TC	VLSI	03	02	---	
		BE-E&TC	RMT	03	02	---	
3	Prof. S.G.Gawhale	SE-E&TC	EDC	03	02	---	19
		TE-E&TC	µC	03	04	---	
		TE-E&TC	DC	03	04	---	
4	Prof. Minakshi Molawade	S.E-E&TC	DE	03	02	---	18
		S.E-COMP.	DELD	04	04	---	
		BE-E&TC	DIP & VP	03	02	---	
5	Prof. Priyanka Yadav	SE-E&TC	DS	03	02	---	18
		TE-E&TC	EMT	03	---	01	
		SE-E&TC	ESD	----	02	---	
		TE-E&TC	Mechatronics	03	04	---	
6	Prof. Atul Bhongale	SE-E&TC	M-III	04	---	01	05
7	Prof. P.J.Chate	BE-E&TC	CN	04	02	---	06
8	Prof. T.S.Hasarmani	SE-E&TC	EC	03	02	----	05

HOD

Head
Department of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's College of Engineering, Lavale Pune - 412 115

Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester I (2018-19)

w.e.f. 15/6/2018

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical /Tutorial	Project/Semina	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	SE A, B	Manufacturing Process-I	6	12		18	18
2	Prof. Dr. S. M. Shendokar	Professor	SE A	Strength of Materials	4	6		10	13
			BE (A & B)	E2 (Finite Element Analysis)	3			3	
3	Prof. A. A. Datarkar	Assistant Professor	BE (A & B)	Hydraulics and Pneumatics	6	12		18	18
4	Prof. N. Singh	Assistant Professor	TE (A & B)	Heat Transfer	8	12		20	20
5	Prof. N. N. Raut	Assistant Professor	SE A, B	Material Science	6	6		12	16
			SE B	Strength of Materials	4	0		4	
6	Prof. S. V. Jaswandkar	Assistant Professor	BE (A & B)	E1(Energy Audit Management)	3	0		3	21
			SE A&B	Workshop Practice-II		12		12	
			SE B	Strength of Materials		6		6	
7	Prof. S. S. Tambade	Assistant Professor	BE (A & B)	Dynamics of Machine	8	12		20	20
8	Prof. S. N. Kadam	Assistant Professor	BE (A & B)	CAD-CAM & Automation	6	12		18	18
9	Prof. S.Y. Nagwase	Assistant Professor	BE (A & B)	Turbo Machines	6	12		18	18
10	Prof.A. B. Mane	Assistant Professor	TE (A & B)	Metrology and Quality Control	6	12		18	18
11	Prof.V. C. Khapper	Assistant Professor	TE (A & B)	Thermodynamics	6	12		18	18
12	Prof. S. P. Dhamone	Assistant Professor	SE (A & B)	CAMD	2	12		14	17
			BE (A & B)	E1 (Operational Research)	3			3	
13	Prof. S. R. Kale	Assistant Professor	SE (A & B)	Design of Machine Elements - I	8	12		20	20
14	Prof. P. G. Rahate	Assistant Professor	FE (A & B)	Engineering Graphics I	3	4		7	19
			TE (A & B)	Skill Development		12		12	
15	Prof.A. M. Pasarkar	Assistant Professor	FE (A & B)	Engineering Graphics I	6	8		14	18
				Finite Element Analysis		4		4	

Total Assigned Load = 272 hrs/week

272

Total Remaining Load = 97 hrs/week

Total = 369 hrs/week

HOD Mech

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE,PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2018-19 Sem-I**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Total Load
1	Prof.A.B.Wani	TE-E&TC	ESD	02	04	---	09
		B.E(E&TC)	EPD	03	---	---	
2	Prof. (Mrs) L.K.Wani	TE-E&TC	DSP	04	04	---	19
		BE-E&TC	VLSI	03	02	---	
		SE-Comp	DELD	---	06	---	
3	Prof. (Mrs.) S.G. Gawhale	SE-E&TC	EDC	04	04	---	19
		SE-E&TC	ECM	---	04	---	
		TE-E&TC	µC	03	04	---	
4	Prof. (Mrs) L P Chaudhari	SE-E&TC	EMIT	01	04	---	18
		TE-E&TC	DC	04	04	---	
		B.E (E&TC)	ES & RTOS	03	02	---	
5	Prof. Priyanka Yadav	SE-E&TC	DSA	04	04	---	19
		SE-E&TC	DE	---	04	---	
		T.E-E&TC	Mechatronics	03	04	---	
6	Prof. P. J. Chate	BE-E&TC	CN	04	02	---	06
7.	Prof. Shilpa R. Jadhav	BE-E&TC	RMT	03	02	---	05
8	Prof. Ankita Sawalkar	SE-E&TC	ECM	03	---	---	11
		SE-E&TC	SS	03	---	01	
		TE-E&TC	EMT	03	---	01	
9	Prof. Shivani Pawar	SE-Comp	DELD	04	---	---	08
		SE-E&TC	DE	04	---	---	

Allotted load:- 114 hrs

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE,PUNE-15
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION ENGINEERING

Total load Distribution Sheet **Academic Year:-2018-19 Sem-II**

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1	Prof. A.B.Wani	TE-E&TC	ESMP	02	04	---	02	11
		B.E(E&TC)	WSN	03	---	---		
2	Prof. (Mrs) L.K.Wani	TE-E&TC	ITCT	04	04	---	02	16
		BE-E&TC	BCS	04	02	---		
3	Prof. (Mrs.) S.G.Gawhale	SE-E&TC	IC	04	02	---	02	16
		TE-E&TC	PE	04	04	---		
4	Prof. (Mrs) L P Chaudhari	SE-E&TC	AC	---	02	---		17
		TE-E&TC	AP	04	04	---		
		T.E-E&TC	SPOS	03	04	---		
5	Prof. Priyanka Yadav	SE-E&TC	OOPS	03	04	---		16
		S.E-E&TC	ESD	02	02	---		
		BE-E&TC	MC	03	02	---		
6	Prof. Atul Bhongale	SE-E&TC	M-III	04	---	01		05
7	Prof. Ankita Sawalkar	SE-E&TC	CS	03	---	---		08
		BE-E&TC	AVE	03	02	---		
8	Prof. Shivani Pawar	SE-E&TC	AC	03	---	---		06
		T.E-E&TC	BM	03	---	---		

Total allotted load:- 93 hrs

19/10/18

H. O. D.
Electronics & Telecommunication
College Of Engineering, Lavale, Pune

Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.

Department of Mechanical Engi[illegible]

Faculty wise Teaching Work Load for Semester II(2018-19)

w.e.f 17/12/2018

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/Tutorial	Project/Seminar	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	TE (A, B)	Machine Shop-II		10		10	16
			BE (A & B)	E-IV AMP	6			6	
2	Prof. A. A. Datarkar	Assistant Professor	BE (A & B)	Energy Engineering	6	12		18	18
3	Prof. N. Singh	Assistant Professor	SE (A & B)	Applied Thermodynamics	8	10		18	20
			SE A	Soft Skills		2		2	
4	Prof. N. N. Raut	Assistant Professor	SE A, B	Engineering Metallurgy	6	10		16	20
			SE A	Soft Skills		4		4	
5	Prof. S. S. Tambade	Assistant Professor	BE (A & B)	Mechanical System Design	8	12		20	20
6	Prof. S. N. Kadam	Assistant Professor	TE (A & B)	Mechatronics	6	12		18	18
7	Prof. S.Y. Nagwase	Assistant Professor	TE (A & B)	Refregeration and Air conditioning	6	12		18	18
8	Prof.A. B. Mane	Assistant Professor	FE (A & B)	Engineering Graphics - II		12		12	18
			TE (A & B)	Manufacturing Process-II	6			6	
9	Prof.V. C. Khapper	Assistant Professor	TE (A & B)	Fluid Mechanics	6	10		16	18
			SE A	Soft Skills		2		2	
10	Prof. S. P. Dhamone	Assistant Professor	SE (A & B)	Theory of Machine I	8	10		18	20
			SE A	Soft Skills		2		2	
11	Prof. S. R. Kale	Assistant Professor	SE (A & B)	Design of Machine Elements - II	8	12		20	20
12	Prof. P. G. Rahate	Assistant Professor	FE (A & B)	Basic Mechanical Engineering	6	12		18	18
13	Prof.A. M. Pasarkar	Assistant Professor	TE (A & B)	Numerical Methods and Optimization	8	12		20	20

Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

HOD Mech

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM-I (2022-2023)

Sr. no.	Name of the staff	Subject Choice 1	Subject Choice 2	Subject Choice 3	Subject Choice 4	Sign
1	Dr. U.C PATKAR	PPS	DOP	CNS	ML	
2	Prof. P.J CHATE	PPS	OOP	CNS/SPOS	ML	
3	Prof. A.M INGOLE	PPS	FDS	DBMS	ML	
4	Prof. K. BALA	PPS	FDS	CNS	E-IV	
5	Prof. A.R PATIL	PPS	OOP	HC/EL-I	EL-III/IV	
6	Prof. Y.V KADAM	PPS	OOP	DBMS	DAA	
7	Prof. S.S PAWAR	PPS	CG/IDM	PM-I	EL-IV	
8	Prof. P.P SALUNKHE	PPS	OOP	SPOS	EL-IV	
9	Prof. M.A PATIL	PPS	FDS	CNS	ML	
10	Prof. P.M KADAM	PPS	BCSL	SPOS	LP-IV	
11	Prof. P.D PAWAR	PPS	OOP	DBMSL	ML	
12						
13						
14						
15						

9/5/2022

Head

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course) (With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
210241	Discrete Mathematics	03	-	01	30	70	-	-	-	100	03	--	01	04
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Humanity and Social Science	-	-	01	-	-	-	-	-	-	-	-	-	-
210247	Data Structures Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
210248	OOP and Computer Graphics Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
210249	Digital Electronics Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Business Communication Skills Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
210251	Audit Course 3	-	-	-	-	-	-	-	-	-	-	-	-	-
										Total Credit	15	06	01	22
	Total	15	12	02	150	350	100	100	-	700	-	-	-	-

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
210252	Mathematics III	03	-	01	30	70	-	-	-	100	03	--	01	04
210253	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210257	Data Structures and Algorithms Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
210258	Microprocessor Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	-	-	-	-	-	-	-	-
210260	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
210261	Audit Course 4	-	-	-	-	-	-	-	-	-	-	-	-	-
										Total Credit	15	06	01	22

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)

Home

Semester V

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310241	Database Management Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
310242	Theory of Computation	03	-	-	30	70	-	-	-	100	03	-	-	03
310243	Systems Programming and Operating System	03	-	-	30	70	-	-	-	100	03	-	-	03
310244	Computer Networks and Security	03	-	-	30	70	-	-	-	100	03	-	-	03
310245	Elective I	03	-	-	30	70	-	-	-	100	03	-	-	03
310246	Database Management Systems Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
310247	Computer Networks and Security Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310248	Laboratory Practice I	-	04	-	-	-	25	25	-	50	-	02	-	02
310249	Seminar and Technical Communication	-	-	01	-	-	50	-	-	50	-	-	01	01
	Total	**15**	**10**	**01**	**150**	**350**	**125**	**50**	**25**	**700**	**15**	**05**	**01**	**21**
310250	Audit Course 5													Grade
										Total Credit	**15**	**05**	**01**	**21**

310245 Elective I Options:

310245(A) Internet of Things and Embedded Systems
310245(B) Human Computer Interface
310245(C) Distributed Systems
310245(D) Software Project Management

310250 Audit Course 5 Options:

310250 (A) Cyber Security
310250 (B) Professional Ethics and Etiquettes
310250 (C) Learn New Skills
310250 (D) Engineering Economics
310250 (E) Foreign Language

Laboratory Practice I

Assignments from **Systems Programming and Operating System** and **Elective I**

BE Computer Engineering 2019 Course tentative Curriculum structure:

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)

Semester VII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral\Pre	Total	Lecture	Practical	Tutorial	Total
410241	Design and Analysis of Algorithms	03	-	-	30	70	-	-	-	100	3	-	-	3
410242	Machine Learning	03	-	-	30	70	-	-	-	100	3	-	-	3
410243	Blockchain Technology	03	-	-	30	70	-	-	-	100	3	-	-	3
410244	Elective III	03	-	-	30	70	-	-	-	100	3	-	-	3
410245	Elective IV	03	-	-	30	70	-	-	-	100	3	-	-	3
410246	Laboratory Practice III	-	04	-	-	-	50	50	-	100	3	-	-	3
410247	Laboratory Practice IV	-	02	-	-	-	50	-	-	50	-	2	-	2
410248	Project Stage I	-	02	-	-	-	50	-	-	50	-	1	-	1
											-	2	-	2
	Total	**15**	**08**	**-**	**150**	**350**	**150**	**50**	**-**	**700**	**Total Credit**			
410249	Audit Course 7										**15**	**05**	**-**	**20**

Elective III

410244(A) Pervasive Computing
410244(B) Multimedia Techniques
410244(C) Cyber Security and Digital Forensics
410244(D) Object Oriented Modeling and Design
410244(E) Digital Signal Processing

Elective IV

410245(A) Information Retrieval
410245(B) GPU Programming and Architecture
410245(C) Mobile Computing
410245(D)Software Testing and Quality Assurance
410245(E) Compilers

Laboratory Practice III:
Laboratory assignments Courses- 410241, 410242, 410243

Laboratory Practice IV:
Laboratory assignments Courses- 410244, 410245

Audit Course 7(AC7) Options:
AC7- I MOOC- Learn New Skills
AC7- II Entrepreneurship Development
AC7- III Botnet of Things
AC7- IV 3D Printing
AC7- V Industrial Safety and Environment Consciousness

Savitribai Phule Pune University

Honours* in Artificial Intelligence and Machine Learning

With effect from 2020-21

Year & Semester	Course Code	Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
			Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	310301	Computational Statistics	04	--	--	30	70	--	--	--	100	04	--	04
	310302	Computational Programming Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits =05														
TE & VI	310303	Artificial Intelligence	04	--	--	30	70	--	--	--	100	04	--	04
		Total	04	-	-	100		-	-	-	100	04	-	04
Total Credits =04														
BE & VII	410301	Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
	410302	Machine Learning Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits =05														
BE & VIII	410303	Soft Computing and Deep Learning	04	-	--	30	70	--	--	--	100	04	--	04
	410304	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
		Total	04	-	02	100		-	--	50	150	06	-	06
Total Credits =06														

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering
4. Information Technology

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

Honours* in Cyber Security

With effect from 2020-21

Year & Semester	Course Code	Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
			Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	310401	Information and Cyber Security	04	--	--	30	70	--	--	--	100	04	--	04
	310402	Information and Cyber Security Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits = 05														
TE & VI	310403	Enterprise Architecture and Components	04	--	--	30	70	--	--	--	100	04	--	04
		Total	04	-	-	100		-	-	-	100	04	-	04
Total Credits = 04														
BE & VII	410401	Internet of Things and Embedded Security	04	--	--	30	70	--	--	--	100	04	--	04
	410402	Risk Assessment Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits = 05														
BE & VIII	410403	Information Systems Management	04	-	--	30	70	--	--	--	100	04	--	04
	410404	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
		Total	04	-	02	100		-	--	50	150	06	-	06
Total Credits = 06														

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering
4. Information Technology

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Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

Honours* in Data Science

With effect from 2020-21

Year & Semester	Course Code	Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
			Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	310501	Data Science and Visualization	04	--	--	30	70	--	--	--	100	04	--	04
	310502	Data Science and Visualization Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits = 05														
TE & VI	310503	Statistics and Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
		Total	04	-	-	100		-	-	-	100	04	-	04
Total Credits = 04														
BE & VII	410501	Machine Learning and Data Science	04	--	--	30	70	--	--	--	100	04	--	04
	410502	Machine Learning and Data Science Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits = 05														
BE & VIII	410503	Artificial Intelligence for Big Data Analytics	04	-	--	30	70	--	--	--	100	04	--	04
	410504	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
		Total	04	-	02	100		-	--	50	150	06	-	06
Total Credits = 06														

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering
4. Information Technology

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

With effect from 2020-21

Honours* in Internet of Things

Year & Semester	Course Code	Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
			Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	310601	Embedded Systems and Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	310602	Embedded Systems and Internet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
										Total	Credits =		05	
TE & VI	310603	Internet of Things Architectures, Protocols and Systems Programming	04	--	--	30	70	--	--	--	100	04	--	04
		Total	04	-	-	100		-	-	-	100	04	-	04
										Total	Credits =		04	
BE & VII	410601	Machine Learning for Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	410602	Machine Learning for Internet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
										Total	Credits =		05	
BE & VIII	410603	Internet of Things Security	04	-	--	30	70	--	--	--	100	04	--	04
	410604	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
		Total	04	-	02	100		-	--	50	150	06	-	06
										Total	Credits =		06	

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering
4. Information Technology

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

Honours* in Virtual Reality and Augmented Reality

With effect from 2020-21

Year & Semester	Course Code	Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
			Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	310701	Virtual Reality	04	--	--	30	70	--	--	--	100	04	--	04
	310702	Virtual Reality Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
												Total Credits =		05
TE & VI	310703	Augmented Reality	04	--	--	30	70	--	--	--	100	04	--	04
		Total	04	-	-	100		-	-	-	100	04	-	04
												Total Credits =		04
BE & VII	410701	Virtual Reality in Game Development	04	--	--	30	70	--	--	--	100	04	--	04
	410702	Virtual Reality Game Development Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
		Total	04	-	02	100		50	-	-	150	04	01	05
												Total Credits =		05
BE & VIII	410703	Application Development using Augmented Reality and Virtual Reality	04	-	--	30	70	--	--	--	100	04	--	04
	410704	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
		Total	04	-	02	100		-		50	150	06	-	06
												Total Credits =		06

Total Credit for Semester V+ VI+ VII+ VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering
4. Information Technology

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM-II (2022-2023)

Sr. No.	Name	Subject Choice 1	Subject Choice 2	Subject Choice 3	Subject Choice 4	Sign
1	Dr. U.C PATKAR	PPS.	SE/MP	AI	DL/LP-V	
2	Prof. P.J CHATE	PPS	PPL	DSBDA & DSBDAL	Elective-V	
3	Prof. A.M INGOLE	PPS	DSA	WT	HPC	
4	Prof. A.R PATIL	PPS	PBL	Elective-II	Elective-VI	LP-VI
5	Prof. Y.V KADAM	PPS	SE	E-II (Info. Security)	E-II (Business Intelligence)	
6	Prof. S.S PAWAR	PPS	SE/PBL	FL-II	EL-V	
7	Prof. M.A PATIL	PPS	ADSA & DSAL	LP-II	LP-VI & E-V	
8	Prof. P.M KADAM	PPS	MP&MPL	LP-II	LP-VI	
9	Prof. P.D PAWAR	PPS	PBL/PPL	NT	LP-VI	
10						

HOD

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

EXTC - PDP / PMC

OOPS - (3+6) = 9

DAL - (0+6) = 6

PTC 2

MAP 2

15

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
										Total Credit	15	06	01	22
	Total	15	12	01	150	350	125	75	-	700	-	-	-	-

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
										Total Credit	15	05	02	22
	Total	15	10	02	150	350	150	25	25	700	-	-	-	-

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)
Semester VI

Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310251	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03	-	-	03
310252	Web Technology	03	-	-	30	70	-	-	-	100	03	-	-	03
310253	Artificial Intelligence	03	-	-	30	70	-	-	-	100	03	-	-	03
310254	Elective II	03	-	-	30	70	-	-	-	100	03	-	-	03
310255	Internship**	-	**	-	-	-	100 **	-	-	100	-	04 **	-	04
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	50	25	-	75	-	02	-	02
310257	Web Technology Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
310258	Laboratory Practice II	-	04	-	-	-	50	25	-	75	-	02	-	02
	Total	**12**	**10**	**-**	**120**	**280**	**225**	**50**	**25**	**700**	**12**	**09**	**-**	**21**
310259	Audit Course 6													Grade

Elective II

- Information Security
- Augmented and Virtual Reality
- Cloud Computing
- Software Modeling and Architectures

Audit Course 6

- Digital and Social Media Marketing
- Sustainable Energy Systems
- Leadership and Personality Development
- Foreign Language
- MOOC- Learn New Skills

Laboratory Practice II:
Assignments from **Artificial Intelligence** and **Elective II**.

**** Internship:**
Internship guidelines are provided in course curriculum sheet.

Savitribai Phule Pune University
Final Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2022-23)
Semester VIII

Course Code	Course Name	Teaching Scheme (Hours/week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral/Pre	Total	Lecture	Practical	Tutorial	Total
410250	High Performance Computing	03	-	-	30	70	-	-	-	100	03			03
410251	Deep Learning	03	-	-	30	70	-	-	-	100	03			03
410252	Elective V	03	-	-	30	70	-	-	-	100	03			03
410253	Elective VI	03	-	-	30	70	-	-	-	100	03			03
410254	Laboratory Practice V	-	02	-	-	-	50	50	-	100		01		01
410255	Laboratory Practice VI	-	02	-	-	-	50	-	-	50		01	-	01
410256	Project Stage II	-	06	-	-	-	100	-	50	150		06		06
										Total Credit	12	08	-	20
	Total	12	10	-	120	280	200	50	50	700	12	08	-	20
410257	Audit Course 8													Grade

Elective V

410252(A) Natural Language Processing
410252(B) Image Processing
410252(C) Software Defined Networks
410252(D) Advanced Digital Signal Processing
410252(E) Open Elective I

Elective VI

410253(A) Pattern Recognition
410253(B) Soft Computing
410253(C) Business Intelligence
410253(D) Quantum Computing
410253(E) Open Elective II

Lab Practice V:
Laboratory assignments Courses- 410250, 410251

Lab Practice VI:
Laboratory assignments Courses- 410252, 410253

Audit Course 8(AC8) Options:
AC8- I Usability Engineering
AC8- II Conversational Interfaces
AC8- III Social Media and Analytics
AC8- IV MOOC- Learn New Skills
AC8- V Emotional Intelligence

Bharati Vidyapeeth College of Engineering

Lavale, Pune- 412 115, Maharashtra State.
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu

Department of Mechanical Engineering

Date: 4/05/2022

NOTICE

All faculty members are hereby informed to give the subject choice for upcoming semester of academic year 2022-23 in the format given below.

Sr. NO.	Name of faculty	FE	SE		TE		BE		Allotted Subject	Sign
		Choice-1	Choice-1	Choice-2	Choice-1	Choice-2	Choice-1	Choice-2		
1	Prof. S. R. Patil			EMM	EL-I		EL-III		AM	
2	Prof. A. A. Datarkar		ET	SMD	HMT	MST	Turbo lab	HVAR	ET TM	
3	Prof. N. R. Singh			ET	HMT	Skill Development	HVAR		HMT	
4	Prof. N. N. Raut		SM	EMM	Mechatronic	HMT	Elect IV	DOM	SM	
5	Prof. S. N. Kadam		SMD	GD&T	EL-I MST	NSM SD	EL-III	EL-IV	SMD PDD	
6	Prof. S. P. Dhamone		SMD	GD&T	NSM	DME	DOM	EL-3	DME DOM	
7	Prof. A. B. Mane		SMD	SM	EL-I MST	HMT	Elect III	Elect IV	MP SMT	
8	Prof. P. G. Rahate	SME							SME	
9	Prof. A. M. Pasarkar		SMD	EMM	NSM		EL-III		NSM EMM	

Note:- Give two subject choice for SE,TE & BE, Subjects only not practical head

HOD

4-5-2022

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Bharati Vidyapeeth's College of Engineering, Lavale, Pune
Department of Mechanical Engineering
Subject Wise Teaching Work Load for Semester-I 2022-23

Class	Sr. No.	Subject Sem- I	Teaching Scheme (In Hr)			Actual load (In Hr)			Total
			Lec	P	T	L	Pr	T	
FE (2Div)	1	Systems in Mechanical Engineering	3	2		6	12		18
	2	Workshop		2			12		12
SE	1	Solid Mechanics	4	2		4	6		10
	2	Solid Modeling & Drafting	3	2		3	6		9
	3	Engineering Thermodynamics	3	2		3	6		9
	4	Engineering Materials and Metallurgy	3	2		3	6		9
	5	Electronics & Electrical Engineering	3	2		3	6		9
	6	Geometric Dimensioning and Tolerancing Lab		2			6		6
TE	1	Numerical & Statistical Methods	3		1	3		6	9
	2	Heat & Mass Transfer	3	2		3	6		9
	3	Design of Machine Elements	3	2		3	6		9
	4	Mechatronics	3	2		3	6		9
	5	Elective - I Machining Science & Technology	3			3			3
	6	Digital Manufacturing Laboratory		2			6		6
	7	Skill Development		2			6		6
BE	1	Heating Ventilation Airconditioning and Refrigeration	3	2		3	6		9
	2	Dynamics of Machinary	3	2		3	6		9
	3	Turbomachinary	2	2		2	6		8
	4	Elective - III Modern Machining Processes	3			3			3
	5	Elective - III Industrial Engineering	3			3			3
	6	Elective - IV Product Design & Development	3			3			3
	7	Elective - IV Additive Manufacturing	3			3			3
	8	Data Analysis Laboratory		2			6		6
	9	Project (Stage I)		4			18		18
		TOTAL	51	36	1	51	120	6	195

			Total Work Load	195
Workshop				-12
Electronics and Electrical Engineering (interdisciplinary) FE Dept.				-9
			Total Work Load (Mech Dept.)	174
	Prof	Asso.	Asst. .	
aculty Members in De	0	1	8	
Assignes Load	0	18	144	162
			Remaining Load	12

28/6/22
H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Bharati Vidyapeeth's College of Engineering, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester I (2022-23)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/Tutorial	Total	Project/ Tutorial	Total Load
1	Prof. S. R. Patil	Assistant Professor	SE	Engineering Materials and Metallurgy	0	6	6	2	17
			TE	Digital Manufacturing Lab	0	6	6		
			BE	Elective IV (Additive Manufacturing)	3	0	3		
2	Prof. A. A. Datarkar	Assistant Professor	SE	Engineering Thermodynamics	3	6	9	2	19
			BE	Turbo Machinary	2	6	8		
3	Prof. N. Singh	Assistant Professor	TE	Heat & Mass Transfer	3	6	9	2	18
			BE	Heationg Ventilation Airconditioning and Refrigeration	3	4	7		
4	Prof. N. N. Raut	Assistant Professor	SE	Solid Mechanics	4	6	10	2	18
			BE	Data Analytics Laboratory		6	6		
5	Prof. S. N. Kadam	Assistant Professor	SE	Solid Modeling and Drafting	3	6	9	2	18
			TE	Skill Develoupment		4	4		
			BE	Elective IV (Product Design and Develoupment)	3		3		
6	Prof.A. B. Mane	Assistant Professor	SE	Geometric dimentioning and Tolerancing Lab		6	6	2	18
			TE	Machine Science and Technology	3		3		
			TE	Skill Develoupment		2	2		
			BE	Elective III (Modern Machining Process)	3		3		
			BE	Heationg Ventilation Airconditioning and Refrigeration		2	2		
7	Prof. S. P. Dhamone	Assistant Professor	TE	Design of Machine Elements	3	4	7	2	18
			BE	Dynamics of Machinary	3	6	9		
8	Prof. P. G. Rahate	Assistant Professor	FE (A & B)	Systems in Mechanical Engineering	6	10	16	2	18
9	Prof.A. M. Pasarkar	Assistant Professor	SE	Engineering Materials and Metallurgy	3		3	2	18
			TE	Numerical & Statistical Methods	3	6	9		
			TE	Design of Machine Elements		2	2		
			FE (A & B)	Systems in Mechanical Engineering		2	2		

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HOD Mech 7/7/22

H. O. D.
Mechanical Engineering
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM-I (2021-2022)

Sr. No.	Name of the Staff	FE Preference 1	SE Preference 2	TE Preference 3	BE Preference 4	Sign
1	Mr.U.C.PATKAR	PPS.	OOP	CNS/AIML.	AIR & LP-I	
2	Mrs. P.J.CHATE	PPS	OOP	CN & CHSL/DSV	DA	
3	Mr. A.M.INGOLE	PPS	f. Data structures	DBMS/CNS/DSV	HPC/MLDS	
4	Mrs. K. BALA	PPS	DSA	TOC	E-I	
5	Mr. A.R.PATIL	PPS	CG	Elective-I	EL-I(DMW) & LP-II	
6	Mr. Y.V.KADAM	PPS	OOP	DBMS	E-II(STQA)	
7	Mr. S.S.PAWAR	PPS	CG	EL-I(HCI)	EL-II MC	
8	Mr. P.P.SALUNKHE	PPS	OOP	SEPM	DA	
9	Mrs. M.A.PATIL	PPS	Fundamentals of Data structure	CN	AIR	
10	Mrs. P.M.KADAM	PPS	BCS	LP-I/IOT	E-II	
11	Mrs. P.D.PAWAR	PPS	OOP	DBMS	DA	

Note : Every Faculty should give Choice from each Year compulsory.

All faculty members are requested to please fill till today only.

* All Add - honers course subject in choice it's mandatory.

7/6/2021.

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Savitribai Phule Pune University
Second Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
										Total Credit	15	06	01	22
	Total	15	12	01	150	350	125	75	-	700	-	-	-	-

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
										Total Credit	15	05	02	22
	Total	15	10	02	150	350	150	25	25	700	-	-	-	-

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)

Semester V

Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310241	Database Management Systems	03	-	-	30	70	-	-	-	100	03	-	-	03
310242	Theory of Computation	03	-	-	30	70	-	-	-	100	03	-	-	03
310243	Systems Programming and Operating System	03	-	-	30	70	-	-	-	100	03	-	-	03
310244	Computer Networks and Security	03	-	-	30	70	-	-	-	100	03	-	-	03
310245	Elective I	03	-	-	30	70	-	-	-	100	03	-	-	03
310246	Database Management Systems Laboratory	-	04	-	-	-	25	50	-	50	-	02	-	02
310247	Computer Networks and Security Laboratory	-	04	-	-	-	-	-	50	50	-	02	-	02
310248	Laboratory Practice I	-	02	-	-	-	25	-	-	50	-	01	-	01
310249	Seminar and Technical Communication	-	01	-	-	-	50	-	-	50	-	01	-	01
310250	Audit Course 5													
										Total Credit	**15**	**06**	**-**	**21**
	Total	**15**	**11**	**-**	**150**	**350**	**100**	**50**	**50**	**700**	**15**	**06**	**-**	**21**

Elective I

- Internet of Things and Embedded Systems
- Human Computer Interface
- Distributed Systems
- Software Project Management

Audit Course 5

- Cyber Security
- Professional Ethics and Etiquettes
- MOOC- Learn New Skills
- Engineering Economics
- Foreign Language

Laboratory Practice I

Assignments from **System Programming and Operating System** and **Elective I**

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester I

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410241	High Performance Computing	04	--	30	70	--	--	--	100	04	--
410242	Artificial Intelligence and Robotics	03	--	30	70	--	--	--	100	03	--
410243	Data Analytics	03	--	30	70	--	--	--	100	03	--
410244	Elective I	03	--	30	70	--	--	--	100	03	--
410245	Elective II	03	--	30	70	--	--	--	100	03	--
410246	Laboratory Practice I	--	04	--	--	50	50	--	100	--	02
410247	Laboratory Practice II	--	04	--	--	50	--	*50	100	--	02
410248	Project Work Stage I	--	02	--	--	--	--	*50	50	--	02
									Total Credit	16	06
Total		16	10	150	350	100	50	100	750	22	
410249	Audit Course 5									Grade	

Elective I	Elective II
410244 (A) Digital Signal Processing	410245 (A) Distributed Systems
410244 (B) Software Architecture and Design	410245 (B) Software Testing and Quality Assurance
410244 (C) Pervasive and Ubiquitous Computing	410245 (C) Operations Research
410244 (D) Data Mining and Warehousing	410245 (D) Mobile Communication

410249-Audit Course 5 (AC5) Options:

AC5-I Entrepreneurship Development
AC5-II: Botnet of Things
AC5-III: 3D Printing
AC5-IV: Industrial Safety and Environment Consciousness
AC5-V: Emotional Intelligence
AC5-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical
Sem: Semester **PRE:** Project/ Mini-Project Presentation

Savitribai Phule Pune University

Honours* in Data Science

With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Data Science and Visualization	04	--	--	30	70	--	--	--	100	04	--	04
	Data Science and Visualization Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
TE & VI	Statistics and Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
							Total	Credits =		04			
BE & VII	Machine Learning and Data Science	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning and Data Science Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
BE & VIII	Artificial Intelligence for Big Data Analytics	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =06			

Total Credit for Semester V+VI+VII+VIII = 20

*** To be offered as Honours for Major Disciplines as–**

1. Computer Engineering
2. Electronics and TelecommunicationEngineering
3. Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

With effect from 2020-21

Honours* in Internet of Things

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Embedded Systems and Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	Embedded Systems andInternet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
TE & VI	Internet of Things Architectures, Protocols and Systems Programming	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
									Total	Credits =	04		
BE & VII	Machine Learning for Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning for Internet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
BE & VIII	Internet of Things Security	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =	06		

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Honours* in Artificial Intelligence and Machine Learning

With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Computational Statistics	04	--	--	30	70	--	--	--	100	04	--	04
	Computational Programming Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
Total	**Credits =05**												
TE & VI	Artificial Intelligence	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
					Total Credits =04								
BE & VII	Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
					Total Credits =05								

Savitribai Phule Pune University

Honours* in Cyber Security

With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Information and Cyber Security	04	--	--	30	70	--	--	--	100	04	--	04
	Information and Cyber Security Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
TE & VI	Enterprise Architecture and Components	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
									Total	Credits =		04	
BE & VII	Internet of Things and Embedded Security	04	--	--	30	70	--	--	--	100	04	--	04
	Risk Assessment Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
BE & VIII	Information Systems Management	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =		06	

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM-II (2021-2022)

Sr. No.	Name of the Staff	FE Preference 1	SE Preference 2	TE Preference 3	BE Preference 4	Sign
1	Mr.U.C.PATKAR	PPS	SE	AI	ML & LP-III	16/10/2021.
2	Mrs. P.J.CHATE	PPS	SE	DS&BDA	EL-IV	
3	Mr. A.M.INGOLE	PPS	DSA	WT	ML	
4	Mrs. K. BALA M.L.	PPS	DSA	AI	ML	
5	Mr. A.R.PATIL	PPS	SE	Honors Course	EL-IV & LP-IV	
6	Mr. Y.V.KADAM	PPS	OOP	DS&BDA	IACS	
7	Mr. S.S.PAWAR	PPS	SE	EL-II CC	EL-IV CC	
8	Mr. P.P.SALUNKHE	PPS	SE	EL-II	IACS	
9	Mrs. M.A.PATIL	PPS	DSA	Internship	ML	
10	Mrs. P.M.KADAM	PPS	MP	E-II SMD	E-IV	
11	Mrs. P.D.PAWAR	PPS	PPL	WT	ICS	

Note : Every Faculty should give Choice from each Year compulsory.

Date. - 16/10/2021 -

subject choice given till 21/10/2021.

21/10/2021.

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Savitribai Phule Pune University
Second Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
										Total Credit	15	06	01	22
	Total	**15**	**12**	**01**	**150**	**350**	**125**	**75**	**-**	**700**	**-**	**-**	**-**	**-**

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
										Total Credit	15	05	02	22
	Total	**15**	**10**	**02**	**150**	**350**	**150**	**25**	**25**	**700**	**-**	**-**	**-**	**-**

Savitribai Phule Pune University
Third Year of Computer Engineering (2019 Course)
(With effect from Academic Year 2021-22)
Semester VI

Course Code	Course Name	Teaching Scheme (Hours/ week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
310251	Data Science and Big Data Analytics	03	-	-	30	70	-	-	-	100	03			03
310252	Web Technology	03	-	-	30	70	-	-	-	100	03			03
310253	Artificial Intelligence	03	-	-	30	70	-	-	-	100	03			03
310254	Elective II	03	-	-	30	70	-	-	-	100	03			03
310255	Internship	-	04	-	-	-	100	-	-	100		04		04
310256	Data Science and Big Data Analytics Laboratory	-	04	-	-	-	25	-	50	75		02		02
310257	Web Technology Laboratory	-	04	-	-	-	25	50	-	75		02		02
310258	Laboratory Practice II	-	02	-	-	-	50	-	-	50		01		01
310259	Audit Course 6													
	Total	**12**	**14**	**-**	**120**	**280**	**200**	**50**	**50**	**700**	**12**	**09**	**-**	**21**

Elective II

- Information Security
- Augmented and Virtual Reality
- Cloud Computing
- Software Modeling and Architectures

Audit Course 6

- Digital and Social Media Marketing
- Sustainable Energy Systems
- Leadership and Personality Development
- Foreign Language
- MOOC- Learn New Skills

Laboratory Practice II

Assignments from **Artificial Intelligence** and **Elective II**.

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410250	Machine Learning	03	--	30	70	--	--	--	100	03	--
410251	Information and Cyber Security	03	--	30	70	--	--	--	100	03	--
410252	Elective III	03	--	30	70	--	--	--	100	03	--
410253	Elective IV	03	--	30	70	--	--	--	100	03	--
410254	Laboratory Practice III	--	04	--	--	50	50	--	100	--	02
410255	Laboratory Practice IV	--	04	--	--	50	--	*50	100	--	02
410256	Project Work Stage II	--	06	--	--	100	--	*50	150	--	06
								Total	**Credit**	**12**	**10**
Total		**12**	**14**	**120**	**280**	**200**	**50**	**100**	**750**	**22**	
410257	Audit Course 6									**Grade**	

Elective III	Elective IV
410252 (A) Advanced Digital Signal Processing	**410253 (A)** Software Defined Networks
410252 (B) Compilers	**410253 (B)** Human Computer Interface
410252 (C) Embedded and Real Time Operating System	**410253 (C)** Cloud Computing
410252 (D) Soft Computing and Optimization Algorithms	**410253 (D)** Open Elective

410259-Audit Course 6 (AC6) Options:

AC6-I: Business Intelligence
AC6-II: Gamification
AC6-III: Quantum Computing
AC6-IV: Usability Engineering
AC6-V: Conversational Interfaces
AC6-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical
Sem: Semester **PRE:** Project/ Mini-Project Presentation

Savitribai Phule Pune University

Honours* in Cyber Security

With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Information and Cyber Security	04	--	--	30	70	--	--	--	100	04	--	04
	Information and Cyber Security Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
TE & VI	Enterprise Architecture and Components	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
									Total	Credits =		04	
BE & VII	Internet of Things and Embedded Security	04	--	--	30	70	--	--	--	100	04	--	04
	Risk Assessment Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =		05	
BE & VIII	Information Systems Management	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =		06	

Total Credit for Semester V+VI+VII+VIII = 20

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

Honours* in Artificial Intelligence and Machine Learning

With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Computational Statistics	04	--	--	30	70	--	--	--	100	04	--	04
	Computational Programming Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits =05													
TE & VI	Artificial Intelligence	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
Total Credits =04													
BE & VII	Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
Total Credits =05													
BE & VIII	Soft Computing and Deep Learning	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
Total Credits =06													
Total Credit for Semester V+VI+VII+VIII = 20													

* To be offered as Honours for Major Disciplines as–

1. Computer Engineering
2. Electronics and Telecommunication Engineering
3. Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

Honours* in Data Science
With effect from 2020-21

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Data Science and Visualization	04	--	--	30	70	--	--	--	100	04	--	04
	Data Science and Visualization Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
TE & VI	Statistics and Machine Learning	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
								Total	Credits =	04			
BE & VII	Machine Learning and Data Science	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning and Data Science Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
BE & VIII	Artificial Intelligence for Big Data Analytics	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =06			

Total Credit for Semester V+VI+VII+VIII = 20

*** To be offered as Honours for Major Disciplines as–**

1. Computer Engineering

2.Electronics and TelecommunicationEngineering

3.Electronics Engineering

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Savitribai Phule Pune University

With effect from 2020-21

Honours* in Internet of Things

Year & Semester	Course Code and Course Title	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit Scheme		
		Theory	Tutorial	Practical	Mid-Semester	End-Semester	Term work	Practical	Presentation	Total Marks	Theory / Tutorial	Practical	Total Credit
TE & V	Embedded Systems and Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	Embedded Systems andInternet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
TE & VI	Internet of Things Architectures, Protocols and Systems Programming	04	--	--	30	70	--	--	--	100	04	--	04
	Total	04	-	-	100		-	-	-	100	04	-	04
									Total	Credits =	04		
BE & VII	Machine Learning for Internet of Things	04	--	--	30	70	--	--	--	100	04	--	04
	Machine Learning for Internet of Things Laboratory	--	--	02	--	--	50	--	--	50	--	01	01
	Total	04	-	02	100		50	-	-	150	04	01	05
									Total	Credits =	05		
BE & VIII	Internet of Things Security	04	-	--	30	70	--	--	--	100	04	--	04
	Seminar	--	02	--	--	--	-	--	50	50	02	--	02
	Total	04	-	02	100		-	--	50	150	06	-	06
									Total	Credits =	06		
Total Credit for Semester V+VI+VII+VIII = 20													

*** To be offered as Honours for Major Disciplines as–**

1. **Computer Engineering**
2. **Electronics and Telecommunication Engineering**
3. **Electronics Engineering**

For any other Major Disciplines which is not mentioned above, it may be offered as Minor Degree.

Reference: https://www.aicte-india.org/sites/default/files/APH%202020_21.pdf / page 99-100

Bharati Vidyapeeth's College of Engineering

Lavale, Pune- 412 115, Maharashtra State.
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu

Department of Mechanical Engineering

14/12/2021

Notice

All the faculty members are hereby informed to give subject choice for academic year 2021-22 sem II . The subject allocation format is given below.

Sr.No	Name of the Faculty	FE	SE		TE		BE		Sign
		Subject	Subject 1	Subject 2	Subject 1	Subject 2	Subject 1	Subject 2	
1	S.R.Patil	—	Machine Shop	Amp	SE	ML	Amp	IE	
2	A.A.Datarkar	—	FM	AT	AIML	FPCL	EE	IE	
3	N.R.Singh	—	AT	FM	FPCL	DTS	IE	EE	
4	N.N.Raut	—	KOM	ME	ML	AIML	MSD	EE	
5	S.N.Kadam	—	PBL	KOM	DTS	CAE	Composite material	IE	
6	S.Y.Nagwase	—	AT	FM	FPCL	ML	EE	MSD	
7	A.B.Mane	—	MP	PBEEP	AIML	ML	EE	MSD	
8	S.P.Dhamone	EG	KOM	AMP	AIML	DTS	MSD	IE	
9	A.M.Pasarkar	EG	FMPA	KOM	CAE	DTS	MSD	IE	
10	P.G.Rahate	E.G	M.S.	FMPA	ML	SE	Amp	IE	

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S

GROUP OF INSTITUTES, TECHNICAL CAMPUS,

COLLEGE OF ENGINEERING, LAVALE, PUNE

Tal. Mulshi , Dist., Pune - 412 115

Minutes of the Meeting

- Offline classes are expected to be started from 27th December 2021

- All faculties have to collect the journal files of students on edith.

- All faculties are informed to give subject c of SE/ TE / BE / FE for the load allotment of academic year 2021 - 22 sem I

- The academic record book for previous semes should be completed by all faculties.

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : ..... 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : 14/12/21
5. Leave of absence granted to : .....
6. Meeting No. 21 7. Venue : .....

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	S R Patil In Chair	Pune		
2.	A M Pasarkar			
3.	A A Datarkar			
4.	S P Dhamone	Pune		
5.	N N Raut	Pune		
6.	N R Singh	—		
7.	P G Rahate	—		
8.				
9.				
10.				
11.				
12.				
13.				

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Bharati Vidyap[illegible]'s College of Engineering for, Lavale, Pune.
L[illegible]ment of Mechanical Engineering
Faculty wise Teaching Work Load for Semester II (2021-22)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical /Tutorial	Project /Seminar	Total	Total Load	Sign
1	Prof. S. R. Patil	Assistant Professor	BE	Elective-IV Advance Manufacturing Process	3		2	5	12	
			TE	Elective-II (Surface Engineering)	3			3		
			SE	Machine shop		4		4		
2	Prof. A. A. Datarkar	Assistant Professor	SE	Fluid Mechanics	3	6	2	11	15	
			SE	Applied Thermodyanamics	0	4	0	4		
3	Prof. N. Singh	Assistant Professor	SE	Applied Thermodyanamics	3	2	2	7	16	
			BE	Elective III Industrial Engineering	3	6		9		
4	Prof. N. N. Raut	Assistant Professor	SE	Kinematics of Machinary	3	6	2	11	17	
			SE	Measurement Laboratory		4		4		
			SE	Machine shop		2		2		
5	Prof. S. N. Kadam	Assistant Professor	TE	Design of Transmission Syatem	3		2	5	18	
			TE	Computer Aided Engineering		6		6		
			TE	Elective II Composite Material	3	0	0	3		
			SE	Project Based Learning	0	4	0	4		
6	Prof.S.Y.Nagwase	Assistant Professor	BE	Energy Engineering	3	6	2	11	17	
			TE	Fluid power and Control Laboratory		6		6		
7	Prof.A. B. Mane	Assistant Professor	SE	Manufacturing Process	3		2	5	15	
			SE	Project Based Learning		8		8		
			TE	Measurement Laboratory		2		2		
8	Prof. S. P. Dhamone	Assistant Professor	TE	Artificial Intelligence & Machine Learning	3	6	2	11	17	
			BE	Mechanical System Design	4	2		6		
9	Prof. P. G. Rahate	Assosiate Professor	FE (A & B) Sem I	Systems in Mechanical Engineering	6	12	2	20	20	
10	Prof.A. M. Pasarkar	Assistant Professor	TE	Computer Aided Engineering	3		2	5	15	
			TE	Design of Transmission Syatem		6		6		
			BE	Mechanical System Design		4		4		
11	Visiting Faculty	Assistant Professor	SE	Engineering Mathematics- III	3	1		4	4	

Total Workload of Semester I (2021-22) : FE+SE+T E+BE = 18+ 48+58+51 = 175 hrs/week

H. O. D.
Mechanical Engineering
Bharati [illegible]stn's
College Of Engineering, Lavale Pune
HOD Mech

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM - I (2020-2021)

Sr. No.	Name of the staff	FE Subject Choice 1	SE Subject Choice 2	TE Subject Choice 3	BE Subject Choice 4	Sign
1	Prof. U.C PATKAR	PPS.	HSS.	SEPM.	AIR & LP-I	
2	Prof. P.J CHATE	PPS	OOP	CN	DA	
3	Prof. A.M. INGOLE	PPS	Fundamental of DS	CN	HPC	
4	Prof. K. BALA	PPS	OOP	TOC	DA	
5	Prof. A.R PATIL	PPS	OOP	ISEE	Elective - II I	
6	Prof. Y.V KADAM	PPS	OOP	DBMS	DA	
7	Prof. S.S PAWAR	PPS	CG / DM	ISEE	Elective II (D)	
8	Prof. P.P SALUNKHE	PPS	OOP	SEPM	Data Analytics	
9	Prof. M.A PATIL	PPS	Fundamental of DS	CN	AIR	
10	Prof. P.M KADAM	PPS	HSS	SEPM	E-II	
11	Prof. P.D PAWAR	PPS	OOP	DBMS	DA	
12	Prof.	–	DELD	–	–	
13						
14						
15						

4/6/2020

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

TABLE -1 First Engineering _Structure for Semester-I

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
	Total	16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics [Ω]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
	Total	15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

SPPU_SE_Computer_Curriculum_Revision_Proposed_Course_Structure_2019_Course_Jan2020

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
	Discrete Mathematics	03	-	01	30	70	-	-	-	100	03	--	01	04
	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
	Object Oriented Programming	03	-	-	30	70	-	-	-	100	03	-	-	03
	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
	Humanity and Social Science	-	-	01	-	-	-	-	-	-	-	-	-	-
	Data Structures Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
	Computer Graphics Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
	Digital Electronics Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
	Business Communication Skills Lab	-	02	-	-	-	25	-	-	25	-	01	-	01
	Audit Course 3	-	-	-	-	-	-	-	-	-	-	-	-	-
										Total Credit	15	06	01	22
	Total	**15**	**12**	**02**	**150**	**350**	**100**	**100**	**--**	**700**	-		-	

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit			
		Theory	Practical	Tutorial	Mid-Sem	End-Sem	TW	PR	OR	Total	TH	PR	TUT	Total
	Mathematics III	03	-	01	30	70	-	-	-	100	03	--	01	04
	Data Structures & Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
	Data Structures & Algorithms Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
	Microprocessor Lab	-	04	-	-	-	25	50	-	75	-	02	-	02
	Code of Conduct	-	-	01	-	-	-	-	-	-	-	-	-	-
	Project Based Learning	-	04	-	-	-	50	-	-	50	-	02	-	02
	Audit Course 4	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	15	12	02	150	350	100	100	-	700	-	-	-	-
										Total Credit	15	06	01	22

Savitribai Phule University of Pune
Third Year Computer Engineering (2015 Course)
(with effect from 2017-18)

Semester I

Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/ TUT	PR
310241	Theory of Computation	03	--	--	30	70	--	--	--	100	03	--
310242	Database Management Systems (DBMS)	03	--	--	30	70	--	--	--	100	03	--
310243	Software Engineering & Project Management	03	--	--	30	70	--	--	--	100	03	--
310244	Information Systems & Engineering Economics	03	--	--	30	70	--	--	--	100	03	--
310245	Computer Networks (CN)	04	--	--	30	70	--	--	--	100	04	--
310246	Skills Development Lab	--	02	04	--	--	50	--	50	100	02	02
310247	DBMS Lab	--	--	04	--	--	25	50	--	75	--	02
310248	CN Lab	--	--	02	--	--	25	50	--	75	--	01
	Total	16	02	10	150	350	100	100	50	750	Total Credit 18	05
310249	Audit Course 3										23	
											Grade	

310249-Audit Course 3 (AC3) Options:

AC3-I: **Cyber Security**

AC3-II: **Professional Ethics and Etiquettes**

AC3-III: **Emotional Intelligence**

AC3-IV: **MOOC- Learn New Skills**

AC3-V: **Foreign Language (Japanese- Module 3)**

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical **Sem:** Semester

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester I

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410241	High Performance Computing	04	--	30	70	--	--	--	100	04	--
410242	Artificial Intelligence and Robotics	03	--	30	70	--	--	--	100	03	--
410243	Data Analytics	03	--	30	70	--	--	--	100	03	--
410244	Elective I	03	--	30	70	--	--	--	100	03	--
410245	Elective II	03	--	30	70	--	--	--	100	03	--
410246	Laboratory Practice I	--	04	--	--	50	50	--	100	--	02
410247	Laboratory Practice II	--	04	--	--	50	--	*50	100	--	02
410248	Project Work Stage I	--	02	--	--	--	--	*50	50	--	02
	Total	**16**	**10**	**150**	**350**	**100**	**50**	**100**	**Total 750**	**Credit 22**	**06**
410249	Audit Course 5									**Grade**	

Elective I	**Elective II**
410244 (A) Digital Signal Processing	**410245 (A)** Distributed Systems
410244 (B) Software Architecture and Design	**410245 (B)** Software Testing and Quality Assurance
410244 (C) Pervasive and Ubiquitous Computing	**410245 (C)** Operations Research
410244 (D) Data Mining and Warehousing	**410245 (D)** Mobile Communication

410249-Audit Course 5 (AC5) Options:

AC5-I Entrepreneurship Development

AC5-II: Botnet of Things

AC5-III: 3D Printing

AC5-IV: Industrial Safety and Environment Consciousness

AC5-V: Emotional Intelligence

AC5-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical

Sem: Semester ***PRE**: Project/ Mini-Project Presentation

Bharati Vidyapeeth's College of Engineering

Lavale, Pune- 412 115, Maharashtra State.
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu

Department of Mechanical Engineering

Ref. No: BV/COEL/

Date: 04/06/2020

NOTICE

Following faculties are hereby informed that provide your Subject Choice for academic Year 2020-21 Sem-I

Sr. No.	Name	FE	SE		TE		BE		
			Subject Choice 1	Subject Choice 2	Subject Choice 1	Subject Choice 2	Subject Choice 1	Subject Choice 2	sign
1	Prof. S. R. Patil		MP	MS	MSC	Skill Devlp	EAM	Automobile	
2	Prof. A. A. Datarkar		Thermo	MP	Turbo machine	H·T	H&P	EAM	
3	Prof. N. R. Singh		Thermo	MP	HT	TM	HVAC	EAM	
4	Prof. N. N. Raut		SOM	MS	H·T.	TOM II	Automobile Engg-Electric	FEA	
5	Prof. S. S. Tambade		~~MS~~		skill dev		DOM	Auto.	
6	Prof. S. N. Kadam		CAMD	MP-I	SD		CCA	BAE	
7	Prof. S. Y. Nagwase		Thermo	~~Turbo~~ MS	Turbo	SD	H&P	EAM	
8	Prof. S. P. Dhamone		CAMD	MS	MCQ	TOM-2 / SD	HVAC / Auto Engg	CAD/CAM	
9	~~Prof. V.C. Khapper~~								
10	Prof. A. B. Mane		MP-I	CAMD	MSC	Skill Development	Energy Audit & Management	CAD CAM Automation	
11	Prof. P. G. Rahate	SME	MP	MS	SKILL D.	MSC			
12	Prof. S. R. Kale		CAMD	MS	DMEI	TOM II / SD	Automobile / OR	CAD/CAM	
13	Prof. Mrs A. M. Pasarkar				Leave				

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Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester I (2020-21)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/ Tutorial	Project /Seminar	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	SE	Engineering Materials and Mettalurgy	3	6		9	15
			FE	Workshop Practice		6		6	
2	Prof. A. A. Datarkar	Assistant Professor	SE	Engineering Thermodynamics	3	6		9	17
			BE A	Hydraulics and Pneumatics	4	4		8	
3	Prof. N. Singh	Assistant Professor	TE	Heat Transfer	4	6		10	19
			BE (A & B)	HVAC	3	6		9	
4	Prof. N. N. Raut	Assistant Professor	BE (A & B)	E II Automobile Engineering	3	0		3	17
			SE	Solid Mechanics	4	6		10	
			FE	Workshop Practice		4		4	
5	Prof. S. S. Tambade	Assistant Professor	BE (A & B)	Dynamics of Machine	8	12		20	20
6	Prof. S. N. Kadam	Assistant Professor	BE (A & B)	CAD-CAM & Automation	6	12		18	18
7	Prof. S.Y. Nagwase	Assistant Professor	TE	Turbo Machines	3	6		9	17
			BE B	Hydraulics and Pneumatics	4	4		8	
8	Prof.A. B. Mane	Assistant Professor	SE	Solid Modelling and Drafting	3	6		9	18
			SE	Geometric Dimensioning and Tolerancing Lab		6		6	
			BE	Energy Audit and Management	3			3	
9	Prof. S. P. Dhamone	Assistant Professor	TE	TOM- II	3	6		9	16
			BE (A & B)	E1 FEA	3	2		5	
			FE	Workshop Practice		2		2	
10	Prof. S. R. Kale	Assistant Professor	TE	Design of Machine Elements - I	4	6		10	16
			BE (A & B)	HVAC		6		6	
11	Prof. P. G. Rahate	Assistant Professor	TE	Metrology and Quality control	3	6		9	15
			TE	Skill Development		6		6	
12	Prof.A. M. Pasarkar	Assistant Professor	FE	Systems in Mechanical Engineering	6	12		18	18

SNK
Mr. S. N. Kadam

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College of Engineering for Lavale Pune

S.R.Patil

Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester II (2020-21)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/ Tutorial	Project/ Seminar	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	BE (A&B)	Advanced Manufacturing Processes (EL-IV)	6			6	12
			SE	Machine Shop-I		6		6	
2	Prof. A. A. Datarkar	Assistant Professor	SE	Fluid Mechanics	3	6		9	9
3	Prof. N. Singh	Assistant Professor	BE (A&B)	Energy Engineering	6	12		18	18
4	Prof. N. N. Raut	Assistant Professor	SE	Kinematics of Machinery	3	6		9	11
				Project Based Learning - II		2		2	
5	Prof. S. S. Tambade	Assistant Professor	SE	Applied Thermodynamics	3	6		9	11
				Project Based Learning - II		2		2	
6	Prof. S. N. Kadam	Assistant Professor	TE	Mechatronics	3	6		9	11
				Systems In Mechanical Engineering (Practical)		2		2	
7	Prof. S.Y. Nagwase	Assistant Professor	TE	Refrigeration and Air Conditioning	3	6		9	15
				Systems In Mechanical Engineering (Practical)		4			
				Seminar(Incharge)		**2**		**2**	
8	Prof.A. B. Mane	Assistant Professor	TE	Manufacturing -Process-II	3			3	9
			TE	Machine Shop-II		6		6	
9	Prof. S. P. Dhamone	Assistant Professor	BE (A&B)	Mechanical System Design	8	12		20	20
10	Prof. S. R. Kale	Assistant Professor	TE	Design of Machine Elements - II	4	6		10	13
			FE	Systems In Mechanical Engineering	3			3	
11	Prof. P. G. Rahate	Assistant Professor	SE	Manufacturing -Process	3			3	12
			FE	Systems In Mechanical Engineering	3+3	6+6		9	
12	Prof.A. M. Pasarkar	Assistant Professor	TE	Numerical Methods and Optimization*	4	6		10	10
13	Visiting		SE	Engineering Mathematics - III	3	1		4	4
14	Visiting		BE	Industrial Engineering (EL-III)	6	12		18	18
19			SE	Audit Course - IV				0	0

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Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester II (2020-21)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/ Tutorial	Project/ Seminar	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	BE (A&B)	Advanced Manufacturing Processes (EL-IV)	6			6	12
			SE	Machine Shop-I		6		6	
2	Prof. A. A. Datarkar	Assistant Professor	SE	Fluid Mechanics	3	6		9	9
3	Prof. N. Singh	Assistant Professor	BE (A&B)	Energy Engineering	6	12		18	18
4	Prof. N. N. Raut	Assistant Professor	SE	Kinematics of Machinery	3	6		9	11
				Project Based Learning - II		2		2	
5	Prof. S. S. Tambade	Assistant Professor	SE	Applied Thermodynamics	3	6		9	11
				Project Based Learning - II		2		2	
6	Prof. S. N. Kadam	Assistant Professor	TE	Mechatronics	3	6		9	11
				Systems In Mechanical Engineering (Practical)		2		2	
7	Prof. S.Y. Nagwase	Assistant Professor	TE	Refrigeration and Air Conditioning	3	6		9	15
				Systems In Mechanical Engineering (Practical)		4			
				Seminar(Incharge)		2		2	
8	Prof.A. B. Mane	Assistant Professor	TE	Manufacturing -Process-II	3			3	9
			TE	Machine Shop-II		6		6	
9	Prof. S. P. Dhamone	Assistant Professor	BE (A&B)	Mechanical System Design	8	12		20	20
10	Prof. S. R. Kale	Assistant Professor	TE	Design of Machine Elements - II	4	6		10	13
			FE	Systems In Mechanical Engineering	3			3	
11	Prof. P. G. Rahate	Assistant Professor	SE	Manufacturing -Process	3			3	12
			FE	Systems In Mechanical Engineering	3+3	6+6		9	
12	Prof.A. M. Pasarkar	Assistant Professor	TE	Numerical Methods and Optimization*	4	6		10	10
13	Visiting		SE	Engineering Mathematics - III	3	1		4	4
14	Visiting		BE	Industrial Engineering (EL-III)	6	12		18	18
19			SE	Audit Course - IV				0	0

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE

DEPARTMENT OF COMPUTER ENGINEERING

SUBJECT CHOICE FOR SEM-II (2020-2021)

Sr. No.	Name of the Staff	Preference 1	Preference 2	Preference 3	Preference 4	Sign
1	Mr.U.C.PATKAR	ML	LP-III	SMD	MP	
2	Mrs. P.J.CHATE	SPOS	ML	DSA	SMD	
3	Mr. A.M.INGOLE					
4	Mrs. K. BALA	ESIOT	ML	DSA	SE	
5	Mr. A.R.PATIL					
6	Mr. Y.V.KADAM	DAA (TE)	IACS (BE)	SMD (TE)	SE (SE)	
7	Mr. S.S.PAWAR	E-IV(HCI)	Information & Cybersecurity	SE	E-III	
8	Mr. P.P.SALUNKHE	SMD	IACS	PPL	SE	
9	Mrs. M.A.PATIL	PSA (SE)	SPOS (TE)	MLC BE)	SMD (TE)	
10	Mrs. P.M.KADAM	ESIOT (TE)	E-IV (BE)	SE (SE)	ICS (BE)	
11	Mrs. P.D.PAWAR	WT. (TE)	PPL (SE)	ICS (BE)	PPS (FE)	

Note : Every Faculty should give Choice from each Year compulsory.

TABLE -1 First Engineering _Structure for Semester-I														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107001	Engineering Mathematics-I	03	--	01	30	70	25	--	--	125	03	--	01	04
107002/ 107009	Engineering Physics / Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
102003	Systems in Mechanical Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
111006	Workshop[@]	--	02	--	--	--	--	25	--	25	--	01	--	01
Total		16	10	01	150	350	25	125	--	650	16	05	01	22
101007	Audit Course 1[&]	02	Environmental Studies-I											

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

TABLE -2 First Engineering_ Structure for Semester-II														
Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credits			
		Theory	Practical	Tutorial	ISE	ESE	TW	PR	OR	Total	TH	PR	TUT	Total
107008	Engineering Mathematics-II	04	--	01	30	70	25	--	--	125	04	--	01	05
107002/ 107009	Engineering Physics/ Engineering Chemistry	04	02	--	30	70	--	25	--	125	04	01	--	05
103004 / 104010	Basic Electrical Engineering / Basic Electronics Engineering	03	02	--	30	70	--	25	--	125	03	01	--	04
110005/ 101011	Programming and Problem Solving / Engineering Mechanics	03	02	--	30	70	--	25	--	125	03	01	--	04
102012	Engineering Graphics[¤]	01	02	01	--	50	25		--	75	01	01		02
110013	Project Based Learning[§]	--	04	--	--	--	25	50	--	75	--	02	--	02
Total		15	12	02	120	330	75	125	--	650	15	05	02	22
101014	Audit Course 2[&]	02	Environmental Studies-II											
107015		--	Physical Education-Exercise and Field Activities											

Savitribai Phule Pune University

Second Year of Computer Engineering (2019 Course)

(With effect from Academic Year 2020-21)

Semester-III

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
210241	Discrete Mathematics	03	-	-	30	70	-	-	-	100	03	--	-	03
210242	Fundamentals of Data Structures	03	-	-	30	70	-	-	-	100	03	-	-	03
210243	Object Oriented Programming (OOP)	03	-	-	30	70	-	-	-	100	03	-	-	03
210244	Computer Graphics	03	-	-	30	70	-	-	-	100	03	-	-	03
210245	Digital Electronics and Logic Design	03	-	-	30	70	-	-	-	100	03	-	-	03
210246	Data Structures Laboratory	-	04	-	-	-	25	50	-	75	-	02	-	02
210247	OOP and Computer Graphics Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210248	Digital Electronics Laboratory	-	02	-	-	-	25	-	-	25	-	01	-	01
210249	Business Communication Skills	-	02	-	-	-	25	-	-	25	-	01	-	01
210250	Humanity and Social Science	-	-	01	-	-	25	-	-	25	-	-	01	01
210251	Audit Course 3													
									Total	Credit	15	06	01	22
	Total	15	12	01	150	350	125	75	-	700	-	-	-	-

Semester-IV

Course Code	Course Name	Teaching Scheme (Hours/Week)			Examination Scheme and Marks						Credit Scheme			
		Lecture	Practical	Tutorial	Mid-Sem	End-Sem	Term work	Practical	Oral	Total	Lecture	Practical	Tutorial	Total
207003	Engineering Mathematics III	03	-	01	30	70	25	-	-	125	03	--	01	04
210252	Data Structures and Algorithms	03	-	-	30	70	-	-	-	100	03	-	-	03
210253	Software Engineering	03	-	-	30	70	-	-	-	100	03	-	-	03
210254	Microprocessor	03	-	-	30	70	-	-	-	100	03	-	-	03
210255	Principles of Programming Languages	03	-	-	30	70	-	-	-	100	03	-	-	03
210256	Data Structures and Algorithms Laboratory	-	04	-	-	-	25	25	-	50	-	02	-	02
210257	Microprocessor Laboratory	-	02	-	-	-	25	-	25	50	-	01	-	01
210258	Project Based Learning II	-	04	-	-	-	50	-	-	50	-	02	-	02
210259	Code of Conduct	-	-	01	-	-	25	-	-	25	-	-	01	01
210260	Audit Course 4													
									Total	Credit	15	05	02	22
	Total	15	10	02	150	350	150	25	25	700	-	-	-	-

Savitribai Phule University of Pune
Third Year Computer Engineering (2015 Course)
(with effect from 2017-18)

Semester II

Course Code	Course	Teaching Scheme Hours / Week			Examination Scheme and Marks						Credit	
		Theory	Tutorial	Practical	In-Sem	End-Sem	TW	PR	OR	Total	TH/TUT	PR
310250	Design & Analysis of Algorithms	04	--	--	30	70	--	--	--	100	04	
310251	Systems Programming & Operating System (SP & OS)	04	--	--	30	70	--	--	--	100	04	--
310252	Embedded Systems & Internet of Things (ES & IoT)	04	--	--	30	70	--	--	--	100	04	--
310253	Software Modeling and Design	03	--	--	30	70	--	--	--	100	03	--
310254	Web Technology	03	--	--	30	70	--	--	--	100	03	--
310255	Seminar & Technical Communication	--	01	--	--	--	50	--	--	50	01	--
310256	Web Technology Lab	--	--	02	--	--	25	50	--	75	--	01
310257	SP & OS Lab	--	--	04	--	--	25	50	--	75	--	02
310258	ES & IoT Lab	--	--	02	--	--	50	--	--	50	--	01
									Total	Credit	19	04
	Total	18	01	08	150	350	150	100	--	750	23	
310259	Audit Course 4										Grade	

310259-Audit Course 4(AC4) Options:

AC4-I: Digital and Social Media Marketing **AC4-II:** Green Computing
AC4-III: Sustainable Energy Systems **AC4-IV:** Leadership and Personality Development
AC4-V: Foreign Language (Japanese- Module 4)

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **TUT:** Tutorial **PR:** Practical Sem: Semester

Savitribai Phule Pune University
Fourth Year of Computer Engineering (2015 Course)
(with effect from 2018-19)

Semester II

Course Code	Course	Teaching Scheme Hours / Week		Examination Scheme and Marks						Credit	
		Theory	Practical	In-Sem	End-Sem	TW	PR	OR/ *PRE	Total	TH/ TUT	PR
410250	Machine Learning	03	--	30	70	--	--	--	100	03	--
410251	Information and Cyber Security	03	--	30	70	--	--	--	100	03	--
410252	Elective III	03	--	30	70	--	--	--	100	03	--
410253	Elective IV	03	--	30	70	--	--	--	100	03	--
410254	Laboratory Practice III	--	04	--	--	50	50	--	100	--	02
410255	Laboratory Practice IV	--	04	--	--	50	--	*50	100	--	02
410256	Project Work Stage II	--	06	--	--	100	--	*50	150	--	06
									Total	**Credit**	
Total		**12**	**14**	**120**	**280**	**200**	**50**	**100**	**750**	**22**	
410257	Audit Course 6									**Grade**	

Elective III	Elective IV
410252 (A) Advanced Digital Signal Processing	**410253 (A)** Software Defined Networks
410252 (B) Compilers	**410253 (B)** Human Computer Interface
410252 (C) Embedded and Real Time Operating System	**410253 (C)** Cloud Computing
410252 (D) Soft Computing and Optimization Algorithms	**410253 (D)** Open Elective

410259-Audit Course 6 (AC6) Options:

AC6-I: Business Intelligence
AC6-II: Gamification
AC6-III: Quantum Computing
AC6-IV: Usability Engineering
AC6-V: Conversational Interfaces
AC6-VI: MOOC- Learn New Skills

Abbreviations:

TW: Term Work **TH:** Theory **OR:** Oral **PR:** Practical
Sem: Semester **PRE**: Project/ Mini-Project Presentation

Bharati Vidyapeeth's College of Engineering

Lavale, Pune- 412 115, Maharashtra State.
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Department of Mechanical Engineering

Ref. No: BV/COEL/

Date: 11/10/2019

NOTICE

Following faculties are hereby informed that provide your Subject Choice for academic Year 2019-20 Sem-II

Sr. No.	Name	FE	SE		TE		BE	
			Subject Choice 1	Subject Choice 2	Subject Choice 1	Subject Choice 2	Subject Choice 1	Subject Choice 2
1	Prof. S. R. Patil		Meta		MP-II		AMP	
2	Prof. A. A. Datarkar		AT	S.S	RAC Practl		E.E	
3	Prof. N. R. Singh		AT	S.S.	RAC Practical	—	E.E	IE
4	Prof. N. N. Raut		EM	S.S	RAC practical	—	Energy Engineering	AMP
5	Prof. S. S. Tambade		AT	S.S	—	—	IE	Project
6	Prof. S. N. Kadam	EG-I	—	—	NMO	—	OR	IE
7	Prof. S. Y. Nagwase		FM Practical		RAC (Seminar)	Seminar	EE	—
8	Prof. S. P. Dhamone	Engg Graphics	Meta Practical	SS	Mechatronics	MP-2	Industrial Engg	Robotic
9	Prof. V.C. Khapper	—	—	—	—	—	—	—
10	Prof. A. B. Mane	L	META	~~MP-I~~	MP II	—	Energy Engineering	—
11	Prof. P. G. Rahate	E.G.					~~AMP~~	IE
12	Prof. S. R. Kale		TOMI	SS	NMO	—	PDD	—
13	Prof. Mrs A. M. Pasarkar		—		DME-II			

Visiting ELE

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Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester I (2019-20)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical/ Tutorial	Project/Semina	Total	Total Load
1	Prof. S. R. Patil	Assistant Professor	TE A	Skill Development		6		6	15
			SE A	Manufacturing Process-I	3	6		9	
2	Prof. A. A. Datarkar	Assistant Professor	FE A B C	Workshop Practice		8		8	18
			SE (A & B)	Thermodynamics	4	6		10	
3	Prof. N. Singh	Assistant Professor	TE (A & B)	Heat Transfer	8	12		20	20
4	Prof. N. N. Raut	Assistant Professor	FE A B C	Workshop Practice		4		4	17
			BE (A & B)	E II Automobile Engineering	3	0		3	
			SE B	Strength of Materials	4	6		10	
5	Prof. S. S. Tambade	Assistant Professor	BE (A & B)	Dynamics of Machine	8	12		20	20
6	Prof. S. N. Kadam	Assistant Professor	BE (A & B)	CAD-CAM & Automation	6	12		18	18
7	Prof. S.Y. Nagwase	Assistant Professor	BE (A & B)	Turbo Machines	6	12		18	18
8	Prof.A. B. Mane	Assistant Professor	TE (A & B)	Metrology and Quality Control	6	12		18	18
9	Prof.V. C. Khapper	Assistant Professor	TE A & B	Language Lab		12		12	18
			SE A	Material Science	3	3		6	
10	Prof. S. P. Dhamone	Assistant Professor	SE A	CAMD	1	6		7	16
			BE (A & B)	E1 HVAC	3	6		9	
11	Prof. S. R. Kale	Assistant Professor	SE A	Design of Machine Elements - I	8	12		20	20
12	Prof. P. G. Rahate	Assistant Professor	FE (A & B)	Engineering Graphics I	3	6		9	15
			TE B	Skill Development		6		6	
13	Prof.A. M. Pasarkar	Assistant Professor	FE (A & B)	Engineering Graphics I	6	12		18	18

Mr. S. N. Kadam
Time Table Incharge

H. O. D.
HOD Mech
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETHS , COLLEGE OF ENGINEERING, LAVALE -PUNE
Department of Mechanical Engineering

Subject choice for 2019-20 Sem-I

Sr. No	Name of Faculty	Choice - I	Choice-II	Alloted	Sign
1	Prof. S. R. Patil	MP-I			
2	Prof. A. A. Datarkar	H&P (BE)	Thermo (SE)	HCP BE	
3	Prof. N. Singh 13	MT TE	Thermodynamics SE	Thermo SE	
4	Prof. N. N. Raut 13	SOM SE	Automobile Engg BE	SOM SE	
5	Prof. S. S. Tambade	SOM BE	Automobile Engg BE	DOM BE	
6	Prof. S. N. Kadam	CCA (BE)	FEA (BE)	CCA BE	
7	Prof. S. Y. Nagwase 18	~~FAM~~ TM (BE)	H&P	TM TE	
8	Prof. S. P. Dhamone 21	CAMD	Material science	~~CAMD~~ MC BE	
9	Prof. V.C.Khapper	~~FAM~~ (BE)	Thermo (SE)	IMS SE	
10	Prof. A. B. Mane	MDC	MP-I	MDC TE	
11	Prof. P. G. Rahate	M.P-I (S.E)	S.D (EE); EG-I (FE)		
12	Prof. S. R. Kale DME	H&P (BE)	Automobile Engg (BE	~~H&P~~ DME BE	
13	Prof. Mrs A. A. Pasarkar	EG-I	FEA		

All above pl. provide your subject choice for upcoming semester for FE, SE, TE & BE

H.O.D

SE : A = 19+
TE : A + B
BE : A + B

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Bharati Vidyapeeth's College of Engineering for, Lavale, Pune.
Department of Mechanical Engineering
Faculty wise Teaching Work Load for Semester II (2019-20)

Sr. No	Name of Staff Member	Designation	Class	Subject	Lecture	Practical	Tutorial	Project/Semina	Total	Total Load	Sign
1	Prof. S. R. Patil	Assistant Professor	BE (A & B)	AMP	6			2	6	12	
			SE	MS-1		4			4		
2	Prof. A. A. Datarkar	Assistant Professor	SE	FM	4	6		2	10	18	
			TE (A & B)	MS-I		2			2		
			SE	SS		4			4		
3	Prof. N. Singh	Assistant Professor	BE (A & B)	EE	6	12		2	20	20	
4	Prof. N. N. Raut	Assistant Professor	SE	TOM-I	4			2	4	17	
				EM	3	6			9		
			TE (A & B)	MS-II		2			2		
5	Prof. S. S. Tambade	Assistant Professor	SE	AT	4	6		2	12	18	
			SE	TOM-II		6			6		
6	Prof. S. N. Kadam	Assistant Professor	TE (A & B)	MTX	6	10		2	16	18	
7	Prof. S.Y. Nagwase	Assistant Professor	TE (A & B)	RAC	6	10		2	18	20	
8	Prof.A. B. Mane	Assistant Professor	TE (A & B)	MP-II	6			2	8	18	
			TE (A & B)	MS-II		8			8		
			SE	SS		2					
10	Prof. S. P. Dhamone	Assistant Professor	BE (A & B)	MSD	8	12			20	20	
11	Prof. S. R. Kale	Assistant Professor	TE (A & B)	NMO	8	10		2	18	20	
	Prof. P. G. Rahate	Assistant Professor	FE (A & B)	EG	2	12	2	2	16	18	
13	Prof.A. M. Pasarkar	Assistant Professor	TE (A & B)	DME-II	8	10		2	18	20	
14		Visiting-I	SE	EEE	3	6			9	9	
15		Visiting-II	BE (A & B)	IE	6	10			16	16	

Mr. S. Y. Nagwase
Time Table Incharge

HOD Mech

Mechanical Engineering
Bharati Vidyapeeth's
College of Engineering

PROFILE OF FACULTY



1. **Name :** Prof Atul B. Wani
2. **Date of Birth :** 13 - 01 - 1976
3. **Educational Qualification :** M. Tech.
4. **Work Experience :** (No. of Years)

   Teaching : ~~17~~ 17 yrs. Research : _____

   Industry : 05 yrs. Others : _____
5. **Area of Specialization :** Electronic product Design.
6. **Courses Teaching :**

Sr. No.	Class	Subject	L	P	Tut	Total
1	B.E(E&TC)	E.P.D.	03	00	–	03
2	TE (E&TC)	S.D.	–	06	–	06
3	BE(E&TC)	Project	–	02	–	02

7. **UG Projects Ongoing :**

1.	Smart monitor of wire harnessing & tracing fault at remote location
2.	
3.	
4.	

8. **Research Projects :** _____ Nos.
9. **Technology Transfer :**

   _____

   _____
10. Awards : _____
11. Membership of Professional Bodies : _____

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

TEACHING LOAD

Sr. No.	Class	Subject	L	P	T	Total
1.	BE(E&TC)	E · P · D	03	–	–	03
2.	T.E (E&TC)	S · D	–	06	~~06~~	06
3.	BE(E&TC)	Project	–	02	–	02
4.						
5.						
6.						
		Total				11

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9:30-10:30		EPD(L)	EPD(L)	SD(C)	SD (B)	
10:30-11:30	SP(A)					
11:30-12:30	TE				PROJECT	
12:30-1:15 pm	R	E	C	E	S	S
1:15-2:15 pm	EPD					
2:15-3:30 pm	R	E	C	E	S	S
2:3-3:30						
3:30-4:30						

Remarks :

LESSON PLAN

Class : BE Sem. : I Subject : E.P.D Lectures Per Week : 04 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
01	Unit (I)	25/7/22	Overview of System Engineering, System Perspective
02	Intro. to EPD	26/7/22	Documentation, Concept development, Requirement
03		27/7/22	Design development, Rapid Prototyping & Beldt
04		01/8/22	Validation, verification, & Integration.
05		02/8/22	maintenance & life cycle cost, failure, Iteration,
06		03/8/22	Good Engg. Heuristic, Teamwork & Trust
07	Unit II	08/8/22	Symbol to Substance, Convert requirement into desi
08	C.D. &	10/8/22	Reliability, fault tolerance, High Speed Design
09	T.M.	11/8/22	Low Power Design, Noise & Error Budget,
10		17/8/22	Standard data buses & Networks. Power failure de
11		22/8/22	I/O board, Evaluation boards, Prototypes.
12	Unit III	23/8/22	Types of S/W, Traditional S/W cycles.
13	S.D.	24/8/22	models, matrices, & Software limitations.
14	& T.M.	29/8/22	Risk abatement & failure Preventions.
15		30/8/22	Software bugs & Testing.
16		05/9/22	Good Programming Practices, User Interface
17		06/9/22	Embedded RTOS, Case studies.
18		7/9/22	Design Examples.
19	Unit IV	12/9/22	Circuit Boards, Component Placement, Routing Signal
20	PCB	13/9/22	Ground & returns & shields, Connectors & Cable
21	Design	14/9/22	Design for Mfr. Testing & maintenance,
22		19/9/22	Power Conversion, choices, Power distribution,
23		20/9/22	line Conditioning, EMI, Heat transfer Mod
24		21/9/22	Heat Sink Selection, fans & Forced Cooling

Signature of Faculty ABro HOD ABrand

ACTUAL COVERAGE

Class : BE Sem. : I Subject : E.P.D Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
26/7/22	overview of System Engineering.	
28/7/22	System Perspective, Documentation, Conceptdevelop	
01/08/2022	Design Development, Rapid Prototyping & Field testing	
02/08/2022	Validation, Verification & Integration.	
12/08/2022	maintainace & life cycle cost	
17/08/2022	failure, Iteration	
18/08/2022	Good Engineering, Heuristic, Teamwork	
22/08/2022	Trust, question on Unit-I Discussion.	
25/08/2022	Symbol of Substance, Convert requirement into Design	
07/09/2022	Reliability, fault tolerance System, High speed design	
08/9/22	Noise & Error Indirect, Proper failure detection, Flowchart	
12/9/22	Evaluation based, Prototypes, Types of S/W	
14/9/22	models, matrices & S/W Limitations	
15/9/22	Risk abatement & Failure Prevention, Global Testing	
19/9/22	Good Programming Practices, User interface, Embedded H&S	
21/9/22	Class based Component, Routing technologies, Ground Network Shield	
22/9/22	Testing & maintenance, Power Conversion choices, Wire Cooling	
28/9/22	EMI, Heat Transfer Mediums, Heat Sink Selection, Passive Forced Cooling	
29/9/22	Evaporative & recirculation, Trade off in design.	
10/10/2022	Steps of debugging, Technique for Troubleshooting	
12/10/2022	Electromechanical Component, Passive & Active Component	
13/10/2022	Prototyping, testing, Integration, Validation, Manufacturing	
17/10/2022	Verification, Procurement, Manufacturing	
03/11/22	Maintenance & Repair, Inspection,	
03/11/2022	Test of Component, A-D Conversion, Digital Control	
07/11/2022	Definition, need of documentation	
08/11/2022	Types of documents & records	

Signature of Faculty

LESSON PLAN

Class : BE Sem. : I Subject : E.P.D Lectures Per Week : 05 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25		26/9/22	Evaporation & refrigeration Trade offs in design
26	Unit V	27/9/22	Steps of debugging, Techniques for Troubleshooting
27		28/9/22	characterization, Electromechanical Components.
28		03/10/22	passive Component, Active components.
29		04/10/22	Active Devices, A-D Conversion, Digital Comp.
30		10/10/22	Inspection & Test of Components,
31		11/10/22	Prototyping & Testing, Integration, Validation,
32		12/10/22	& verification., Procurement, manufacturing,
33		17/10/22	maintenance & repair.
34	Unit VI	18/10/22	Definition, need of documentation
35		19/10/22	Types of documents, Records,
36		01/11/22	Accountability & liability, Audience
37		02/11/22	Preparation, Presentation, Preservation of
38		03/11/22	documents, B.O.M.

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : BE Sem. : I Subject : E.P.D Lectures Per Week : 5 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
08/09/2022	Accountability, liability, Audience	
03/11/2022	Presentation of documents	

Signature of Faculty

Session : 2022 / 2023 Semester : VII

Branch : Electronics & Telecommunicatn

COLLEGE OF

Roll No.	Name of the Student	Date	26/8/22	01/9/22	2/9/22	7/9/22	12/9/22	19/9/22	22/9/22	25/9/22	27/9/22	30/9/22	12/10/22	14/10/22	15/10/22	19/10/22	21/10/22	24/10/22	28/10/22	29/10/22	01/11/22	10/11/22	13/11/22	17/11/22
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
01	Akash Kamble			1	2	3	4			5			6	7	8						9	10		11
02	Rushikaraj Vernekar		1	2	3		4					5	6	7	8	9	10	11		12		13	14	
03	Pawar Bhavana S			1			2	3	4	5			6			7		8		9	10		11	12
04	Yash chaubhare				1		2		3					4	5					6			7	8
05	Shubhangi Kakade							1					2	3						4	5	6	7	
06	Ammutkar Ruchi D.							1					2			3				4	5	6	7	8
07	Ammut Jadhav				1									2				3	4	5		6	7	8
08	Gaupal Aryan P				1	2						3		4		5				6	7	8	9	10
09	Raj Nikam						1								2	3		4		5		6		
10	Animesh more					1				1				2						3		4	5	
11	Janhavi Gudadhe							1	2		3			4	5		6			7	8	9	10	11
12	Himanshu Dethe					1								2						3		4		5
13	Rajdeep S. Kore													1		2	3			4		5	6	7
14	Vyankat Mahapure							1	2	3	4		5		6	7				8	9	10	11	12
15	Akash Poddar													1						2		3		
16	Vedika Samporate							1			2									3	4	5	6	7
17	Rupali Shinde							1			2	3				4				5	6	7	8	
18	Karan Ahire			1			2			3			4							5		6	7	8
19	Vishal Sharma						1								2					3	4	5	6	7
20	Ankit Wankhade																				2		3	
21	Alisha Singh								1		2				3		4			5		6	7	8

Signature of Faculty :-

ENGINEERING, LAVALE

Name of Subject : Electronics Product Development

03/11/22	04/11/22	06/11/22	07/11/22	08/11/22	08/11/22	09/11/22																									Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
12	13	14	15	·	16	17																										
15	16	17	·	18	19	20																										
14	15	16	17	18	19	20																										
10	4	·	12	13	·	14																										
10	11	·	·	12	13	·																										
9	10	11	·	12	13	14																										
9	10	11	12	13	14	15																										
12	13	14	15	16	·	17																										
8	9	10	11	·	12	13																										
6	7	8	·	9	10	11																										
13	14	15	16	·	17	18																										
7	8	9	10	11	12	13																										
9	10	11	·	12	13	14																										
17	15	16	17	·	18	19																										
5	·	·	6	·	7	8																										
8	9	10	11	·	12	13																										
11	12	·	13	14	15	·																										
10	11	12	13	·	14	15																										
9	10	11	·	12	13	·																										
5	·	6	·	7	·	8																										
9	10	11	·	12	13	14																										
17/11/22	17/11/22	17/11/22	17/11/22	17/11/22	17/11/22	17/11/22																										

PLAN & ACTUAL COVERAGE OF LABORATORY WORK

Class : T.E

Batch : ~~B~~ 'A'

Sr. No.	Name of Experiment / Assignment / Drawing sheet	Planned Date	Date of Completion	Signature	
				Faculty	HOD
01	Case Studies on Study, Testing & Maintenance of Battery	25/7/22	08/8/22	ABro	ABro
02	Case study on Automotive electronics.	8/8/22	21/8/22	ABro	
03	Troubleshooting & maintenance of Power Supply	22/8/22	12/9/22	ABro	
04	Design & Simulate SMPS Design.	12/9/22	19/9/22	ABro	ABro
05	Design & Simulate PID Controller based on OPAMP	26/9/22	03/10/22	ABro	
06	Industrial visit	10/10/22	—	—	
07	DC-DC boost converter Design	24/10/22	29/10/22	ABro	ABro

PLAN & ACTUAL COVERAGE OF LABORATORY WORK

Class : T.E. Batch : B1

Sr. No.	Name of Experiment / Assignment / Drawing sheet	Planned Date	Date of Completion	Signature	
				Faculty	HC
01	Case Studies on Study, Testing & Maintnce, of Batteries	29/7/22	2/8/22	ABw	
02	Case Study on Automative electronics	12/8/22	22/8/22	ABw	ABw
03	Troubleshooting & Maintnence of Power Supplies	26/8/22	09/09/22	ABw	
04	Design & Simulate SMPS Design	09/9/22	16/9/22	ABw	
05	Design & Simulate PID Controller based on OPAmp	23/9/22	19/10/22	ABw	AB
06	Industrial visit	10/10/22	—	—	
07	DC-DC boost Converter Design	19/10/22	26/10/22	ABw	ABw

PLAN & ACTUAL COVERAGE OF LABORATORY WORK

Class : T.E. Batch : 'C'

Sr. No.	Name of Experiment / Assignment / Drawing sheet	Planned Date	Date of Completion	Signature	
				Faculty	HOD
01	Case studies on study, testing, & maintenance of battery	28/7/22	11/8/22	APho	APho
02	Case study on Automotive electronics	11/8/22	25/8/22	APho	
03	Troubleshooting & maintenance of Power Supplies	25/8/22	08/9/22	APho	
04	Design & Simulate SMPS Design	08/9/22	22/9/22	APho	APho
05	Design & Simulate PID controller based on OPAMP	22/9/22	29/9/22	APho	
06	Industrial visit	10/10/22	—	—	
07	DC-DC boost converter Design	22/10/22	29/10/22	APho	APho

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	01/08	15/08	25/8/18	05/9/18	15/9/18	22/9/18	13/10/18						Expt. No. 01					Expt. No. 02				
			1	2	3	4	5	6	7	8	9	10	11	12	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks
01	Krishna A. Aade		1	2	3	4	5	6	.						1/8	03	05	11	19	18/8	04	05	11	
02	Tushar Lodha		1	2	.	3	.	4	.						1/8	04	05	11	20	18/8	04	05	12	
03	Dhumal Rutuja V.		.	1	2	3	.	4	.						1/8	03	05	13	21	18/8	04	04	12	
04	Alisha A. Kharat		.	.	.	.	.	.	.						1/8	04	05	12	21	18/8	03	04	12	
05	Vinayak Jagdale		1	2	3	.	4	5	.						1/8	04	05	12	21	18/8	03	04	11	
06	Tejay Charan		1	2	.	3	.	4	.						1/8	04	04	12	20	18/8	04	03	12	
07	Samadhan Gayke		.	.	.	1	.	2	.						1/8	03	04	12	19	18/8	04	03	12	
08	Gadekar Shailaja		.	.	1	2	.	.	.						1/8	03	04	11	18	18/8	03	04	11	
09	Omkar A. Deshmukh		1	.	.	2	.	3	.						1/8	04	03	12	19	18/8	04	04	12	
10	Krishna D. Patil		1	.	.	.	.	.	.						1/8	04	04	12	20	18/8	03	03	12	
11	Abhishek Hairatkar		1	2	.	3	.	4	.						1/8	04	04	13	21	18/8	03	04	12	
12	Isha Y. Vaidya		1	.	.	.	.	.	2						1/8	04	05	13	22	18/8	04	03	12	
13	Nikhil R. Ambhore		1	2	3	4	5	6	7						1/8	04	05	12	21	18/8	03	05	13	
14	Shubh Sharma		1	.	2	3	4	5	.						1/8	03	05	13	21	18/8	04	04	12	
15	Piyusha R. Kakatkar		1	.	.	2	.	3	.						1/8	04	05	12	21	18/8	04	04	12	
16	Tushar Waghmare		1	2	.	3	.	4	.						1/8	04	04	12	20	18/8	03	05	13	
17	Ashutosh J. Kale		1	2	.	3	.	4	.						1/8	03	04	12	19	18/8	04	03	12	
18	Khedkar mayuri		.	.	1	.	.	2	.						1/8	03	04	11	18	18/8	04	04	12	
19	Namrata A. Chandhari		1	.	2	3	.	4	.						1/8	04	03	12	19	18/8	03	05	13	
20	~~Rutuja~~ Aparna S. Thorat		1	2	3	.	.	4	.						1/8	04	04	13	21	18/8	04	04	12	
21	Shreya Phutkar		1	.	.	.	.	.	.						1/8	03	05	13	21	18/8	03	05	13	
22	Shweta K. Mandage		1	.	.	.	.	.	.						1/8	04	05	12	21	18/8	04	04	12	
23	Shreyas S. Kachchawa		1	2	.	3	.	4	.						1/8	03	05	13	21	18/8	03	05	13	
24	Simran D. Kanchan		1	2	3	3	3	3	3						1/8	04	05	12	21	18/8	04	05	12	

Signature of Faculty :-

ENGINEERING, LAVALE

ASSESSMENT OF TERM - WORK

Class : TE (E&TC) Batch : (E&TC)-A

Name of the subject : Skill Development

Expt. No. 03					Expt. No. 04					Expt. No. 05					Expt. No. 06					Total Marks	Marks out of...25...	Exam.
Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks			
25/8	04	05	12	21	08/9	04	04	12	20	21/9	04	04	11	19	13/10	03	04	11	18			
25/8	04	04	12	20	08/9	03	04	11	18	21/9	03	04	11	18	13/10	03	04	12	20			
25/8	03	04	11	18	8/9	04	03	12	19	21/9	03	04	12	19	13/10	03	04	11	18			
25/8	04	05	12	21	8/9	04	05	12	21	21/9	03	04	12	20	13/10	04	05	12	21			
25/8	04	04	12	20	8/9	04	05	12	21	21/9	03	04	11	18	13/10	03	05	12	20			
25/8	03	04	11	18	8/9	04	03	12	19	21/9	04	04	12	20	13/10	04	04	12	20			
25/8	03	04	12	19	8/9	04	05	12	21	21/9	04	05	12	21	13/10	03	04	12	21			
25/8	03	04	11	18	8/9	04	05	12	21	21/9	03	04	11	18	13/10	03	04	11	18			
25/8	04	04	12	20	8/9	04	03	12	19	21/9	04	05	12	21	13/10	03	04	12	20			
25/8	03	04	12	19	8/9	04	05	12	21	21/9	03	05	12	20	13/10	03	04	12	19			
25/8	03	02	11	18	8/9	04	05	11	19	21/9	03	04	11	18	13/10	03	04	12	20			
25/8	04	04	12	20	8/9	04	03	12	19	21/9	04	04	12	19	13/10	03	04	11	19			
25/8	03	04	12	19	8/9	04	04	12	20	21/9	04	04	12	20	13/10	04	04	11	18			
25/8	03	04	12	19	8/9	04	05	11	19	21/9	03	05	11	19	12/10	03	04	12	20			
25/8	03	04	11	18	8/9	03	04	11	18	21/9	03	04	11	18	13/10	03	04	11	18			
25/8	04	04	12	20	8/9	04	04	12	20	21/9	03	04	12	19	13/10	03	04	11	19			
25/8	03	04	12	19	8/9	03	04	12	19	21/9	04	05	12	21	13/10	04	04	12	20			
25/8	04	04	12	20	8/9	04	05	11	19	21/9	03	04	11	18	13/10	03	04	11	18			
25/8	04	05	12	21	8/9	03	04	11	18	21/9	03	04	12	19	13/10	04	04	12	20			
25/8	03	04	12	19	8/9	04	05	12	21	21/9	04	04	12	20	13/10	03	05	13	21			
25/8	03	04	11	18	8/9	04	05	12	21	21/9	04	05	11	20	13/10	03	04	11	18			
25/8	03	04	12	19	8/9	03	04	11	18	21/9	03	04	11	18	13/10	04	04	12	20			
25/8	03	04	11	18	8/9	03	04	11	18	21/9	03	04	12	19	13/10	03	05	13	21			
25/8	03	04	12	19	8/9	03	04	12	19	21/9	02	05	11	19	13/10	03	04	12	20			

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	1	2	3	4	5	6	7	8	9	10	11	12	Expt. No. 01 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Expt. No. 02 Assessment T.S.	Pres.	Und.	Marks
25	Siddhi P Jadhav		1	2	P	P	P	.							29/7	12	05	03	20	04/8	03	05	14	2
26	Shweta D. Doke		1	P	P	P	P								29/7	11	06	03	20	04/8	03	04	13	2
27	Radhika S. Chaudhari		1	P	P	P	P				.				29/7	13	04	03	20	04/8	03	04	12	1
	Rahul S. Pareek		1	2	3	4	P	.							29/7	12	05	03	20	04/8	04	04	13	2
29.	Priyanka R. Dhage		1	2	.	3	P								29/7	11	05	03	19	2/8	04	04	12	2
30	Kamble Arishkar		1	P	2	P	P								29/7	12	04	02	18	4/8	03	06	11	2
31	Khamborkar Vrantika		P	1	2	P	P								29/7	13	05	03	21	4/8	11	05	03	19
32	Harsh L. Pande		1	2	3	P	P								29/7	12	04	03	19	2/8	03	04	13	2
33	Samsita Mannuel		1	2	P	P	3								29/7	13	04	03	20	4/8	03	05	11	1
34	Athimil S. Setona		1	2	P	P	3								29/7	11	04	03	18	2/8	03	04	13	20
35	Aditya P. Shambale		P	1	P	P	P								29/7	12	03	03	18	2/8	03	03	12	18
37	Sarvabhi Kankuwad		1	2	3	4	5								29/7	11	03	03	17	2/8	03	06	11	20
38	Hrithik Gunjal		1	2	3	P	P								29/7	11	03	03	17	2/8	03	03	12	18
39	Janhavi Kakade		1	2	3	4	P	.							29/7	12	03	03	18	2/8	04	05	13	22
40	Prathmesh Mane		P	1	2	P	P								29/7	11	06	03	20	2/8	03	05	12	20
41	Pranali R. Jagtap		P	1	2	3	P								29/7	12	05	03	20	2/8	02	05	12	19
42	Yogesh Pratal		1	2	3	4	5								29/7	13	05	04	22	2/8	03	04	11	18
43	Pranit Bandre		1	2	P	3	P								29/7	12	05	03	20	2/8	02	05	11	18
44	Charan Kranti		P	1	P	P	P								29/7	11	04	03	18	2/8	03	03	12	18
45	Vedant V. Pathak		P	P	P	P	P								29/7	12	05	02	19	2/8	03	03	11	17
46	Divyesh R. Dhole		P	P	1	P	P								29/7	11	04	03	18	2/8	04	03	12	19
47	Kashyami B. Dange		1	1	P	P	P								29/7	12	03	04	19	2/8	03	03	12	18
48	Siddhesh P. Hood		1	2	P	P	P								29/7	11	03	03	17	2/8	03	04	12	19
33	Vrantika Khamborkar														29/7	10	03	03	16	2/8	03	03	12	20

Signature of Faculty :-

ENGINEERING, LAVALE

ASSESSMENT OF TERM - WORK

Class : TE(E&TC) Batch : (B1)(B)

Name of the subject : Skill Development

Expt. No. 03					Expt. No. 04					Expt. No. 05					Expt. No. 06					Total Marks	Marks out of.....	Exam. N
Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks			
	T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.				
12/8	03	04	13	20	12/9	03	04	13	20	19/9	03	05	14	22	19/10	03	04	12	19			
12/8	03	04	12	19	12/9	03	05	14	22	19/9	03	04	13	20	19/10	03	04	12	20			
12/8	03	05	14	22	12/9	03	05	11	19	19/9	03	05	11	19	19/10	03	05	14	22			
12/8	04	04	12	20	12/9	03	04	12	19	19/9	03	04	12	19	19/10	03	04	12	19			
12/8	04	04	13	21	12/9	03	06	11	20	19/9	03	06	11	20	19/10	04	04	12	20			
12/8	03	05	11	19	12/9	03	04	13	20	19/9	03	03	12	18	19/10	03	04	13	20			
12/8	03	03	12	18	12/9	03	05	11	19	19/9	03	06	11	20	19/10	03	04	12	19			
12/8	03	04	13	20	12/9	03	03	12	18	19/9	03	05	12	20	19/10	03	04	13	20			
12/8	03	03	12	18	12/9	03	06	11	20	19/9	03	04	13	20	19/10	04	04	12	20			
12/8	03	04	13	20	12/9	04	05	13	22	19/9	03	04	12	19	19/10	03	04	12	19			
12/8	03	03	13	19	12/9	02	05	12	19	19/9	03	04	11	18	19/10	03	05	14	22			
12/8	03	05	11	19	12/9	03	06	11	20	19/9	03	03	11	17	19/10	03	03	04	18			
12/8	03	05	12	20	12/9	03	04	13	20	19/9	03	03	12	18	19/10	03	04	12	19			
12/8	03	04	13	19	12/9	03	04	12	19	19/9	04	05	11	20	19/10	04	05	13	22			
12/8	03	04	11	18	12/9	03	04	11	18	19/9	04	04	12	20	19/10	03	03	11	18			
12/8	03	05	14	22	12/9	03	03	11	17	19/9	03	03	12	20	19/10	04	05	12	20			
12/8	03	05	14	22	12/9	03	03	12	18	19/9	03	03	13	19	19/10	03	04	12	19			
12/8	03	04	12	19	12/9	03	03	12	18	19/9	04	05	11	20	19/10	03	04	11	18			
12/8	03	05	13	21	12/9	04	05	11	20	19/9	04	05	13	22	19/10	04	05	13	22			
12/8	03	05	11	19	12/9	04	04	12	20	19/9	03	03	11	17	19/10	03	04	12	19			
12/8	04	04	12	20	12/9	03	03	12	18	19/9	03	03	10	16	19/10	04	05	12	20			
12/8	03	03	12	18	12/9	03	03	11	17	19/9	03	04	11	18	19/10	03	03	11	17			
12/8	03	03	11	17	12/9	03	04	12	19		03	03	12	18	19/10	03	04	12	19			
Above					Above					Above					Above							

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	1	2	3	4	5	6	7	8	9	10	11	12	Expt. No. 01 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 02 Date of Perf.	Assessment T.S.	Pres.	Und.
49	Raj S. Thakare		.	1	.	2	.							.	24/7	03	05	11	19	24/8	03	05	12
50	Saurabh S. Pawar		.	.	.	.	0								24/7	04	04	12	20	24/8	03	04	12
51	Sahil V. Ramteke		.	.	.	.	.								24/7	03	05	11	19	24/8	03	05	13
52	Rushikesh V. Patil		.	.	.	1	.								24/7	03	05	11	19	24/8	03	05	12
53	Shreyas P. Khanzode		1	.	.	2	0								24/7	04	04	12	20	24/8	03	04	12
54	Onkar S. Deshmukh		.	.	.	.	.								24/7	04	04	13	21	24/8	03	05	13
55	Somesh G. Gaklare		.		.	.	0								24/7	03	05	11	19	24/8	03	05	12
56	Dhananjay S. Patil		.		1	.	0								24/7	04	04	13	21	24/8	03	04	12
57	Vishal D. Patil		.	.	1	.	0								24/7	04	04	12	20	24/8	03	05	13
58	Ankita Dalavi		.	1	.	.	0							.	24/7	03	05	11	19	24/8	03	05	12
59	Pawar Namrata		1	.	.	.	0							.	24/7	04	04	13	21	24/8	03	05	12
60	Shital B. Surnar		1	.	.	.	.	.							24/7	03	04	12	19	24/8	03	04	12
61	Ashutosh Tidke		.	.	1	2	3								24/7	03	04	12	19	24/8	03	05	12
62	Manoj R. Wankhede				1	.	0								24/7	03	05	11	19	24/8	03	05	12
63	Chaitanya Nagrale				1	2	0								24/7	04	04	12	20	24/8	03	04	12
64	Bhushan Amarkar			.	1	2	0								24/7	04	03	12	19	24/8	03	04	11
65	Aditya Patwai			.	1	.	.								24/7	03	05	11	19	24/8	03	05	12
66	Vaibhav Bathe			.	.	.	0								24/7	04	04	12	20	24/8	03	04	11
67	Manne Akansha			.	1	.	2								24/7	03	04	11	18	24/8	04	04	12
68	Rushikesh Joshi			.	1	.	0								24/7	03	05	11	19	24/8	03	04	12
69	Rupali Shinde			.	1	2	3								24/7	03	04	12	19	24/8	03	04	11
70	Mayur Pawar			.	.	1	0								24/7	04	04	12	20	24/8	03	05	12
71	Rathmesh Jangam			.	1	2	0								24/7	03	03	11	18	24/8	04	05	13

Signature of Faculty :-

ENGINEERING, LAVALE

ASSESSMENT OF TERM - WORK

Class : _____ Batch : _____

Name of the subject : _____

Expt. No. 03					Expt. No. 04					Expt. No. 05					Expt. No. 06					Total Marks	Marks out of.....	Exam.
Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks			
	T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.				
31/8	04	04	12	20	19/9	04	05	12	19	24/8	4	4	8	16	31/10	04	04	12	20			
31/8	03	05	13	21	19/9	04	04	12	20	24/10	4	4	12	20	31/10	03	04	11	18			
31/8	03	04	12	19	19/9	03	05	13	21	24/10	03	05	13	21	31/10	03	05	13	21			
31/8	04	04	12	20	19/9	03	05	13	21	24/10	4	4	12	20	31/10	04	04	12	20			
31/8	03	04	13	20	19/9	03	05	13	21	24/10	03	04	12	19	31/10	04	04	12	20			
31/8	03	05	13	21	19/9	04	04	12	20	24/10	03	05	13	21	31/10	03	04	11	18			
31/8	03	04	12	19	19/9	03	05	13	21	24/10	04	04	12	20	31/10	03	05	13	21			
31/8	03	04	11	18	19/9	04	04	12	20	24/10	03	04	12	19	31/10	04	04	12	20			
31/8	04	04	12	20	19/9	04	04	12	20	24/10	03	04	11	18	31/10	03	04	11	18			
31/8	03	03	11	17	19/9	03	05	13	21	24/10	03	05	13	21	31/10	03	05	13	21			
31/8	03	03	12	18	19/9	03	04	11	18	24/10	04	04	12	20	31/10	03	04	11	18			
31/8	03	05	13	21	19/9	04	04	12	20	24/10	03	04	12	19	31/10	04	04	12	20			
31/8	04	04	12	20	19/9	03	05	13	21	24/10	03	04	13	20	31/10	03	05	13	21			
31/8	03	05	13	21	19/9	03	04	11	18	24/10	03	05	13	21	31/10	04	04	12	20			
31/8	03	03	11	17	19/9	03	05	13	21	24/10	04	04	12	20	31/10	04	04	11	18			
31/8	03	04	12	19	19/9	03	04	12	19	24/10	03	04	12	19	31/10	04	05	13	20			
31/8	03	04	11	18	19/9	03	05	13	21	24/10	03	04	11	18	31/10	04	04	12	20			
31/8	03	04	12	19	19/9	03	04	12	19	24/10	03	05	13	21	31/10	03	04	11	18			
31/8	04	04	12	20	19/9	03	05	13	21	24/10	04	04	12	20	31/10	04	03	13	20			
31/8	03	05	13	21	19/9	04	04	12	20	24/10	03	05	13	21	31/10	04	04	12	20			
31/8	03	04	11	18	19/9	03	05	13	21	24/10	03	05	13	21	31/10	04	03	11	18			
31/8	03	04	12	19	19/9	03	04	12	19	24/10	04	04	12	20	31/10	04	02	13	21			
31/8	03	05	13	21	19/9	04	04	12	20	24/10	03	05	13	21	31/10	04	04	12	20			
31/8	Absent				Absent					Absent					Absent							

(A) Performance Index of Engaging Lectures / Practicals

Sr.No.	Class/Sem.	Name of Subjects taught	No. of lectures targeted	No. of Lectures actually engaged	Percentage target achieved (Col 5/Col 4)* 100	Average of Col.(6)	Performance and multiplying factor	Max. weight	Weight achieved (8) * (9)
1	2	3	4	5	6	7	8	9	10
1	BE(E&Tc)	EPD	38	30	79%	89.5	0.7	5	3.5
2	TE(E&Tc)	SD (PR)	06	06	100				
3									
4									

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 7)	100-91	90-81	80-61	60-00
Multiplying factor	1.0	0.7	0.5	0.2

(B) Performance Index of Attendance of Students :

Sr.No.	Class/ Sem.	Subjects taught	Sum of students present for all lectures engaged	Lectures actually engaged	Students on roll	Average attendance= (col.4/co.5) / (Col 6/100)	Average of col. 7	Performance and multiplying factor	Max. weight	Weight achieved (9)*(10)
1	2	3	4	5	6	7	8	9	10	11
1	BE(E&Tc)	EPD	330	30	21	55%	69.5	0.7	5	3.5
2	TE(E&Tc)	SD (PR)	360	06(PR)	72	84%				
3										
4										

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 8)	100-81	80-61	60-41	40-00
Multiplying factor	1.0	0.7	0.5	0.2

(C) Performance Index of Results (Theory Subjects) :

Sr.No.	Class/ Sem.	Subjects taught	Average marks of same subject for last 3 years in institute	% of students securing marks above 3 years average	Average of col.(5)	Performance and multiplying factors	Max. weight	Weight achieved (7) * (8)
1	2	3	4	5	6	7	8	9
1	BE (Sem)	EPD	38	75%	16 (75%)	1.0	5	5.0
2								
3								
4								

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 6)	100-70	69-50	49-40	39-00
Multiplying factor	1.0	0.7	0.5	0.2

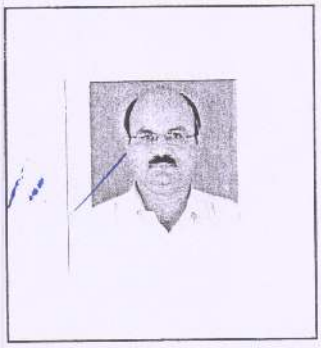
(D) Performance Index of Research

Sr.No.	Parameter	No.	Weightage	Max. weight	Weightage achieved
1	2	3	4	5	6
1	**Publications (Journal)**				
	International :	—	1 / paper	5	
	National :	—	0.5 / paper	5	
	Publications (Conferences)				
	International :	—	0.5 / paper	5	
	National :	—	0.25 / paper	5	
2	**Patents**	01			
	Abroad :	—	1 / patent	3	
	Indian :	01	0.5 / patent	2	01
3	**Students Guided**	—			
	Ph.D :	—	1 / student	3	
	PG :	—	0.5 / student	2	
				Total	

API – 13 Academic Performance Indicator

A –	3.5
B –	3.5
C –	5.0
D –	1.0
Total	13.00

PROFILE OF FACULTY



1. Name : Prof. Atul B. Vanre
2. Date of Birth : 13 - 01 - 1976
3. Educational Qualification : M. Tech. (E.D.T.)
4. Work Experience : (No. of Years)

   Teaching : 18 Years Research : _____

   Industry : 5 Years Others : _____
5. Area of Specialization : E.D.T.
6. Courses Teaching :

Sr. No.	Class	Subject	L	P	Tut	Total
1	B.E.	D.B.M.			02	02
2	T.E.	Project Management	03			03
3	T.E.	Electronic System Mini Project		08		08

7. UG Projects Ongoing :

1.	Smart way of wire harnessing & tracing fault at remote location
2.	
3.	
4.	

8. Research Projects : _____ Nos.
9. Technology Transfer :

   _____

   _____
10. Awards : _____
11. Membership of Professional Bodies : _____

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

LESSON PLAN

Class : BE Sem. : (VIII) Subject : Digital Business Management Lectures Per Week : 03 Hrs

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
01	Unit (I)	24/01/2023	Introduction to digital business, E-Market place, Struct
02	Intro. to	30/01/23	Mechanism, economics & impacts, difference betn Physical digital econ
03	Digital business	01/02/23	Big Data Analytics, mobile, cloud computing, Social media, B/c
04		07/02/23	IOT, opportunities & challenges in digital Business.
05	Unit (II)	08/02/23	E-commerce meaning Retailing in E-Commerce Products & Ser
06	overview	14/2/23	Consumer behaviour, market research & Advertisement, B-2-B E
07	of	16/2/23	Selling & buying in private E-market, Public B2B exch & Support Services
08	E-Commerce	21/2/23	Intra business EC & Coporate Portals, E-C model & Applic
09		23/2/23	Innovative EC System from E-Government Reaching to c
10		27/2/23	Mobile Commerce & Pervasive Computing EC Strategy
11		02/03/23	Global, EC, Economics & Justification of EC, Promote E-Com business
12		09/3/23	Launching Successful e business & EC Projects, Legal ethi & Societal impacts
13	Unit III	14/3/23	e-CRM, e-SCM, ERP as e business backbone
14	Digital business	16/3/23	Knowledge Tope Apps, Information & referral Syste
15	Support System	21/3/23	APPM Development, Building digital business Application & Infrastructure
16	Unit IV	23/3/23	Managing knowledge, Mgmt Skills for e-business, Managing Risk
17	Managing E-business	28/3/23	Security threats to e-business, security overview,
18		6/4/23	E Commerce threat, Encryption, Cryptography, PK, Digital Signa & Certificate
19		11/4/23	HTTP, SSL, Firewall as security control, PKI, Cryptog Applic
20	Unit (V)	13/4/23	E-business Strategic formulation, Analysis & Company Int & Environm
21	E-business	18/4/23	Strategy Selection for E-business,
22	Strategy	20/4/23	Action, challenge & E-transitions
23	Unit VI materialist	25/4/23	Idea to realisation business plan
24	E-business	27/4/23	Case Studies

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : BE Sem. : VIII Subject : Digital business Management Lectures Per Week : 02 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
3/1/2023	Introduction to digital business.	
2/2/2023	E-market place, Structure, mechanism.	
7/2/2023	physical economy & digital economy	APho
9/02/2023	Big data Analytics, Mobile cloud computing, Social media.	
14/2/23	IoT, opportunities & challenges in Digital business.	
28/2/23	E-commerce meaning, Retailing E-commerce	APho
02/03/23	E-commerce Products & services	
9/3/23	Selling & buying in Private E-market, Public B2B exchan & Support Services	
14/3/23	e-CRM & e-SCM, ERP as ebusiness backbone	
16/3/23	Knowledge Type Apps, Information & Referral Systems.	APho
20/3/23	Appln Development, Building digital business Application	
23/3/23	Managing skills, Mgmt skills for ebusiness, Monetize risks	
28/3/23	Security threats to ebusiness, Security overview	
29/3/23	E-commerce threat, Encryption, Cryptography	APho
3/4/23	Digital Signature & Certificates, HTTP, SSL	
5/4/23	Firewall as Security Control, Cryptographic Applicatio	
10/4/23	E-business, Strategic formulation, Analysis of Company Sum	
12/4/23	Strategy Selection for E-business	APho
13/4/23	Action, challenges in E-commerce	
17/4/23	E-transition, tracking & Methodology	
18/4/23	Idea to realisation business plan	
19/4/23	Case Study on E-commerce Application	APho

Signature of Faculty APho

LESSON PLAN

Class : TE Sem. : VI Subject : Project Management Lectures Per Week : 04

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
01	Unit(I) Fundamentals of P.M.	20/2/23	Definition of Project, Project life cycle, Project Manag
02		22/2/23	Need, P.M. processes & its importance.
03		23/2/23	Phases of P.M. Life cycle, Processes,
04		27/2/23	Impact of delays in Project completion
05		01/3/23	Essentials of Project Mgmt philosophy, Project Manage Pl
06	Unit(II) Project identification	02/3/23	Project Identification & Selection - Process, initiation,
07		06/3/23	Prefeasibility study, Feasibility study
08	Selection &	08/3/23	Break even point, Project Planning, need
09	Planning	09/3/23	Project life cycle, Roles, Responsibility & Team wo
10		13/3/23	Project Planning Process, work breakdown Struc Cl
11	Unit(III)	15/3/23	Introduction, Concept of organization Struc
12	Project	16/3/23	Role & responsibility of Project leader
13	Organization	20/3/23	Relationship betn PM & LM, Leadership Style
14	Structure & issues	23/3/23	Conflict resolution, Team Mgmt & Diversity Mgt
15		29/3/23	change management technique
16	Unit(IV)	30/3/23	PERT & CPM: Introduction, Development of Project,
17	Project	03/04/23	Time Estimation, Determination of Critical Pa
18	Scheduling	05/04/23	PERT model, Measures of Variability, CPM mod
19		06/04/23	Network cost system.
20		10/4/23	Resources Consideration in Projects: Introductio
21		12/4/23	Resource Allocation, Scheduling, Project cost
22		13/4/23	Estimate & budget, cost forecasts.
23	Unit(V)	17/4/23	Project risk Management: Risk Management, Risk
24	Project risk	19/4/23	Steps in risk management, Risk identification

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : TE Sem. : VI Subject : Project Management Lectures Per Week : 03 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
23/02/2023	Definition of Project, life cycle, P.M., need, PM Process & its Importance	
27/02/2023	Phases of P.M., Life cycle Impact of delays in Project completion	APD
02/03/2023	Essential of P.M. Philosophy, P.M. philosophy principles	
06/03/2023	Project initiation, Project identification Process steps	
08/03/2023	Project selection process.	
09/03/23	Project Pre feasibility study	APDeshmukh
13/03/23	Project feasibility study	
15/3/23	Project Breakdown. Process, Breakdown Point	
16/3/23	Project planning & need of planning.	
20/3/23	Project life cycle, Roles, Responsibilities	APD
23/3/23	Team work, Project planning process	
28/3/23	work breakdown structure, Conflict resolution	
17/4/23	change mgmt technique, Diversity mgmt	
19/4/23	Time Estimation, Determination of Critical Path	APD
20/4/23	PERT model, Measures of Variability	
2/5/23	CPM model, Resource Consideration in Projects.	
3/5/23	Estimate & budget, cost forecast	
4/5/23	Project risk mgmt, Risk identification	APD
9/5/23	Project Space structure, Planning, Financial Packages	
11/5/23	Prototyping, Skill Entrepreneur & factors Impacting	
12/5/23	IPR, Patent, trademark, Copyright	APD

Signature of Faculty APDeshmukh

LESSON PLAN

Class : TE Sem. : VI Subject : Project Management Lectures Per Week : 03 Hrs

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25	* Financial	20/4/23	risk analysis & reducing risk
26	Management	24/4/23	Introduction to P.M. tools of Trello, JIRA & Asa
27		26/4/23	Project finance structure, Process of P.M. Mana
28		27/4/23	feasibility studies, Planning Project finance,
29		03/05/23	financial packages. Arranging & controlling
30		04/05/23	Controlling financial risk, option models.
31	Unit - IV Product Development & Entrepreneurship	08/05/23	Product Development: Introduction, Development Proces
32		10/05/23	organisations. Product planning, identifying customers ne
33		11/05/23	Product significations, Concept Generations,
34		15/05/23	Selection, Testing, Design for Manufacturing,
35		17/05/23	Prototypes, robust Design, Entrepreneurship Co
36		18/05/23	Knowledge, Skill requirement, chara. of Success
37		24/05/23	Entrepreneurs, Process, factors impacting Entrep
38		24/05/23	IPR, Patents, trademarks, Copyrights
39		25/05/23	trade secrets, licensing, Franchising.

Signature of Faculty _____ HOD _____

Session : 2022-2023 Semester : VI

Branch : E&TC

COLLEGE OF

Roll No.	Name of the Student	Date	24/2/23	27/2/23	04/3/23	06/3/23	07/3/23	09/3/23	13/3/23	15/3/23	16/3/23	20/3/23	23/3/23	28/3/23	3/4/23	10/4/23	11/4/23	17/4/23	19/4/23	20/4/23	24/4/23	26/4/23	28/4/23	29/4/23
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
01	Aade Krishna		1	-	-	2	3	-	4	-	5	-	6	-	7	8	9	-	10	-	11	-	12	13
02	Ambhore Nikhil		1	-	-	2	3	-	4	5	-	6	7	8	9	-	10	10	-	11	12	-	13	-
03	Bathe Vaibhav		-	-	-	-	-	-	1	-	2	-	3	-	4	-	5	6	-	2	-	-	8	-
04	Bhosale Amar		-	-	-	-	-		1	2	-	-	3	-	-	4	5	6	-	7	-	-	8	
05	Bendre Ronit		-	-	1	2	3	-	4	-	5	-	6	-	7	-	8	9	-	10	-	-	11	12
06	Chaudhari Namrata H		1	-	2	-	-	3	4	-	5	-	-	6	-	7	8	-	-	-	-	-	9	10
07	Chavan Kranti		-	-	-	-	1	-	2	-	3	-	4	-	5	-	6	-	7	8	-	9	-	10
08	Chavan Tejal		1	2	3	4	-	5	-	6	7	8	9	10	-	11	12	-	13	14	-	15	-	16
09	Chaudhari Radhika		-	-	-	-	1	-	2	-	3	4	5	6	7	8	9	-	-	-	10	11	-	12
10	Dalavi Ankita B.		-	-	1	-	2	3	4	5	6	-	7	8	-	9	10	11	12	-	-	-	13	14
11	Deshmukh Onkar A.		1	-	2	-	3	-	4	-	5	-	6	7	8	-	9	10	-	11	12	-	13	-
12	Deshmukh Onkar S.		-	-	-	-	1	-	2	-	3	-	4	-	5	-	6	-	7	-	8	-	9	10
13	Dhase Priyanka		-	-	-	-	1	2	3	4	-	5	6	7	8	-	9	10	11	-	12	13	-	14
14	Dhole Divyesh		-	-	-	-	-	1	2	-	3	4	-	5	-	6	7	-	8	9	10	-	11	-
15	Dhumal Rutuja		-	1	-	-	2	-	3	4	-	5	6	7	8	-	9	10	-	-		-	11	12
16	Doke Shweta		-	-	-	1	-	2	3	-	4	-	5	6	7	8	9	10	-	-	11	12	13	14
17	Gaikwad Shailaja		-	-	-	-	1	-	2	3	4	5	-	6	-	7	8	-	9	10	11	-	12	13
18	Gawali Tanhavi		-	-	-	-	1	2	3	-	4	-	5	6	-	7	8	9	-	-	10	11	-	12
19	Gayake Samadhan		-	-	-	-	1	-	2	3	-	4	5	-	6	7	-	8	9	-	10	-	11	-
20	Gopalghare chaitanya		-	-	-	-	1	-	2	3	-	4	5	6	-	7	8	9	-	10	11	-	12	13
21	Gunjal Hrutvik R.		1	-	2	3	4	5	3	-	6	-	7	8	9	-	10	-	11	-	-	-	12	-
22	Haibatpure Abhishek		1	2	3	4	-	5	6	-	7	8	9	-	10	11	12	-	-	-	13	-	14	15
23	Harsh L. Pande		-	-	-	-	-	-	-	-	-	-	1	-	2	-	-	-	3	-	-	4	5	6
24	Head - Siddhesh																							

Signature of Faculty :-

ENGINEERING, LAVALE

Name of Subject : Project Management

2/5ths	3/5ths	4/5ths	5/5ths	10/15ths	11/15ths	14/15ths	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Online Test Marks				
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							15	16	17	18	19	20	21																									
							10	11	12	·	13	14	15																									
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ENGINEERING, LAVALE

Name of Subject : Project Management

24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Online Test Marks: Total	%	I	II	Insem Exam
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15	·	16	·	17	·	18																										
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Session : 2022/2023 Semester : VI

Branch : E&TC

COLLEGE

Roll No.	Name of the Student	Date	2/2/23	27/2/23	02/03/23	06/3/23	8/3/23	9/3/23	10/3/23	11/3/23	16/3/23	20/3/23	23/3/23	27/3/23	12/4/23	11/5/23	13/5/23	17/5/23	19/5/23	20/5/23	24/5/23	25/5/23	26/5/23
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
47	Patil Dhananjay S.						1		2		3		4			5		6	7		8	9	
48	Patil Ratik A.								1			2				3	4	5		6	7	8	
49	Patil Rushikesh V.		1		2		3	4	5		6		7		8	9		10	11		12		
50	Patil Vishal D.								1		2					3	4	5		6	7		
51	Patwar Aditya		1	2	3	4		5	6		7	8	9			10	11	12		13			
52	Pawar Mayur P.								1		2	3	4			5	6	7	8	9	10		
53	Pawar Namrata J.			1	2		3	4		5		6	7		8		9	10		11	12		
54	Phulkar Shreya						1	2			3	4			5			6		7	8		
55	Pawar Saurabh				1	2		3	4		5	6	7		8		9		10		11		
56	Rachchawar Shreyash					1		2		3	4		5		6		7	8		9	10		
57	Ramteke Sahil			1	2		3	4		5	6		7		8				9		10		
58	Sakhare Somesh					1		2		3		4			5	6				7	8		
59	Satone Abhinil				1		2	3	4		5	6	7	8	9	10		11		12			
60	Shambale Aditya P.					1		2		3			4		5		6	7	8		9		
61	Sharma Shubh R.					1		2	3	4	5	6	7			8	9	10	11		12		
62	Shinde Rupali T.		1		2	3	4	5	6		7	8	9	10		11		12	13		14		
63	Swabhi S. Gaikwad		1				2		3	4		5		6		7	8		9	10		11	
64	Sonar Shital					1		2	3			4	5	6			7		8		9	10	
65	Thakare Raj								1		2		3	4	5		6			7	8		9
66	Tharat Apeksha S.		1		2	3			4	5	6	7	8	9			10	11				12	
67	Tidke Ashwini R.					1		2	3		4		5	6	7		8		9	10			
68	Vaidya Isha			1				2	3	4		5		6		7		8	9	10	11		
69	Vinayak D. Chaudhari			1				2	3		4	5				6	7	8	9	10			

ENGINEERING, LAVALE

Name of Subject : Project Management

3/4/25	2/5/25	21/5/25	4/5/25	9/5/25	11/5/25	12/5/25																									Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
12	13	.	14	15	.	16																													
11	12	13	.	14	.	15																													
15	16	.	17	18	19	20																													
.	11	12	.	13	.	14																													
16	17	.	18	19	.	20																													
13	14	11	.	16	17	18																													
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13	14	15	16	.	17	.																													
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13	14	15	16	.	17	.																													
14	15	.	16	.	.	17																													
.	13	.	14	15	.	16																													
Absent	Absent	Absent	Absent	Absent	Absent	Absent																													

ENGINEERING, LAVALE

Name of Subject : Project Management

																															Online Test Marks				
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
	18	19	20	4	.	24	25																										
	13	14	15	.	16	17	18																										

Session : 2021-2022 Semester : VIII

Branch : E&TC

COLLEGE OF

Roll No.	Name of the Student	Date	31/01/23	01/02/23	07/02/23	09/02/23	22/02/23	28/02/23	01/03/23	03/03/23	14/03/23	16/03/23	20/03/23	23/03/23	28/03/23	29/03/23	03/04/23	07/04/23	10/04/23	12/04/23	13/04/23	17/04/23	19/04/23	19/04/23
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
01	Akash Poddar				1								2			3		4	5	6	7	8		9
02	Alisha B. Singh			1	2		3	4			5			6				7	8		9		10	
03	Ammutkar Swati D.			1	2		3					4		5			6		7	8		9	10	
04	Chaudhare Yash B.				1			2			3		4	5		6			7	8		9		10
05	Dethe Himanshu					1		2					3			4	5		6		7		8	
06	Gaupal Aryan				1	2					3	4		5	6	7	8		9	10	11		12	13
07	Gudadhe Tanhavi					1	2				3	4	5		6	7	8		9	10		11		12	13
08	Jadhav Ammut				1				2	3	4		5	6	7	8		9	10		11	12	13	14
09	Kakade Shubhangi				1	2	3	4					5		6		7	8		9	10	11		12
10	Kamble Akash				1						2		3	4	5	6		7	8	9		10		11
11	Karam Ahire			1	2	3				4		5		6	7	8		9	10	11		12	13	14
12	Korpe Rajdeep									1	2	3		4	5	6		7	8	9	10		11	12
13	Machapure Vyankat			1	2	3						4		5		6	7	8		9	10	11		
14	More Animesh		1	2	3							4		5		6		7	8	9	10		11	12
15	Pawar Bhavana							1		2		3		6	7	8		9	10		11		12	13
16	Pashtaraj Varnekar		1	2		3	4	5	6		7		8	9	10		11	12		13	14	15		16
17	Raj S. Nikam			1	2					3		4	5		6		7		8		9	10		
18	Sharma Ujjwal					1	2	3			4		5	6		7		8	9			10		
19	Shinde Rupali				1	2			3	4		5		6	7	8		9		10		11		
20	Samparote Vedika								1			2	3		4	5	6		7		8			
21	Wankhede Ankit						1		2	3	4	5		6		7	8		9		10	11		

Signature of Faculty :-

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	3/1/25	9/1/25	10/1/25	17/1/25	31/1/25	7/2/25	14/2/25	21/2/25	28/2/25				Expt. No.						Expt. No.			
			1	2	3	4	5	6	7	8	9	10	11	12	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.
49	Patil Rutvikesh		0	1	1		1	1	1	1	1												
50	Patil Vishal		1	1	2	3	1	1	4	1	5												
51	Patwar Aditya		1	1	2	1	1	1	1	1	3												
52	Pawar Mayur		1	1	1	1	1	1	1	1	1												
53	Pawar Namrata		1	1	1	1	1	1	1	1	1												
54	Phutke Shreya		1	1	1	1	1	1	1	1	1												
55	Pawar Saurabh		1	1	1	1	1	1	1	1	1												
56	Rachhawar Shreyas		1	1	2	1	1	1	1	1	1												
57	Ramteke Sahil V.		1	1	2	1	1	1	1	1	1												
58	Sakhare Somesh G.		1	1	1	1	1	1	1	1	1												
59	Satone Abhimil		1	1	1	1	1	1	2	3	4												
60	Shambale Aditya		1	1	1	1	1	1	1	1	1												
61	Sharma Shubh		1	1	2	3	1	1	1	1	1												
62	Shinde Rupali		1	1	1	1	2	3	1	1	1												
63	Shrabti Gaikwad		1	1	1	2	1	3	4	1	1												
64	Shirnaz Shital		1	1	1	2	1	1	1	1	3												
65	Thakare Raj		1	1	1	1	1	1	1	1	1												
66	Tharat Apeksha		1	1	1	1	2	3	4	1	1												
67	Tidke Ashwini		1	1	1	2	1	1	3	4	1												
68	Vaidya Isha		1	1	1	1	1	1	1	2	1												
69	Umayak D. Chudhari		1	1	1	2	1	1	1	1	1												
70	Waghmare Tushar G.		1	1	1	1	1	1	2	3	4												
	Alisha Kharat		1	1	1	1	1	1	1	1	1												

Signature of Faculty :-

(A) Performance Index of Engaging Lectures / Practicals

Sr.No.	Class/Sem.	Name of Subjects taught	No. of lectures targeted	No. of Lectures actually engaged	Percentage target achieved (Col 5/Col 4)* 100	Average of Col.(6)	Performance and multiplying factor	Max. weight	Weight achieved (8) * (9)
1	2	3	4	5	6	7	8	9	10
1	BE	PM	39	30	77%	84.33	0.7	5	3.5
2	BE	DBM	24	22	91.66				
3									
4									

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 7)	100-91	90-81	80-61	60-00
Multiplying factor	1.0	0.7	0.5	0.2

(B) Performance Index of Attendance of Students :

Sr.No.	Class/ Sem.	Subjects taught	Sum of students present for all lectures engaged	Lectures actually engaged	Students on roll	Average attendance= (col.4/co.5) / (Col 6/100)	Average of col. 7	Performance and multiplying factor	Max. weight	Weight achieved (9)*(10)
1	2	3	4	5	6	7	8	9	10	11
1	TE	PM							5	
2	BE	DBM								
3										
4										

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 8)	100-81	80-61	60-41	40-00
Multiplying factor	1.0	0.7	0.5	0.2

(C) Performance Index of Results (Theory Subjects) :

Sr.No.	Class/ Sem.	Subjects taught	Average marks of same subject for last 3 years in institute	% of students securing marks above 3 years average	Average of col.(5)	Performance and multiplying factors	Max. weight	Weight achieved (7) * (8)
1	2	3	4	5	6	7	8	9
1	TE	PM	38	60%	65%	0.7	5	3.5
2	BE	DBM	40	70%				
3								
4								

* Guidelines for computation of Performance and multiplying factor

Averaged percentage target achieved (Col. 6)	100-70	69-50	49-40	39-00
Multiplying factor	1.0	0.7	0.5	0.2

(D) Performance Index of Research

Sr.No.	Parameter	No.	Weightage	Max. weight	Weightage achieved
1	2	3	4	5	6
1	**Publications (Journal)**				
	International :	01	1 / paper	5	5
	National :		0.5 / paper	5	
	Publications (Conferences)				
	International :		0.5 / paper	5	
	National :		0.25 / paper	5	
2	**Patents**	01			
	Abroad :		1 / patent	3	
	Indian :	01	0.5 / patent	2	0.5
3	**Students Guided**				
	Ph.D :		1 / student	3	
	PG :		0.5 / student	2	
				Total	

API – Academic Performance Indicator

A –	3.5
B –	
C –	3.5
D –	5.5
Total	

PROFILE OF FACULTY

Affix Recent Photograph Here

1. **Name :** Prof. S.R. Patil
2. **Date of Birth :** 12-07-1972
3. **Educational Qualification :** _____
4. **Work Experience :** (No. of Years)

   Teaching : 15 Research : _____

   Industry : _____ Others : _____
5. **Area of Specialization :** Manufacturing
6. **Courses Teaching :**

Sr. No.	Class	Subject	L	P	Tut	Total
1	BE A	Advanced Manufacturing Process	3		—	3
2	BE B	Advanced Manufacturing Process	3		—	3
3	MS-II		—	10	—	10

7. **UG Projects Ongoing :**

1.	Enhancement the rate of reaction b/w constituent elements in Biogas Digest
2.	Plastic crushing (recycling) Plant manufacturing
3.	
4.	

8. **Research Projects :** _____ Nos.
9. **Technology Transfer :**

   _____

   _____
10. Awards : _____
11. Membership of Professional Bodies : Indian Plumbing Association

12. **Research Papers Published / Presented : (For Present Term)**

Sr. No.	Title of the Paper	Name of Journal / Periodical / Seminar /Conference	Details (Year & Month, Vol. No., page nos. etc)	Name of Co-author
1.	Plastic Recycling Plant(crushing)	GJESR	April 2019 (In Press)	Avinash Kotiyan Prashant Sharma Keerim Kale Sohail Khan
2.				
3.				
4.				
5.				

13. **Books published with details :**

Sr. No.	Title	Name of the Publisher	Details
1.			
2.			

14. **Seminar / Conference / QIP / WORKSHOP / Industrial Training/ Summer / Winter School Attended:**

Sr. No.	Name of Programme	Subject	Place	Date and Duration of Programme
1.				
2.				
3.				
4.				

TEACHING LOAD

Sr. No	Class	Subject	L	P	T	Total
1.	BE A	Advanced Mfg Process	3	-	-	03
2.	BE B	Advanced Mfg. Process	3	-	-	03
3.	~~MS-II~~ TE A	Machine Shop - II		4		04
4.	TE B	Machine Shop II		6		06
5.						
6.						
		Total	6	10	-	16

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9.30-10.30	BE B AMP		TE B1			
10.30-11.30		~~BE B AMP~~	MS II	BE B AMP	BE B AMP	
	B	R	C	A	K	
12.15-1.15	TE A2 MS-II	~~TE A3 MS-II~~	BE A AMP		TE A1 MS-II	
1.15-2.15				BE A AMP		
	B	R	C	A	K	
2.30-3.30		TE B2		TE B3	BEA	
3.30-4.30		MS-II		MS-II		

Remarks :

LESSON PLAN

Class : BE Sem. : II Subject : Advanced Mfg. Proces Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date A	Planned Date B	Topics / Subtopics Planned
1	I	19-12	17-12	Metal forming Roll Forming
2		20-12	20-12	High Velocity Roll Forming
3		21-12	21-12	High Velocity Mech. Forming
4		26-12	24-12	Electromagnetic Forming
5		27-12	27-12	High energy rate Forming HERF
6		28-12	28-12	Spinning Processes.
7		02-1	31-12	Flow forming Processes. Petro Forming
9	II	03-1	03-1	Advanced Welding Casting + Forming Process
10		04-1	04-1	Friction stir welding - Introduction
11		9-1	07-1	Theory of FS Welding EBM LB Weldg
12		10-1	10-1	Temp Distribution in FSW.
13		11-1	11-1	Resultry Melt flow in FSW
14		16-1	14-1	Advanced Die Casting Ultrasonic Weldg
15		17-1	17-1	Vaecum Die Casting Underwater Weldg
16		18-1	18-1	Squeeze casting Process Cryogenic Weldg
17	III	23-1	21-1	Advanced Techniqs for Material Processg
18		24-1	24-1	Shape Tube Electrolytic Maching
19		25-1	25-1	Electroject Maching EJM
20		30-1	28-1	Electrolytic In process Dressg
21		31-1	31-1	Electrochemical Grinding Processes
22		1-2	1-2	Electrochemical Etching
23		6-2	4-2	Laser based heat treatment
24		7-2	7-2	Unit Test.

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : BE Sem. : II Subject : AMP Lectures Per Week : ___ Hrs.

	Actual Conduction Date A	Actual Conduction Date B	Topics / Subtopics Actually covered	HoD Sign
1	2/1/19	3/1/19	Metal forming Roll forming	
2	3/1/19	4/1/19	High Velocity Roll forming	
3	4/1/19	7/1/19	High Velocity Mech. Forming	
4	10-1	10-1	Electromagnetic Forming	
5	17-1	11-1	High Energy Rate forming	
6	17-1	14-1	Spinning Processes Flow spinning Petro Syg	
7	18-1	14-1	Advanced Welding Processes Friction Stir Weld	
8	23-1	17-1	Friction stir welding & its tooling	
9	24-1	17-1	Electron Beam Welding Laser beam Welding	
10	25-1	18-1	Ultrasonic Weldg Under Water Weldg	
11	C-2	21-1	Cryogenic welding	
12	7-2	24-1	Advanced Techniques for Metal Forcing	
13	8-2	25-1	STEM	
14	11-3	4-2	EJM	
15	13-3	7-2	Electrolytic In process Dressing	
	14-3	8-2	Electro chemical Etching	
	15-3	11-2	Laser based Heat Treatments	
	20-3	14-2	Micro maching Process	
	21-3	15-2	Dimond micro machining Process	
	22-3	21-2	Comparision with conventional	
	27-3	22-2	Micro EDM & Macro EDM	
	28-3	22-2	Construction Working Adv & Dis Adv	
	1-4	25-2	Comparision with Conventional EDM	
	7-4	28-2	Additive mfg Process	
	13-4	1-3	Process development & Technology	
	14-4	11-3	General Additive mfg Process	

Signature of Faculty _____

LESSON PLAN

Class : BE Sem. : II Subject : AMP Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned A Date	Planned B	Topics / Subtopics Planned
25	IV	8-2	8-2	Micro maching Processes
26		13-2	11-2	Diamond micro m/c process
27		14-2	14-2	Working Construction & comparison with conventional
28		15-2	15-2	Ultrasound micro m/c process
29		20-2	18-2	Working construction Adv & Dis Adv.
30		21-2	21-2	Micro Electro Discharge m/c & Micro EDM
31		22-2	22-2	construction working Adv, & Dis Adv Application
32		27-2	25-2	Comparision with conventional EDM
33	V	28-2	28-2	Additive Mfg. Process.
34		29-2	29-2	Development of additive mfg. Process & Technology
35		13-3	11-3	General Additive mfg. process
36		14-3	14-3	Powder based fusion Process
37		15-3	15-3	Extrusion based Systems
38		20-3	18-3	Sheet lamination Process
39		22-3	22-3	Direct write Technology
40		27-3	25-3	Comparision with subtractive mfg. & future scop
41	VI	27-3	25-3	Measurement Techniques in Micromaching
42		28-3	28-3	Introduction to measurement Techniques
43		28-3	28-3	Classification of measuring systems
44		29-3	29-3	Microscopes : Optical Microscope.
45		29-3	29-3	Electetron Microscopes
46		01-4	1-4	Laser based System, Atomic force microscope
47		01-4	01-4	Interference Microscope and Comparators
48		02-4	02-4	Surface profiler Scanning Tunneling microscop

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : BE Sem. : II Subject : AMP Lectures Per Week : ___ Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
25-03-2019	Powder based fusion Process	
20-03-2019	Extrusion based Systems	
24-04-2019	Sheet Lamination Process	
22-04-2019	Direct write Technology	
27-03-2019	Comparision with conventional & futurescop	
28-03-2019	Measurent Techniques in micro	
29-03-2019	machining, Introduction to diffent	
03-04-2019	techniques Classification of measy	
04-04-2019	Microscopes : Optical, Electron	
05-04-2019	Atomic force microscop & comparatry	
08-04-2019	Surface profiler scanny Tunny microscop	
09-4-2019		

Signature of Faculty _____

Session : 2018 / 2019 Semester : VIII

Branch : BE Mech A

COLLEGE OF ENGINEERING, LAVALE

Name of Subject : AMP

Roll No.	Name of the Student	Date	02-1-19	03-1	04-1	10-1	17-1	17-1	18-1	23-1	24-1	25-1	06-2	07-2	08-2	11-2	13-2	14-2	15-2	20-2	21-2	22-2	27-2	28-2	01-3	07-3	13-3	14-3	15-3	20-3	21-3	22-3	27-3	28-3	29-3	03-4	04-4	05-4	08-4	09-4	Online Test Marks				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
01	Akash Kabra				.	.	.	1	2	.	3	4	5	6	7	8	9	10	11	.	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33																			20
02	Aatrey Suthe PDD			1	2	3	4	5	.	6	-	-	-	-	-																																												PDD
03	Ashutosh Kathole PDD			.	-	.	1	2	.	3	-	-	-	-	-																																												PDD
04	Barje Atharv PDD			.	.	.	1	2	.	.	-	-	-	-	-	-																																										PDD
05	Baviskar Kamlesh PDD			.	.	.	.	.	.	.	-	-	-	-	-	-																																										PDD
06	Bhise Shripati			.	.	.	.	.	.	1	.	2	3	.	.	.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28																			PDD
07	Bholane Pratik			.	.	.	.		1	.	.	2	3	.	4	.	5	6	7	8	9	10	11																																									23
08	Bhute Nikhil			.	.	.	1	2	3	4	.	5	6	7	8	.	9	10	.	11	12	13	14																																									21
09	Chaitany Prabhu PDD			,	.	.	.	1	.	,	.	-	-	-	-	-																																														PDD
10	Chandak Kiran			.	.	.	1	2	.	2	3	4	.	5	6	.	7	8	9	10	11	12	13	13																																									23
11	Chaudhary Roshan			.	.	.		1	2	3	4	5	6	7	8	9	10	11	*	12	13	14	15	16																																									20
12	Chaudhary Akashay			.	.	.		1	.	2	.	3	4	.	.	.	.	.	5	6	7	8	9	10																																									11
13	Chikade Rushikesh			1	2	2	2	3	4	.	.	5	6	7	.	.	.	8	9	10	11	12	13	14																																									13
14	Chugade Mahendra			,	1	.	.	2	.	3	.	4	5	.	.	.	6	7	8	9	10	11	12	13																																									15
15	Dabhade Shreyash PDD			.	.	.	.	.	.	1	-	-	-	-	-	-	-	-	2	3																																									PDD
16	Das Ankush			.	.	.	.	.	.	1	.	2	3	.	.	.	4	5	6	7	8	9	10	11																																									24
17	Deokar Priyanka			.	.	.	.	.	.	.	.	.	.	.	.	.	1	2	3	4	5	6	7	8																																									23
18	Desai Nilesh			.	,	,	1	2	.	3	4	5	6	7	8	.	9	10	11	12	13	14	.	15																																									22
19	Desai Praveen			.	.	.	.	*	.	.	.	1	2	.	.	.	3	4	5	6	7	8	9	10																																									21
20	Dhakane Pradip			.	.	.	1	2	3	4	5	6	7	.	8	.	9	10	.	11	12	13	14	*																																									25
21	Gaddmwar Yash			.	.	.	.	.	.	.	.	.	.	.	1	2	3	4	.	5	6	7	8	.																																									15
22	Gawade Rohan			.	.	.	.	.	.	.	.	.	.	1	2	.	3	4	5	6	7	8	9	10																																									16
23	Ghadage Nikhil PDD			.	1	.	.	.	.	.	-	-	-	2	.	.	.																																														PDD
	Signature of Faculty :-			*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*																

Session : 2018/2019 Semester : VIII

Branch : BE Mech. A

COLLEGE OF ENGINEERING, LAVALE

In Sem '5/3/19 – 9/3/19

Name of Subject : AMP

Roll No.	Name of the Student	Date	2-1	2-1	3-1	9-1	10-1	17-1	18-1	19-1	23-1	25-1	6-2	7-2	8-2	11-2	13-2	14-2	15-2	20-2	21-2	22-2	27-2	28-2	01-3	07-3	13-3	14-3	15-3	20-3	21-3	22-3	27-3	28-3	29-3	3-4	4-4	5-4	8-4	9-4	Online Test Marks				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
24	Ghadge Pranav				.	.	1	2	3	c	.	.	4	.	.	.	:	5	6	7	8	9	10	11	12	13	13	14	15	16	17	18	19	20	21	22	23	23	24	25	25	25			

Session : 2018/2019 Semester : VIII

Branch : BE Mech A

COLLEGE OF ENGINEERING, LAVALE

Name of Subject : AMP

Roll No.	Name of the Student	Date	02-1-19	03-1-19	04-1	10-1	17-1	17-1	18-1	23-1	24-1	25-1	6-2	7-2	8-2	11-2	13-2	14-2	15-2	20-2	21-2	22-2	27-2	28-2	01-3	07-3	13-3	14-3	15-3	20-3	21-3	22-3	27-3	28-3	29-3	3-4	4-4	5-4	8-4	9-4	Online Test Marks				
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
48	Narkhede Kanhaiya																																																										
49	Nimbalkar Sumit						1		2	3	4	5		6	7	8	9	10		11	12	13	14			15	15	16	16	16	16	17	18	19	20	21	22	23	24	24	24																		

Session : 2018 / 2019 Semester : VIII

Branch : BE Mech. B

COLLEGE OF ENGINEERING, LAVALE

Name of Subject : AMP

Roll No.	Name of the Student	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
			3-2	4-2	7-2	8 Sat	10-2	11-2	14-2	15-2	17-2	18-2	21-2	22-2	24-2	25-2	28-2	1-3	11-3	14-3	15-3	18-3	21-3	22-3	25-3	29-3	31-3	1-4	4-4	5-4	8-4																												
02	Patil Tejas		✓	✓	✓	✓	✓	1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					17
03	Pawar Darshan			✓	✓	✓	✓	✓	1	✓	2	2	2	2	2	2	2	3	3	3	4	5	5	5	✓	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					16
04	Rathod Vikas			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1	1	1	1	1	1	1	1	1	1	1	✓	✓	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					15
05	Saha Alok			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					22
06	Sahil Joshi			✓	✓	✓	✓	1	✓	2	3	3	3	3	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	9	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					22
07	Sathe Ajay			✓	✓	1	2	3	4	5	5	6	7	7	8	8	9	9	9	10	11	12	✓	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					17
08	Shaikh Waqar			✓	✓	✓	✓	✓	1	2	2	3	4	5	5	5	5	6	✓	7	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					11
09	Sharma Prashant			✓	✓	✓	1	2	3	3	4	4	4	4	4	4	5	6	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					11
10	Sheikh Suraj Khaja			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					17
11	Shendge Sagar			✓	✓	✓	✓	1	2	2	2	2	2	2	3	3	3	3	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					10
12	Sohail Khan			✓	✓	1	2	3	4	5	6	6	6	6	6	7	8	8	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					15
13	Tagad Rahul		1	✓	2	3	4	5	6	7	8	9	10	11	11	11	12	12	12	12	13	14	15	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					21
14	Tathe Shubham			✓	✓	1	2	3	3	4	4	5	6	7	8	8	8	8	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51					15
(15)	Utgikar Abhishek PDD		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					PDD
16	Yadav Lokesh			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					20
17	Yelve Rakesh			✓	1	2	✓	3	✓	4	✓	✓	✓	5	✓	✓	6	✓	✓	7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					19
(18)	Aage Pavan PDD		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					PDD
19	Admapure Dattatray			✓	✓	1	2	3	4	5	✓	6	7	8	9	10	11	✓	12	13	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					20
20	Bhanej Mishra (YD)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					PDD
23	Chaudhari Rahul W (PDD)		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—					YD
27	Dure Sharad			✓	✓	1	2	3	4	5	✓	6	7	8	9	✓	✓	✓	✓	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					PDD
28	Gade Dattatrya			✓	✓	✓	1	✓	✓	✓	2	3	4	5	✓	✓	6	7	8	9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					18
29	Gaikwad Shivkrushna			✓	✓	1	2	2	2	2	2	3	3	3	4	5	6	7	8	9	10	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					24
	Signature of Faculty :-		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					19

Online Test Marks

Session : 2018 / 2019 Semester : VIII

Branch : BE B Mech

COLLEGE OF ENGINEERING, LAVALE

Name of Subject : AMP

Roll No.	Name of the Student	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
			03-1	04-1	07-1	10-1	11-1	12-1	14-1	17-1	17-1	18-1	21-1	24-1	25-1	4-2	7-2	8-2	11-2	14-2	15-2	21-2	22-2	22-2	25-2	26-2	1-3	11-3	14-3	15-3	18-3	21-3	22-3	25-3	28-3	29-3	1-4	4-4	5-4	8-4																				
30	Ghosh Debabrata				1	1	2	2	3	3	3	3	4	4	5	5	6	6	6	6	7	8	8	8	9	10	11	12	13	14	15	16	17	18	19	20	20	21	21	21																				14
31	Jadhav Omkar			0	0	1	2	2	3	4	4	5	6	6	6	7	8	9	9	10	10	10	10	11	11	12	13	14	15	16	17	18	18	19	19	20	21	22	23	24																				15
32	Janunkar Nikhil						1	1	1	1	1	2	3	4	5	6	6	6	6	6	6	6	7	7	8	9	9	9	10	10	11	12	13	14	15	16	17	18	19																				12
33	Joshi Atharva				1	1	1	1	2	2	2	3	3	4	5	5	6	7	7	8	8	8	9	9	10	11	12	13	14	15	16	17	18	18	20	20	20	21	21																				16
34	Kadam Shubham			1	1	1	2	3	4	4	4	4	5	5	6	7	8	9	10	10	10	10	10	10	11	11	12	13	14	15	16	17	18	19	20	21	22	23	23	24	25																		19
35	Kane Abhijeet						1	2	3	3	4	5	5	6	7	8	9	9	10	10	11	11	11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27																		09
36	Khemnar Pradip						1	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	4	5	6	7	8	9	10	11	12	12	12	13	13	13	14	15	16	17	18	19																		12
37	Kulkarni Nikhil						1	2	3	3	4	4	4	5	5	6	7	4	8	9	9	10	10	10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																		12
38	Mahajan Rishikesh						1	2	3	4	5	2	3	3	4	4	4	4	4	4	4	4	4	5	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19	20																		13
41	Mohite Akshay				1	2	3	4	5	6	6	7	8	9	10	-	11	-	12	13	14	-	-	-	-	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30																		11
42	More Mehal				1	2	3	4	5	5	5	5	5	5	5	2	-	-	-	-	-	-	-	-	-	-	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																		15
43	Patil Akshay Bharat						1	2	3	3	3	3	3	3	4	4	4	5	5	5	5	-	-	-	-	-	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21																		15
45	Patil Hemraj						1	2	3	3	3	3	3	3	3	3	4	4	4	5	5	5	5	-	-	-	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																		13
46	Patil Shubham C.						1	2	3	3	3	3	3	3	3	3	4	4	4	5	6	6	-	-	-	-	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																		16
47	Ressane Mayur						1	2	3	3	3	3	3	3	3	3	4	4	4	5	5	6	6	6	-	-	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29																		16
48	Rodage Atul						1	1	1	1	1	1	1	1	2	3	4	4	5	5	6	6	6	6	-	-	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																		16
49	Sayyad Afroj						1	1	1	1	2	3	3	4	4	4	4	4	5	-	6	7	7	7	-	-	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22																		12
51	Shelar Sachin																										8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23																		14
52	Shinde Sugrim						1	2	3	4	5	5	6	1	7	8	9	10	20	10	11	12	13	14	-	-	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30																		10
53	Tadkar Amol						1	2	3	4	4	4	4	4	4	5	5	6	7	-	-	8	-	9	-	-	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																		16
56	Zade Shubham.						1	2	2	2	2	2	3	3	3	3	4	5	-	-	6	7	8	-	-	-	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25																		16
55																											1	-	-	-	2	3	-	-	-	-	-	-	-	-	-																		17

STUDENT SEMINAR DETAILS

Sr. No.	Roll No.	Name of Student	Topic	Mobile No.
1	A1	Ghate Akshay G	Automatic Air Suspension System	7276703651
2	A2	Abhay Kumar	Underwater Welding	9111583308
✓3	A3	Abhijit V. More	Design and Analysis of Automotive Carbon fiber composite bumper based on FEA	9765143773
✓4	A4	Abhishek Raj	In wheel Motor Systems	7307181713
✓5	A5	Alat Sadashiv R.	Servotronic Break Control System	7507502586

STUDENT PROJECT

Group	Roll No.	Name of Student	Topic	Mobile No.
G30		Sagar Shendge	Enhancement the rate of reaction, b/w constituent elements in Biogas Digester	
		Akshay Mohite		
		Rohan Gavade		
		Sachin Shelar		
G05	A-37	Kelin Koli	Plastic Recycling Plant.	8007742624
	A-38	Avinash Kolien		8080503856
	B-09	Prashant Sharma		7921026077
	B-12	Sohail Khan		7057123076

SEMINAR ATTENDANCE

Sr. No.	Roll No.	Mon-Fri	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	A1		H/H	7-1-19	15-1-19			11-4-19									
	A2		21-1-19	22-1-19	26-1-19												
	A3		10-1-19	30-1-19	6-2-19			9-4-19									
	A4		7-1-19	11-1-19	15-1-19	16-1-19	21-1-19	1-3-19	6-3-19	11-4-19							
	A5		1-1-2019	8-1-2019	15-1-2019	1-2-19	6-2-19		10-4-19	11-4-19							

Project

SEMINAR ATTENDANCE

Group	Roll No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		14-12-18															
		3-1-19															
		12-1-19															
		18-1-19															
		15-2-19															
		22-2-19															
		15-3-19															
		22-3-19															
		23-3-19															
		29-3-19															
		1-4-19															
G05	A37		P	P	P	P	P	P	P	P	P	A	P				
	A38		P	P	P	P	A	P	P	P	P	P	P				
	B-05		P	P	P	A	A	P	P	P	P	P	P				
	B-12		P	P	P	P	P	P	P	A	P	P	P				

Additional Lectures / Experiments / Guest Lectures Conducted

Sr.No.	Class	Topic	Guest	Date	Time
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Record of Lectures Missed

Sr.No.	Class	Subject	Reason	Date	Time	Remarks
1.	BE A	AMP	DL	19-12-2018	1.15-2.15	
2.	BE B	AMP	CL	22-12-2018	9.30-10.30	
3.	BE A	AMP	CL	29-12-18	9.30-10.30	
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						

Record of Additional Activities

(Contribution in development of workshop / laboratories / Infrastructure / Course curriculum / Participation in co-curricular & extracurricular activities / Lectures delivered out side etc.)

Sr. No.	Date & Duration	Details of Activity
1.	11-01-2019 Friday One Day	BE Mech. Syllabus Implimentation meeting Participated at PCCOER Ravet.
2.	20-02-2019 to 21-02-2019	Appointed as a University Theory Examination Paper Setter for In Semester examination March 2019
3.	26-03-2019 to 27-03-2019	Activity like National Conference organised in college as a organising Secretary for NCRAES 2K19
4.	28-03-2019	National level Project Competitions Exibition for Mechanical, Automobile, Production Engineering students, contributed as Organising Secretary
5.		
6.		

Result Analysis of Subjects Taught in Previous Term

Sr.No.	Class / Semester	Subject	No. Students appeared	No. of students passed	% Passing	Action plan for Improvement
1.	SE Mech IIIrd Sem	Manufacturing Process Online	91	87	95 Online	
2.	SE Mech IIIrd Sem	MP-I Oct 2018 Theory Exam	91	70	77	
3.						
4.						
5.						
6.						

LESSON PLAN

Class : B.E Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25	IV	16/9/2022	Variants of multiclass classification.
26	IV	21/9/2022	Evaluation metrics & score.
27	IV	22/9/2022	macro - Average F- score.
28	IV	23/9/2022	Case studies.
29	V	18/9/2022	K - means - unsupervised learning & all other.
30	V	29/9/2022	outlier analysis.
31	V	30/9/2022	Introduction of isolation factor.
32	V	6/10/2022	Local outlier factor & Basic concepts.
33	V	7/10/2022	Evaluation metrics & score.
34	V	13/10/2022	Elbow method extristic & intrinsic methods
35	V	13/10/2022	market Basket. Case studies.
36	VI	14/10/2022	Introduction to Neural NIW.
37	VI	19/10/2022	ANN - Single Layer Neural NIW.
38	VI	20/10/2022	multilayer perceptron
39	VI	21/10/2022	Basic Propagation learning Functional link ANN
40	VI	27/10/2022	Radial Basis function NIW.
41	VI	28/10/2022	Introduction to RNN & CNN.
42	VI	2/11/2022	Case studies & Revision.

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : B.E Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
13/10/2022	K - means - unsupervised learning & all other.	
13/10/2022	outlier analysis.	
14/10/2022	Introduction to Neural NIW - ANN.	
14/10/2022	Introduction of Isolation factor	
19/10/2022	Local outlier factor & basic concepts.	
20/10/2022	Evaluation metrics & score.	
20/10/2022	Introduction to RNN & CNN.	
21/10/2022	Case studies & Revision in short.	

LESSON PLAN

Class : B.E. Sem. : I Subject : m.l Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
1	I	20/7/2022	Introduction to m.l, comparision with other Programming
2	I	21/7/2022	ML VS AI VS DS, Types of learning.
3	I	22/7/2022	Reinforcement Learning Techniques
4	I	27/7/2022	Different models of m.l
5	I	28/7/2022	Parametric & Non parametric models.
6	I	29/7/2022	Important Elements of m.l
7	I	3/8/2022	case studies.
8	II	4/8/2022	Feature Engineering, concept, Preprocessing Data
9	II	5/8/2022	Introduction to Dimensionality Reduction,
10	II	10/8/2022	PCA, & Principal Component Analysis).
11	II	11/8/2022	Feature Extraction.
12	II	12/8/2022	Introduction to various Feature Selection Techniques
13	II	17/8/2022	Statistical feature engineering, Multidirectional scaling
14	II	18/8/2022	matrix Factorization Techniques & Case studies
15	III	19/8/2022	Supervised Learing Regression Basics.
16	III	24/8/2022	Bias, variance, Generalization, Underfitting
17	III	25/8/2022	overfitting, linear regression
18	III	26/8/2022	Regression - loss regression & Case Studies.
19	III	1/9/2022	Ridge regression, Gradient descent Algorithm
20	III	2/9/2022	Evaluation metrics.
21	IV	7/9/2022	classification - K-NN & SVM.
22	IV	8/9/2022	Ensemble Learning - & Adaboost.
23	IV	14/9/2022	Binary vs multiclass classification.
24	IV	15/9/2022	Balanced & Imbalanced multiclassifications

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : B.E Sem. : I Subject : m.l Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
20/7/22	Basic of AI, ml, Introduction, comparison with other	
21/7/22	Types of learning.	
22/7/22	Reinforcement learning techniques.	
27/7/22	different models of m.l	
28/7/22	Parametric & Non Parametric models.	
29/7/22	Important Elements of m.l	
3/8/22	case studies.	
4/8/22	Feature Engineering concept, preprocessing Data	
10/8/22	Introduction to Dimensionality Reduction	
12/8/22	PCA & Principal component Analysis	
17/8/22	Feature Extraction	
18/8/22	Introduction to various feature selection Tech	
19/8/22	statistical feature engg. multi dimensionality	
24/8/22	matrix Factorization Techniques & Case studies	
25/8/22	supervised learning Regression Basics.	
26/8/22	Bias, Variance, Generalization, underfitting.	
1/9/22	overfitting, linear regression.	
2/9/22	Regression - loss regression & case studies	
7/9/22	Ridge regression Gradient descent Algorithm	
7/9/22	Evaluation metrics & K-NN Basic	
16/9/22	Classification of K-NN & SVM.	
21/9/22	Ensemble learning & Adaboost	
22/9/22	Binary vs multiclass classification	
23/9/22	Balanced & Imbalanced multiclassifications	
28/9/22	revision of multiple classifications	
29/9/22	Evaluation matric kmnc	
30/9/22	Case studies.	

Signature of Faculty _____

Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

12. Research Papers Published / Presented : (For Present Term)

Sr. No.	Title of the Paper	Name of Journal / Periodical / Seminar /Conference	Details (Year & Month, Vol. No., page nos. etc)	Name of Co-author
1.	Application Based Research study on Elearning personalization with Artificial Neural Networks.	IJRAR.	2022 IJRAR. June 2022, Vol. 9, Issue 2.	Sanjeev Sajjanhar. Jaffa Ahmad. Gaurav Jadhavraj.
2.				
3.				
4.				
5.				

13. Books published with details :

Sr. No.	Title	Name of the Publisher	Details
1.	SOFTWARE TESTING & QUALITY ASSURANCE	Technical Publication	B.E comp 2019 Pattern. (CE-IV)
2.			

14. Seminar / Conference / QIP / WORKSHOP / Industrial Training/ Summer / Winter School Attended:

Sr. No.	Name of Programme	Subject	Place	Date and Duration of Programme
1.	FDP on LP-II	Resource person.	online mode.	31/8/2022
2.	National Intellectual property Awareness mission.	Training program NIPAM. IPR, India	online mode.	21/7/2022.
3.				
4.				

TEACHING LOAD

Sr. No.	Class	Subject	L	P	T	Total
1.	B.E. computer.	M.L.	03	–	–	03
2.	B.E. computer.	LP-III	–	08	–	08
3.	B.E. computer	Project stage-I.	–	02	–	02
4.	T.E. computer.	STC	–	–	1	01
5.						
6.						
		Total	03	10	–	13+1

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9:30 am	LP-III A					
10:30 am			PROJECT	ML	ML	
11:30 am.						PROJECT
12:30 pm.	R	E	C	E	S	S
1:15 pm			ML			
2:15 pm	B	R	E	A	K	
2:30 pm			LP-III B	LP-III A	LP-III B	
3:30 pm						

Remarks :

Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Pune - 412 115

LESSON PLAN

Class : TE Sem. : V Subject : Elective-I Machining Science and Technology Lectures Per Week : 03 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
1	1.	18/7/22	Introduction to metal cutting, Single pt. cutting tool
2		21/7/22	Chip formation, types of chips
3		22/7/22	Merchant's Circle of force analysis.
4		25/7/22	MRR-Effect of cutting variables on forces.
5		28/7/22	Machinability, Factors affecting
6		29/7/22	Tool life equation, Numericals
7		1/8/22	Tool wear and its types.
8		4/8/22	Factors affecting on tool life.
9	2	5/8/22	Introduction to Gear and Thread Manufacturing
10		8/8/22	Methods of gear manufacturing
11		11/8/22	Milling of Gears - indexing methods.
12		12/8/22	Helical gear cutting.
13		18/8/22	Gear shaping and Gear Hobbing Process
14		19/8/22	Thread Manufacturing, thread rolling,
15		22/8/22	die threading, Tapping
16	3	25/8/22	Grinding and types and operations
17		26/8/22	Grinding wheel - Shapes, Designation
18		29/8/22	Abrasives and classification,
19		1/9/22	Bond and bonding, Grit, Grade and Structure
20		2/9/22	Types of grinding wheel, mounting
21		5/9/22	Glazing and loading of wheels.
22		8/9/22	Super finishing Honing, Lapping
23		9/9/22	Buffing, Burnishing.
24	4	12/9/22	Significance and purpose of jigs and fixture

Signature of Faculty _____ HOD _____ 30/7/22

ACTUAL COVERAGE

Class : TE Sem. : V Subject : Elective-I Machining Science and Technology Lectures Per Week : 03 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
21/7/22	Introduction to Gear technology	30/8/22
22/7/22	Gear Manufacturing Methods	
25/7/22	Gear Hobbing process	
29/7/22	Gear Shaping process	
1/8/22	Indexing methods	30/8/22
4/8/22	Numericals on indexing methods	
11/8/22	Introduction to metal cutting	
18/8/22	Geometry of single point cutting tool.	
22/8/22	Types of chips and chip formation	28/10/22
24/8/22	Merchants circle force analysis.	
26/8/22	Relationship betn rake angle and friction angle	
29/8/22	Numericals on force analysis	
2/9/22	MRR effect of cutting variable forces	28/10/22
5/9/22	Machinability and factors affecting machinability	
7/9/22	Tool life equation and Numericals	
12/9/22	Tool wear and its types.	
14/9/22	Economics of machining	28/10/22
15/9/22	Numericals on tool life.	
16/9/22	Grinding and types and operations	
19/9/22	Abrasive, types, Grinding classifications	
21/9/22	Numericals of Grinding machining time.	28/10/22
11/10/22	CNC programming, CNC Introduction	
12/10/22	CNC part programming	
14/10/22	CNC classification.	
17/10/22	CNC turning programe	27/10/22
19/10/22	CNC milling programme	
20/10/22	DNC, subroutine, Do loop.	

H.O.D. Mechanical Engineering Bhate Sheth's College Of Engineering Lavale Pune

Signature of Faculty _____

Session : 2021/2023 Semester : V

Branch : TE.

COLLEGE OF ENGINEERING, LAVALE

Name of Subject : MST

Roll No.	Name of the Student	Date	27/7/22	2/8/22	3/8/22	29/8/22	1/8/22	4/8/22	11/8/22	18/8/22	22/8/22	29/8/22	26/8/22	29/8/22	2/9/22	5/9/22	7/9/22	12/9/22	14/9/22	15/9/22	16/9/22	19/9/22	21/9/22	11/10/22	12/10/22
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
24	Praful Yelane		1	2	2	3	4	5	6	7	8	8	9	10	11	12	12	13	14	14	15	16	17	18	19
25	Manvith Venugopal		1	2	2	3	3	4	5	6	7	7	7	8	9	10	10	11	11	11	12	13	14	15	16
26	Aditya More		-	1	2	2	3	4	5	6	7	7	8	9	10	11	12	13	14	15	15	15	15	15	16
27	Hrishikes Sutar		-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	16	17	17	18
28	Pankaj Nehavkar		-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19
29	Tejas shelke		-	-	-	-	1	2	3	4	5	6	7	7	8	9	10	11	12	13	14	15	16	17	17
30	Shreyash Pawar		-	-	-	-	1	2	3	4	5	6	6	6	7	8	8	9	10	11	12	13	14	15	15
31	Mahesh Telekar		-	-	-	-	1	2	3	4	5	6	6	6	6	6	6	7	7	7	8	9	10	11	12
32	Mohan Fundse		-	-	-	-	-	1	2	3	4	5	5	5	5	6	7	7	8	9	10	11	12	13	14
33	Yathartth Khobrabade		-	-	-	-	-	-	1	2	2	3	4	5	6	6	7	8	9	10	11	12	13	14	15
34	Tushar Jadhav		-	-	-	-	-	-	1	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
35	Somnath kale		-	-	-	-	-	-	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
36	Sanyogitta Dhawale		-	-	-	-	-	-	1	2	3	4	5	6	6	7	8	9	10	11	12	13	14	15	15
37	Shreyash borkar		-	-	-	-	-	-	1	2	2	2	3	4	5	6	6	7	7	8	8	9	10	11	12
38	Himanshu Warkade		-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
39	Rishk Mishra		-	-	-	-	-	-	1	2	2	3	4	5	6	7	8	8	9	10	11	12	12	13	14
40	Tushar chilate		-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	3	4	5	5	6	7	7	8
41	Namdev devkate		-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	4	5	6	7	8	9	10	11
42	Rohan Pawar		-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	3	4	5	5	6	6	7	8
43																									

Signature of Faculty :-

14/10/22	17/10/22	19/10/22	20/10/22	1/11/22	2/11/22	3/11/22	4/11/22	15/11/22	16/11/22	17/11/22	18/11/22	19/11/22	19/11/22	21/11/22	21/11/22	22/11/22	23/11/22	23/11/22	11/12/22	Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	Total	%	I	II	Inse Exa
20	21	21	22	23	24	25	26	27	28	29	29	30	30	31	32	33	33	34	35			16	16	09
17	17	18	18	19	20	20	21	22	23	24	25	26	26	27	28	28	29	30	31			18	15	20
17	17	18	19	20	21	22	23	24	24	28	28	27	27	27	28	28	29	30	31			20	22	AB
19	20	20	20	21	22	23	24	25	25	26	26	26	27	28	29	30	31	32	33			17	19	18
20	21	22	23	24	25	26	27	28	28	28	29	30	31	32	33	34	35	36	37			16	21	13
16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34			19	20	10
16	17	18	18	19	19	20	20	21	22	23	24	25	26	27	28	29	30	31	32			18	17	04
13	14	15	16	17	17	18	19	20	21	22	22	23	24	25	25	26	26	27	28			17	16	16
15	16	17	18	18	18	18	18	19	20	21	21	22	22	23	23	24	25	26	27			20	18	07
16	17	18	19	20	21	22	23	24	25	26	26	27	28	28	29	29	30	31	32			23	17	04
16	16	17	17	18	18	18	19	20	21	22	22	23	24	25	26	27	28	29	30			20	16	13
17	18	19	20	21	21	22	22	23	24	25	26	27	28	28	29	30	31	32	33			18	18	16
16	17	18	19	20	20	21	22	23	24	25	26	27	28	29	30	31	31	32	33			17	18	16
13	14	15	16	17	18	18	18	19	20	21	22	23	24	25	26	27	28	29	30			18	16	10
18	19	20	21	22	23	24	25	26	27	28	29	30	31	31	32	33	34	34	34			16	15	09
15	16	16	17	18	19	20	21	22	22	23	23	24	25	26	27	28	29	30	31			15	22	16
8	9	10	11	12	13	13	14	15	15	16	17	18	19	20	20	21	22	23	24			22	19	14
12	13	13	13	14	15	15	15	16	17	18	18	19	20	20	21	22	23	24	25			19	21	13
9	9	10	11	12	13	14	15	16	16	16	17	17	18	19	20	21	22	23	24			16	17	23
1																								

H.O.D.
Mechanical Engineering
Bhivarabai Sawant College Of Engineering & Research
Narhe, Pune

LESSON PLAN

Class : B.E. Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25	IV	16/9/2022	Variants of multiclass classification
26	IV	21/9/2022	Evaluation metrics & score.
27	IV	22/9/2022	macro - Average F - score.
28	IV	23/9/2022	Case studies.
29	V	28/9/2022	K - means. unsupervised learning & all steps.
30	V	29/9/2022	outlier analysis.
31	V	30/9/2022	Introduction of isolation factor
32	V	6/10/2022	Local outlier factor & Basic concepts
33	V	7/10/2022	Evaluation metrics & score.
34	V	12/10/2022	other method, extaistic & intrinsic methods
35	V	13/10/2022	market Basket. Case studies.
36	VI	14/10/2022	Introduction to Neural NW.
37	VI	19/10/2022	ANN - single Layer Neural NW.
38	VI	20/10/2022	multilayer perceptron
39	VI	21/10/2022	Basic propagation learning, functional link ANN.
40	VI	27/10/2022	Radial Basis function NW.
41	VI	28/10/2022	Introduction to RNN & CNN.
42	VI	2/11/2022	Case studies & Revision.

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : B.E. Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
13/10/2022	K means. unsupervised learning & all steps.	
13/10/2022	outlier analysis.	
14/10/2022	Introduction to Neural NW - ANN	
14/10/2022	Introduction of Isolation factor.	
19/10/2022	Local outlier factor & Basic concepts.	
20/10/2022	Evaluation metrics & score	
20/10/2022	Introduction to RNN & CNN.	
21/10/2022	Case studies & Revision in that.	

LESSON PLAN

Class : B.E. Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
1	I	20/7/2022	Introduction to ML, Comparison with other Programming
2	I	21/7/2022	ML vs AI vs DS, Types of learning
3	I	22/7/2022	Reinforcement Learning Techniques
4	I	27/7/2022	Different models of ML
5	I	28/7/2022	Parametric & Non parametric models.
6	I	29/7/2022	Important Elements of ML
7	I	3/8/2022	Case studies.
8	II	4/8/2022	Feature Engineering, concept, Preprocessing Data
9	II	5/8/2022	Introduction to Dimensionality Reduction,
10	II	10/8/2022	PCA, & Principal Component Analysis).
11	II	11/8/2022	Feature Extraction.
12	II	12/8/2022	Introduction to various Feature Selection Techniques
13	II	17/8/2022	Statistical feature engineering - multidirectional scaling
14	II	18/8/2022	matrix Factorization Techniques & Case studies
15	III	19/8/2022	Supervised Learning, Regression Basics
16	III	24/8/2022	Bias, variance, Generalization, Underfitting
17	III	25/8/2022	overfitting, linear regression
18	III	26/8/2022	Regression - lasso regression & Case Studies.
19	III	1/9/2022	Ridge regression, Gradient descent Algorithm
20	III	2/9/2022	Evaluation metrics.
21	IV	7/9/2022	Classification - K-NN & SVM.
22	IV	8/9/2022	Ensemble Learning - & Adaboost
23	IV	14/9/2022	Binary vs multiclass classification.
24	IV	15/9/2022	Balanced & Imbalanced multiclassifications

Signature of Faculty _____ HOD _____

ACTUAL COVERAGE

Class : B.E. Sem. : I Subject : M.L. Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
20/7/22	Basic of AI, ML, Introduction, Comparison with other	
21/7/22	Types of learning.	
22/7/22	Reinforcement learning Techniques.	
27/7/22	different models of ML.	
28/7/22	Parametric & Non Parametric models.	
29/7/22	Important Elements of ML	
3/8/22	Case studies.	
4/8/22	Feature Engineering concept, Preprocessing Data	
10/8/22	Introduction to Dimensionality Reduction	
12/8/22	PCA & principal component Analysis	
17/8/22	Feature Extraction	
18/8/22	Introduction to various Feature Selection Tec.	
19/8/22	statistical feature engg. multi dimensional	
24/8/22	matrix Factorization Techniques & Case studies	
25/8/22	Supervised learning Regression Basics.	
26/8/22	Bias, variance, Generalization, underfitting.	
1/9/22	Overfitting, linear regression.	
2/9/22	Regression - lasso regression, Case studies	
7/9/22	Ridge regression Gradient Descent Algorithm	
7/9/22	Evaluation metrics & K-NN Basic	
16/9/22	Classification of K-NN & SVM	
21/9/22	Ensemble learning - & Adaboost	
24/9/22	Binary vs multiclass classification	
25/9/22	Balanced & Imbalanced multiclassifications	
28/9/22	Variety of multiple classifications	
29/9/22	Evaluation matric KNN	
30/9/22	Case studies.	

Signature of Faculty _____

Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

12. Research Papers Published / Presented : (For Present Term)

Sr. No.	Title of the Paper	Name of Journal / Periodical / Seminar /Conference	Details (Year & Month, Vol. No., page nos. etc)	Name of Co-author
1.	Application Based Research study on E-learning personalization with Artificial Neural Networks	IJRAR.	2022 IJRAR. June 2022, VOL 9, Issue 2.	Sanjeev Wagh. Jaffa Ahmed. Gaurav Jadhav.
2.				
3.				
4.				
5.				

13. Books published with details :

Sr. No.	Title	Name of the Publisher	Details
1.	SOFTWARE TESTING & QUALITY ASSURANCE.	Technical Publication	B E comp 2019 Pattern. (E-IV)
2.			

14. Seminar / Conference / QIP / WORKSHOP / Industrial Training/ Summer / Winter School Attended:

Sr. No.	Name of Programme	Subject	Place	Date and Duration of Programme
1.	FDP on LP-II	Resource person.	online mode	3/8/2022
2.	National Intellectual property Awareness mission.	Training program. NIPAM. IPR, India	online mode.	21/7/2022.
3.				
4.				

TEACHING LOAD

Sr. No.	Class	Subject	L	P	T	Total
1.	B.E. computer.	M.L.	03	–	–	03
2.	B.E. computer.	LP-III	–	08	–	08.
3.	B.E. computer	Project stage-I.	–	02	–	02
4.	T.E. computer.	STC	–	–	1	01
5.						
6.						
		Total	03	10	–	13+1.

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9:30 am	LP-III A					
10:30 am			PROJECT	ML.	ML.	
11:30 am.						PROJECT
12:30 pm.	A	E	C.	E	S	S
1:15 pm			ML			
2:15 pm	B	R	E	A	K.	
2:30 pm			LP-III B	LP-III A	LP-III-B	
3:30. pm						

Remarks :

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Kondwale, Pune - 412 115

PROFILE OF FACULTY

Affix Recent Photograph Here

1. **Name :** Dy. S. A. Bhardwaj
2. **Date of Birth :** 10/07/1981
3. **Educational Qualification :** Ph.D.
4. **Work Experience :** (No. of Years) 18

   Teaching : 18 Research : –

   Industry : – Others : –
5. **Area of Specialization :** Physics
6. **Courses Teaching :**

Sr. No.	Class	Subject	L	P	Tut	Total
1	FE-B.	Physics	04	03	–	10
2						
3						

7. **UG Projects Ongoing :**

1.	–
2.	
3.	
4.	

8. **Research Projects :** – Nos.
9. **Technology Transfer :**

10. Awards : –
11. Membership of Professional Bodies : –

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale Pune - 412 115.

LESSON PLAN

Class : 'B' Sem. : I Subject : Physics Lectures Per Week : 04 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
01	Unit-1	26/8/19	Introduction of Interference.
02		27/8/19	Electromagnetic Waves and. Thin film.
03		28/8/19	Plane Parallel thin film. (For uniform thickness)
04		28/8/19.	Condition for Maxima and Minima. Darkness and. Brightness condition. Numericals
05		2/9/19	Wedge Shaped film. & Applications.
06		3/9/19	Diffraction of light. Types.
07		4/9/19	Fraunhoffer diffraction at a Single Slit
08		5/9/19.	Plane Transmission Grating. Rayleigh's Cri. R.P. of telescope. Resolving
09		10/9/19	Polarization of light, Malus law.
10		11/9/19	Double Refraction, H.T. theory., Application
11	Unit-2	11/9/19	Lasers. of light.
12		17/9/19	Semiconductor lasers, Single Hetro-junction laser
		14/9/19	Gas laser, optical working, Construction
		16/9/19	optical fibre, Principal,
		18/9/19	Types of, optical fibre
		19/9/19	Numerical Apperture, Acceptance Angle,
		20/9/19	Graded index fibre
		23/9/19	Application of optical fiber
		24/9/19	Related Numericals.
		25/9/19	Spontaneous & Stimulated Emission
		26/9/19	Metal stable State, P.I,
		26/9/19	Pumping Scheme,
		7/10/19	Related Numericals,
		9/10/19	Concepts of Q.M. Classical, Mech

Signature of Faculty _____ HOD _____

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

ACTUAL COVERAGE

Class : 'B' Sem. : I Subject : Physics Lectures Per Week : 04 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
26/8/19.	Introduction of Interference.	
27/8/19.	Electromagnetic Waves and Thin film.	
28/8/19	Plane Parallel thin film. (Tav. uniform.)	
28/8/19.	Brightness and darkness equation. Numerical.	
2/9/19	Wedge Shaped film. & Application.	
3/9/19	Diffraction of light & Types of diffrac	
4/9/19	Fraunhoffer diffraction at a Single slit	
5/9/19.	plane Transmission Grating.	
9/9/19.	Resolving Power, Cantre diffraction. Numerical.	
10/9/19.	Polarized light. Production of Polarized light	
12/9/19	Malus Law, Test	
16/9/19.	Huygen theory of double Refraction.	
	Positive Crystal and Negative Crystal.	
18/9/19	optical fibre, T.T.R. Principal	
19/9/19	Types of optical fibre, NA, Accep	
20/9/19	Introduction of Laser. Emission...	
23/9/19	Types of Lasers: Applications	
24/9/19	Thermal equilibrium condition	
25/9/19	Spontaneous, Stimulated	
26/9/19	Metastable, Active medium	
26/9/19	Pumping Scheme, Single Hetro	
7/10/19	junction, Gase Lasers	
9/10/19.	Limitation of classical Mechanics	

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

Signature of Faculty

LESSON PLAN

Class : _____ Sem. : _____ Subject : _____ Lectures Per Week : ____ Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
		9/10/19	Limitation of Classical Mech, D Broglie,
		9/10/19	phase velocity & Group Velocity.
		15/10/19	Heisenberg uncertainty Principle,
		16/10/19	physical Significance of Ψ,
		16/10/19	Time dependent & Independent Schr—
		5/11/19	Infinite Potential Well.
	IV	6/11/19	Finite Potential well & Tunneling,
		7/11/19	classification of Solids conductivity of conduc
		11/11/19	Electrical conductivity of Ex Semiconductor
		11/11/19	position of fermi level in inst & Extrinsic
		13/11/19	Solar cell, P.N. Junction, ferrite
		4/11/19	Concept of Semiconductor,
		18/11/19	Hall Effect, Applications, fill facto
	V	19/11/19	Introduction of Superconductivity
		26/11/19	properties of Superconductors
		26/11/19	Meissner Effect, Numericals
		27/11/19	Josephson Effect, AC, DC Effect
		28/11/19	Magnetism, Concept
		28/11/19	Susceptibility, Related, Hysteresis
		2/12/19	Applications
	VI	3/12/19	Concept of Nanotechnology, Properties
		3/12/19	Synthesis of nanomethod, Applicat
		3/12/19	Applications & definition.
	VII		

Signature of Faculty _____ HOD _____

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale Pune - 412 115.

ACTUAL COVERAGE

Class : _____ Sem. : _____ Subject : _____ Lectures Per Week : ____ Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
9/10/19	Limitation & D'Broagle Hypothesis eq.	
9/10/19	definations of Phase velocity & Group velocity	
15/10/19	Heisenberg uncertainty Principle	
16/10/19	physical Significance of wave function.	
16/10/19	Time dependent & Independent Schrodinger	
5/11/19	Infinite Potential well, Numerical	
6/11/19	Finite potential, Application.	
7/11/19	Classification of Solids	
11/11/19	Electrical conductivity of Ex. & Int.	
11/11/19	position of fermi level intrinsic & ex	
13/11/19	Solar cell, P-N Junction.	
14/11/19	Concept of Semiconductors	
18/11/19	Hall Effect, Application, fill fact	
19/11/19	Introduction of Superconductivity	
26/11/19	Properties of Superconductor	
26/11/19	Meissner Effect, Numerical	
26/11/19	Josephson Effect, AC & DC Effect	
27/11/19	Magnetism concept	
28/11/19	Susceptibility, Related Applications	
28/11/19	Concept of Nano technology, Prop.	
2/12/19	Synthesis of Method	
2/12/19	Applications -	
3/12/19	Definition of Nano electronics	
3/12/19	Method of NT.	

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College of Engineering,
Lavale Pune - 412 115.

Signature of Faculty _____

ession : 20 19/ 2020 Semester : I

ranch : Comp

COLLEGE OF

	Name of the Student	Date	28/8/19	29/8/19	28/8/19	28/8/19	3/9/19	4/9/19	5/9/19	11/9/19	11/9/19	14/9/19	16/9/19	18/9/19	19/9/19	20/9/19	23/9/19	24/9/19	25/9/19	26/9/19	26/9/19	7/10/19	9/10/19	9/10/19	10/9/19	15/10/19
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
1	AASTHA DWIVEDI		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	·	18	19	20	21	22	·
2	AAYUSH NILESH CHAVAN		1	2	3	4	5	6	·	7	8	9	10	11	12	13	14	15	·	16	17	·	18	19	20	21
3	ABHIJEET JAIN		1	2	3	4	5	6	7	8	9	10	11	12	·	13	14	15	16	1	·	17	18	19	20	21
4	ABHIMANYU PRAKASH		1	2	3	4	5	6	·	7	8	·	9	10	11	12	·	·	17	·	18	19	·	·	·	20
5	ABHISHEK ANIL KHOT		1	2	3	4	·	·	·	·	·	·	5	6	7	8	9	10	·	11	12	13	14	15	16	17
6	ABRITTI ROY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	·	15	·	·	·	·	16	17	18	19
7	ADITYA CHANDHOKE		1	2	3	4	5	6	7	·	·	·	8	9	10	11	12	13	·	14	15	·	16	17	18	19
8	AKANKSHA PREM NEGI		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	·	17	18	·	19	20	21	22
9	ALAN MATHEW PANICKER		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
10	ALIASGAR YUSUF TAKSALI		1	2	3	4	·	·	·	·	·	5	6	7	8		9	10	·	·	·	11	·	·	·	12
11	ARYAN VENUGOPAL NAIR		1	2	3	4	5	6	7	·	·	8	9	10	11	12	13	14	15	16	17	8	9	·	·	10
12	AVINASH RAJENDRA DHAKANE		1	2	3	4	·	·	5	·	·	·	·	·	·	6	7	8	9	10	11	12	13	14	15	16
13	BANKAR PRANAY SANJAY		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	·	·	·
14	DAMINI MUKUND BORUDE		1	2	3	4	5	·	·	·	·	6	7	8	9	10	11	12	13	·	·	14	15	16	17	18
15	DARSHAN SANJAY AMRUTKAR		1	2	·	·	3	4	5	6	7	·	8	·	9	10	11	12	13	14	15	16	17	18	19	20
16	DIVYA SHIVAJI RAUT		1	2	3	4	·	·	·	·	·	5	6	7	8	9	10	11		·	·	12	13	14	15	16
17	GOPLANI AKHIL MOTILAL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	16	19	·	·	20	21	22
18	HASAN ASAD AHMAD KHAN		1	2	3	4	5	6	·	7	8	9	·	·	10	11	12	13	·	14	15	16	17	18	·	·
19	HRISHIKESH DATTATRAY KOTHAWA		1	2	3	4	·	5	6	7	8	9	10	11	12	14	15	16	17	18	19	20	21	·	·	·
20	HRUTHIK DATTATRAY KANK		·			·	1	2	3	·	·	4	5	6	7	8	9	10	11	12	13	·	·	·	14	·
21	JANHAVI SURESH RAUT		1	2	3	4	5	6	7	·	·	·	8	9	10	11	12	13	14	·	15	16	17	18	19	20
22	JAYESH DIPAK PATIL		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
23	KARAN SURESH RANSING		1	2	3	4	5	6	·	7	8	9	10	11	12	13	14	15	16	·	17	18	19	20	21	

Signature of Faculty :-

Head

Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale Pune - 412 115.

ENGINEERING, LAVALE

Name of Subject : Physics

16/10/19	16/10/19	5/11/19	6/11/19	7/11/19	11/11/19	12/11/19	13/11/19	14/11/19	18/11/19	19/11/19	26/11/19	26/11/19	27/11/19	28/11/19	2/11/19	3/12/19	28/11/19	2/11/19	4/12/19	4/12/19	5/12/19	6/12/19	6/12/19	6/12/19	7/12/19	8/12/19		Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
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22	23	24	25	26			27	28	29	30	31	32	33	34	35	36	37		38	39		40	41	42	43	44						16
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37								38	39	40	41						18
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8	2	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8						13

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering

Session : 2019/2020 Semester : I

Branch : Comp.

COLLEGE OF

Roll No.	Name of the Student	Date	28/8/19	27/8/19	28/8/19	29/8/19	3/9/19	4/9/19	5/9/19	11/9/19	11/9/19	14/9/19	16/9/19	18/9/19	19/9/19	20/9/19	23/9/19	23/9/19	24/9/19	25/9/19	26/9/19	26/9/19	27/9/19	29/9/19	30/9/19
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
24	KAUSHAL LAXMIKANT APASTAMBH																								
25	KETAN NITIN BORSE																								
26	KETAN SAHEBRAO BARAHATE																								
27	KRUSHNA ZAMWAR																								
28	KUNAL SUDAM NAGARE																								
	KUNAL VIJAY PATIL																								
30	MIRZA WASIM BAIG																								
31	MUSKAN KUMARI																								
32	NAMOKAR JAIN																								
33	NEEL SHIRISH MORE																								
34	ONKAR BHARAT KOTULE																								
35	PAYAL SADHU PARSHIVE																								
36	PRANSHU VERMA																								
37	RHYTHM RAJESH BHAYEKAR																								
38	RUCHITA RAJESH BHARSAKALE																								
39	RUSHIKESH DATTATRAY BARAVKAR																								
40	RUTUJA SHAMKANT AMRITKAR																								
41	SAMRAT PREM SINGH PATEL																								
42	SANKET DILIP GAIKWAD																								
43	SANYOGITA SUBHASH PAIMODE																								
44	SHASHANK AKHILESH KUMAR GUPT																								
45	SHIVAM KUMAR JHA																								
46	SHRADDHA BABASAHEB SHIROLE																								

Signature of Faculty :-

Head

Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

ENGINEERING, LAVALE

Name of Subject : Physics

	16/10/19	16/10/19	23/10/19	6/11/19	7/11/19	11/11/19	13/11/19	14/11/19	18/11/19	19/11/19	26/11/19	28/11/19	2/12/19	28/11/19	2/12/19	2/12/19	28/11/19	3/12/19	4/12/19	4/12/19	5/12/19	6/12/19	6/12/19	7/12/19	Online Test Marks				
	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Inser Exar
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	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		37		38					39	40	41	42						23
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	17	18	19	20	21		22	23	24	25	26	27	28			29	30	31	32		33			32	33	34	35						12
	17		18	19	20		21	22	23		24		25	26	27																		14
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	19	20	21	22	23		24	25	26	27	28		29	30	31	32	33		34					35	36								22
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	18	19	20	21	22		23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41								14

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering

Session : 2019/2020 Semester : I

Branch : Comp

COLLEGE OF

Roll No.	Name of the Student	Date	26/8/19	27/8/19	28/8/19	29/8/19	3/9/19	4/9/19	5/9/19	11/9/19	12/9/19	14/9/19	16/9/19	18/9/19	19/9/19	20/9/19	24/9/19	25/9/19	26/9/19	27/9/19	28/9/19	29/9/19	30/9/19	1/10/19	2/10/19
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
47	SHRISHTI NANDANWAR		1	2	3	4	5	6	7	·	·	·	10	11	12	·	·		13	14	·	17	18	19	20
48	SHUBHAM APPASAHEB BHOSLE		1	2	3	4	5	6	·	9	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
49	SHUBHAM BALIRAM SONGIRE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	·	·	·	16	17	18	19	20
50	SHUBIT MATTOO		1	2	3	4	5	·	·	6	7	8	9	10	19	20	21	22	23	24	17	18	19	20	21
51	SIDDHANT SHARAD MUNDHE		1	·		·	·	·	·	·	·	·	2	3	4	5	6	7	·	8	·	9	10	11	·
52	SIDDHARTH SURESH KANADE		1	2	3	4	5	6	7	·	·	8	9	10	11	·	·	12	13	14	·	15	16	17	18
53	SIDDHI SANJAY SONI		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	·	·	·	20
54	SOHAN GUNWANT CHAUDHARI		1	2	3	4	·	·	·	5	6	7	8	9	10	·	11	12	13	14	15	16	17	18	19
55	SUSHIL KUMAR		1	2	3	4	5	6	·	7	8	9	10	11	·	12	13	14	·	15	16	17	18	19	20
56	SUSHMA UTTAM PHARATE		1	2	3	4	5	6	7	8	9	10	11	12	13	14	·	15	16	17	·	·	·	18	
57	TANMAY KARBHARI TOGE		1	2	3	4	5	·	·	6	7	·	8	9	10	11	·	12	·	13	·	14	15	16	17
58	UJEF SADIK SHAIKH		·	·	1	2	3	4	5	6	·	9	10	11	12	13	·	14	15	·	·	·	·	·	
59	VAISHNAVI KAMRAJ MANDHALKA		1	2	3	4	5	6	·	7	8	9	10	11	12	13	14		15	16	·	17	18	19	20
60	VISHAKHA BALU SHINDE		1	2	3	4	5	6	7	·	·	·	8	9	10	11	·	12	13	14	·	15	16	17	·
61	YOGESH KIRAN KHANDEKAR		1	2	·	·	3	4	5	6	7	8	10	11	12	·	13	·	·	1	·	14	15	16	·
62	ADITYA ANIL CHANKHORE			1	2	3	4	5	6	7	8	·	9	10	12	13	14	·	·	15	16	17	18	19	20
63	SURAJ VITTHAL THUBE			1	2	3	4	5	·	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
64	MANTHAN DESHMUKH		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	15	16	17	18	19	20	21	22
65	ABHAY PRATAP SINGH		·	·	·	·	·	1	2	3	4	5	6	7	8	9	10	16	17	18	19	·	·	20	21

Signature of Faculty :-

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,

ENGINEERING, LAVALE

Name of Subject : Physics

16/10/19	16/10/19	5/11/19	6/11/19	7/11/19	11/11/19	13/11/19	14/11/19	18/11/19	19/11/19	26/11/19	26/11/19	27/11/19	28/11/19	2/12/19	2/12/19	28/11/19	3/12/19	4/12/19	4/12/19	5/12/19	6/12/19	6/12/19	6/12/19	7/12/19	.	Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Ins Ex
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21	22	.	23	.	24	25	26	.	.	27	28	29	28	29	30	31	.	32					33	34	.							0
22	23	24	.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39					40	41	42	43						0
23	24	.	.	25	26	27	28	29	30	31	32	33	34	35	34	35	36	37	38				39	40	.	.						1
22	23	25	26	27	28	29	30	31	32	33	34	35	36	37	36	38	39	.	.				40	41	.	.						2

Head
Dept. of Engineering Sciences,
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College of Engineering,
Lavale, Pune - 412 115

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	21/8	31/8	17/9	19	24/9	5/11	19/11	26/11	5/12				Expt. No.					Expt. No.				
			1	2	3	4	5	6	7	8	9	10	11	12	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks
	STHA DWIVEDI		1	2	3	4	5	·	·	6	7					02	05	12			02	05	12	
	YUSH NILESH CHAVAN		1	2	3	4	5	6	·	7	8					03	05	13			03	05	13	
	HIJEET JAIN		1	2	3	4	5	6	·	7	8					02	06	12			02	06	12	
	HIMANYU PRAKASH		·	·	·	·	·	1	·	·	·					03	05	13			03	05	13	
	HISHEK ANIL KHOT		·	·	2	3	4	4	·	5	6					02	05	12			02	06	12	
	RITTI ROY		1	2	·	3	4	·	5	6	7					03	05	13			02	05	13	
	IT CHANDHOKE		1	2	3	4	5	·	·	·	·					02	06	12			02	05	12	
	ANKSHA PREM NEGI		1	2	3	4	5	6	·	7	8					03	05	13			03	05	13	
	AN MATHEW PANICKER		1	2	3	4	5	6	·	7	8					02	05	12			02	05	12	
	IASGAR YUSUF TAKSALI		1	2	3	4	5	6	·	7	8					03	06	13			03	06	13	
	YAN VENUGOPAL NAIR		·	·	1	2	3	4	·	·	·					03	05	12			03	05	12	
	VINASH RAJENDRA DHAKANE		1	·	2	3	4	·	·	5	6					03	05	13			04	06	13	
	ANKAR PRANAY SANJAY		1	·	2	3	4	·	·	5	6					02	06	12			02	05	12	
	AMINI MUKUND BORUDE		1	·	2	3	4	·	·	5	6					02	05	12			03	06	13	
	ARSHAN SANJAY AMRUTKAR		·	·	·	·	·	·	·	·	·					02	06	12			02	05	12	
	IVYA SHIVAJI RAUT		1	2	3	4	5	·	6	·	·					03	05	13			03	06	13	
	OPLANI AKHIL MOTILAL			2	3	4	5	·	·	·	6					02	05	12			02	05	12	
	AS ASAD AHMAD KHAN			·	2	3	4	5	6	·	7					02	06	13			02	06	13	
	RISHIKESH DATTATRAY KOTHAWA		1	2	3	4	5	6	7	8	9					03	05	12			03	05	12	
	RUTHIK DATTATRAY KANK		1	·	2	3	4	·	·	4	5					02	06	13			03	05	13	
19			1	·	2	3	·	4	·	5	6					03	05	12			02	06	12	
20			·	·	1	2	3	·	·	4	·					02	05	13			03	05	13	

Signature of Faculty :-

Head
Dept. of Engineering Sciences,
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Lavale, Pune - 412 115

ENGINEERING, LAVALE

ASSESSMENT OF TERM - WORK

Class : B Batch : A

Name of the subject : Physics

Expt. No.					Expt. No.					Expt. No.					Expt. No.					Total Marks	Marks out of.....	Exam. No.
Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks			
	02	06	12			02	05	13			03	05	12			02	06	12				
	03	05	13			03	06	12			03	06	13			03	05	13				
	02	06	12			02	05	13			02	05	12			02	06	12				
	03	05	13			03	05	12			03	06	13			03	05	13				
	02	06	12			03	06	13			03	05	12			02	06	12				
	02	05	13			03	05	12			02	05	13			03	05	13				
	03	06	12			02	06	13			03	06	12			03	06	12				
	02	05	13			03	05	12			02	05	13			04	05	13				
	03	06	12			03	05	13			02	06	14			03	06	12				
	02	05	13			02	05	12			03	05	12			02	06	13				
	03	05	12			03	05	13			03	06	13			03	05	12				
	02	06	13			03	06	12			02	05	12			02	06	13				
	03	05	12			04	05	12			03	06	13			03	05	12				
	02	06	13			03	06	13			02	05	13			02	06	13				
	03	05	12			02	05	12			03	06	12			02	05	12				
	02	06	13			03	06	13			03	05	12			03	06	13				
	02	05	12			02	05	12			02	06	13			02	04	12				
	03	06	13			02	05	13			02	05	12			03	05	13				
	04	05	12			03	06	12			03	06	13			02	06	12				
	03	06	12			02	05	13			03	05	12			03	05	13				

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Dept. of Engineering Sciences,
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Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	1	2	3	4	5	6	7	8	9	10	11	12	Expt. No. 7 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 8 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks
1	Aastha.															03	04	12			04	05	12	
2	Aayush															03	05	13			03	05	13	
3	Abhijeet															03	05	13			03	06	12	
4	Abhimanyu															.	.	.			.	.	.	
5	Abhishek															04	06	13			04	05	13	
6	Abuthi															03	05	13			04	04	14	
7	Adityq															04	05	14			03	04	13	
8	Akansha.															03	05	13			03	04	12	
9	Alan															03	05	13			03	04	13	
10	Ali sagar															04	05	13			03	04	14	
11	Aryan															03	05	13			03	04	15	
12	Avinash															04	05	14			03	04	13	
13	Bankay															03	05	13			02	04	14	
14	Damini															03	05	13			03	04	12	
15	Darshan															03	05	14			02	03	13	
16	Divya															03	04	13			02	04	13	
17	Gopal Akhil															03	05	13			03	04	13	
18	Hasan															04	05	13			03	04	14	
19	Hrishikesh															04	03	13			03	04	13	
20	Hruthik.															03	05	13			03	04	13	

Signature of Faculty :–

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF

CONTINUOUS

Roll No.	Name of the student	Date	28/8	4/9	11/9	18/9	25/9	9/10	16/10	6/11	13/11	20/11	4/12		Expt. No. 1					Expt. No. 2				
			1	2	3	4	5	6	7	8	9	10	11	12	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks
1	SAMRAT PREM SINGH PATEL														4/8	03	05	14	22		03	05	12	
2	SANKET DILIP GAIKWAD														4	02	05	13	20		02	06	13	
3	SANYOGITA SUBHASH PAIMODE															03	04	13	20		03	05	12	
4	SHASHANK AKHILESH KUMAR GUP															02	05	14	21		02	05	14	
5	SHIVAM KUMAR JHA															04	04	13	21		03	05	12	
6	SH RADDHA BABASAHEB SHIROLE															04	05	14	23		02	05	12	
7	SHTI NANDANWAR															04	05	15	24		03	04	13	
8	SHUBH AM APPASAHEB BHOSLE															04	05	13	22		03	05	14	
9	SHUBHA BALIRAM SONGIRE															04	04	15	23		02	05	12	
10	SHUBIT MAT OO															03	05	13	21		03	05	13	
11	SIDDHANT SHARA MUNDHE															02	05	12	29		02	05	12	
12	SIDDHARTH SURESH KANADE															03	04	13	20		03	06	13	
13	SIDDHI SANJAY SONI															03	05	12	20		03	05	12	
14	SOHAN GUNWANT CHAUDHAR															03	05	13	21		02	05	13	
15	SUSHIL KUMAR															04	05	12	21		02	05	12	
16	SUSHMA UTTAM PHARATE															03	04	13	20		03	03	12	
17	TANMAY KARBHARI TOGE															03	05	12	20		02	03	13	
18	UJEF SADIK SHAIKH															04	05	13	22		03	04	12	
19	VAISHNAVI KAMRAJ MANDHALKAR															03	04	12	22		02	03	13	
20	VISHAKHA BALU SHINDE															03	05	13	21		03	05	12	
21	YOGESH KIRAN KHANDEKAR															03	04	12	19		03	04	12	
22	ADITYA ANIL CHANKHORE															03	05	13	21		02	05	13	
62																								
53	SURAJ VITTHAL THUBE															03	05	12	20		02	03	12	

Signature of Faculty :-

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Kavale, Pune - 412 115.

ENGINEERING, LAVALE

ASSESSMENT OF TERM - WORK

Class : _____ Batch : C

Name of the subject : _____

Expt. No. 3					Expt. No. 4					Expt. No. 5					Expt. No. 6					Total Marks	Marks out of.....	Exam. No
Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks	Date of Perf.	Assessment			Marks			
	T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.			T.S.	Pres.	Und.				
	02	04	12			02	05	12			02	06	12			02	05	12				
	03	06	13			03	06	13			03	05	13			03	05	13				
	02	06	12			02	05	12			02	06	12			02	04	12				
	03	05	13			03	06	13			03	05	13			03	05	13				
	02	03	12			02	05	12			02	05	12			02	04	12				
	03	02	13			03	06	13			03	06	13			03	05	13				
	02	03	12			02	05	12			02	05	12			03	04	12				
	03	02	13			03	05	13			03	05	13			02	05	13				
	02	06	12			02	05	14			03	06	12			02	06	12				
	03	05	13			03	05	12			04	05	13			03	05	13				
	02	05	12			02	06	13			02	06	12			02	05	12				
	03	06	13			03	05	12			03	05	13			03	05	13				
	02	05	12			03	06	13			03	05	12			02	05	12				
	03	04	13			02	05	12			03	06	12			03	06	13				
	02	05	12			03	05	12			03	05	13			02	05	12				
	03	06	13			03	05	13			02	06	12			03	06	13				
	04	05	12			03	05	12			03	05	13			02	05	12				
	03	05	13			02	05	13			03	05	12			03	05	13				
	02	04	12			03	05	12			04	06	13			02	06	12				
	03	05	12			02	06	12			03	05	12			03	05	13				
	02	05	13			03	05	13			02	05	13			02	06	12				
	02	06	12			02	05	12			03	06	12			02	05	13				
	02	05	13			03	05	12			02	04	13			02	06	12				

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

TEACHING LOAD

Sr. No.	Class	Subject	L	P	T	Total
1.	SE-comp	PPL	3			3
2.	SE-comp	AC-II			3	3
3.	BE-comp	Elective -III	3			3
4.	BE-comp	LP-IV		4		4
5.						
6.						
		Total	6	4	3	13

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9.30 To 10.30			LP-IV(A)	LP-IV(A)		
10.30 To 11.30						AC2(B)
11.30 To 12.15						
12.15 To 1.15						
1.15 To 2.15			PPL	PPL	PPL	
2.15 To 2.30						
2.30 To 3.30	E-III	E-III	E-III			
3.30 To 4.30				AC2(C)	AC2(A)	

Remarks :

LESSON PLAN

Class : BE Sem. : II Subject : Elective - III Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
1	I	17/12/18	Notation and concepts
2		18/12/18	Introduction to compiler, issues, phases, symbol.
3		19/12/18	Memory mgmt, Operating system support,
4		24/12/18	Tokens, Regular expression.
5		25/12/18	Process of lexical Analyzer, Block schematic
6		26/12/18	LEX in detail.
7		31/1/19	LEX features
8		1/1/19	LE Specifications in details.
9	II	2/1/19	Parsing, Syntax Analysis CFG
10		7/1/19	top down and bottom down parsing, Predictive pars
11		8/1/19	SLR, in detail
12		9/1/19	LR(1) in detail, LALR in detail.
13		14/1/19	Using ambiguous grammer, Error recovery.
14		15/1/19	automatic construction using YACC.
15		16/1/19	Introduction semantic Analysis
16		21/1/19	Needs of semantic Analysis, Type checking & com
17	III	22/1/19	Type checking. Syntax directed translations,
18		23/1/19	Type conversion Attribute grammer, S & L gramm
19	IV	28/1/19	bottom up and top down evaluation, syntax.
20		29/1/19	directed translation scheme, Intermediate code
21		30/1/19	need, Types: Syntax trees, DAG.
22		4/2/19	Three address codes.
23		5/2/19	Triples & Indirect Triples.
24		6/2/19	Statements in intermediate generation code.

Signature of Faculty AcPatil

HOD

ACTUAL COVERAGE

Class : BE Sem. : II Subject : Elective III Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
17/12/18	Notation & concepts	
18/12/18	Introduction to compilier, issues, phase	
19/12/18	memory mgmt, operating system.	Pat
24/12/18	Token regular expression.	
26/12/18	process of lexical Analyzer, schemata.	
31/12/18	LEX in details	
1/1/19	LEX features	Pat
2/1/19	LE specifications in details	
3/1/19	Parsing, Syntax analysis CFG	
15/1/19	top down & bottom down parsing.	
16/1/19	SLR in detail.	Pat
16/1/19	LR(1) & LALR in detail.	
23/1/19	Using ambiguous grammar, error recovery.	
28/1/19	Automatic construction, using YAAC.	
30/1/19	Introduction to Semantic Analysis.	Pat
4/2/19	Needs of SA, type checking & conversion.	
5/2/19	Syntax direct translation - Attribute	
5/2/19	grammer, S & L grammer.	
11/2/19	bottom & top down evaluations.	Pat
25/2/19	directed translation scheme, Intermediate code	
26/2/19	Need, Type: syntax trees, DAG	
27/2/19	Three address code, Triples & Indirect triples.	
27/2/19	Statements in intermediate generation: code.	
5/3/19	Storage mgmt, static and Heap record.	
6/3/19	Activation records in details	
12/3/19	static & dynamic scope, Dangling pointer	
12/3/19	Translation of structure in detail.	

Signature of Faculty ARBHI

LESSON PLAN

Class : BE Sem. : II Subject : Elective - III Lectures Per Week : 3 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25	IX	11/2/19	Storage management - static, stack & Heap.
26		12/2/19	Activation Record, static & control links, return value.
27		13/2/19	static and dynamic scope, Dangling pointers.
28		18/2/19	Translation of control structures in detail.
29		19/2/19	nested block in details
30		20/2/19	Array assignment, pointers.
31		25/2/19	function call & return.
32		26/2/19	Translation of OO constructs.
33	X	27/2/19	Code Generation.
34		4/3/19	Issues, Basic Blocks, flow graphs,
35		5/3/19	DAG representation in detail.
36		6/3/19	Target mechanism.
37		11/3/19	peephole optimizations, Register allocation.
38		12/3/19	Simple code generator.
39		13/3/19	code generator from Labeled tree
40		18/3/19	Concept of code generators.
41	XI	19/3/19	Code optimization,
42		20/3/19	Local, global, loop optimization.
43		25/3/19	optimization transformations.
44		26/3/19	compile time evaluation, common sub expr.
45		27/3/19	variable propagation, code movement,
46		1/4/19	Strength reduction, ~~ADG~~ DAG, label optimization.
47		2/4/19	Introduction global Flow Analysis, Intractive.
48		3/4/19	Revision of all units.

Signature of Faculty Aftab

HOD

ACTUAL COVERAGE

Class : BE Sem. : II Subject : Elective-III Lectures Per Week : 3 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
19/03/19	Nested block, Array Assignment, pointers,	
20/03/19	function call, Translation of oo objects	
25/02/19	Code generation, issues, Flow graphs, DAG.,	
26/03/19	Target machanism, peephole optimization.	
27/03/19	simple code generator, Labeled tree Algo.	
01/04/19	concept of code generator with example.	
02/04/19	Code optimization, local, global, loop.	
03/04/19	optimization transformations, compile time	
08/04/19	common sub expression, variable propagation	
09/04/19	code movement.	
10/04/19	Strength reduction, DAG label optimization.	
10/04/19	Introduction global Flow Analysis.	
10/4/19	Revision of all units.	

Signature of Faculty ARSM

Session : 2018 / 2019 Semester : II

Branch : BE - COMPUTER

COLLEGE OF

Roll No.	Name of the Student	Date	17/12/18	18/12/18	19/12/18	24/12/18	26/12/18	31/12/18	1/1/19	2/1/19	9/1/19	15/1/19	16/1/19	16/1/19	23/1/19	28/1/19	30/1/19	4/2/19	5/2/19	5/2/19	6/2/19	25/2/19	26/2/19	27/2/19	27/2/19
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Barpatre Sanket S.		0	0	0	0	1	2	2	2	2	2	2	2	3	3	3	4	5	6	6	7	7	7	7
2	Chirmade Ajay		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Choudhary Karan S		0	0	0	0	0	0	0	0	0	0	1	2	3	3	3	4	5	6	6	7	7	7	7
4	Lakhwani Raj		1	1	2	2	2	2	2	2	3	3	4	5	5	5	5	6	5	5	5	5	5	05	5
5	Lale Sakshi		0	0	0	0	0	0	0	0	1	1	2	3	4	4	4	5	6	6	6	7	7	7	7
6	Patil Shubhangi		0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
7	Patil Pooja		0	0	0	0	1	1	1	1	2	2	3	4	4	4	5	6	7	7	7	7	7	7	7
8	Singh Priyanka		0	0	1	1	1	1	2	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
9	Redekar Shubham		0	0	0	0	0	0	0	1	2	2	3	4	4	5	6	6	7	8	8	9	9	9	9
10	Satav Shubhangi		0	0	1	1	1	2	3	4	4	4	5	6	7	8	9	9	10	10	10	10	10	10	10
11	Saurya Saurav		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Sharma Amankumar		0	0	1	1	1	1	1	1	1	1	1	1	2	3	3	3	3	3	4	4	4	4	4
13	Shitole Bhagyshree		0	0	1	1	1	1	2	2	2	2	3	4	4	5	6	6	6	6	6	6	6	6	6
14	Tete Shrunkhala		1	1	1	1	2	2	2	2	3	3	4	5	5	6	7	8	9	9	9	9	9	9	9
15	Dahibhate Ashwini		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Pawar Karunesh		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Kulkarni Dipak		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	Mahadik Rushikesh		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	Somani Mukund		1	1	1	1	1	1	1	1	2	2	3	4	4	4	5	6	7	8	8	9	9	9	9

Signature of Faculty :-

ENGINEERING, LAVALE

Name of Subject : Elective -III (2015 PAT)

| | 5/3/19 | 6/3/19 | 18/3/19 | 18/3/19 | 29/3/19 | 20/3/19 | 25/3/19 | 26/3/19 | 27/3/19 | 2/4/19 | 2/4/19 | 28/4/19 | 3/4/19 | 8/4/19 | 9/4/19 | 10/4/19 | 10/4/19 | 16/4/19 | | |

PROFILE OF FACULTY



1. **Name :** Patil Uday Shankar
2. **Date of Birth :** 20 - 04 - 1975
3. **Educational Qualification :** BE civil M-Tech CM.
4. **Work Experience :** (No. of Years)

   Teaching : 19 Research : 02

   Industry : 02 Others : Nil
5. **Area of Specialization :** Construction Management
6. **Courses Teaching :**

Sr. No.	Class	Subject	L	P	Tut	Total
1	BE	Quantity Surveying C.T	03	06	—	09
2						
3						

7. **UG Projects Ongoing :**

1.	
2.	
3.	
4.	

8. **Research Projects :** _____ Nos.
9. **Technology Transfer :**

   _____

   _____
10. Awards : _____
11. Membership of Professional Bodies : ISTE.

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

TEACHING LOAD

Sr. No.	Class	Subject	L	P	T	Total
1.	BE	Quantity Surveying Contracts and Tenders	03	06	–	09
2.	BE	Project	–	02	–	02
3.						
4.						
5.						
6.						
		Total	03	08	–	11

TIME TABLE

Day / Time	Mon	Tue	Wed	Thur	Fri	Sat
9.30-10.30	QSCT					
10.30-11.30			QSCT			
12.15-1.15					QSCT.	
1.15-2.15						
2.30-3.30	QSCT					
3.30-4.30	Practical.					

Remarks :

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Dept. of Civil Engineering
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College of Engineering Lavale, Pune

LESSON PLAN

Class : BE Sem. : I Subject : Quantity Surveying (Contracts & Tenders) Lectures Per Week : 03 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
1	I	1/1/24	Introduction to Estimates. valuation.
2	I	4/1/24	Different types of Estimates.
3	I	6/1/24	Modes of Measurement.
4	I	8/1/24	Rate Analysis. Approximate Estimate.
5	I	11/1/24	for Roads and other civil Engineering
6	I	13/1/24	problems.
7	II	15/1/24	Detailed Estimate of R.C.C frame Structure
8	II	18/1/24	Load Bearing structure.
9	II	20/1/24	Problems on Load Bearing structure
10	II	22/1/24	Bar Bending schedule.
11	II	25/1/24	R-CC. Members Explanation.
12	II	27/1/24	Problems. on. Bar Bending Schedule.
13	III	29/1/24	Meaning of specification types.
14	III	1/2/24	Detailed Specification workmanship.
15	III	3/2/24	ex. excavation, stone, brick masonry.
16	III	5/2/24	Rate Analysis - explanation.
17	III	8/2/24	Task work on Tyrnout
18	III	10/2/24	Problems on Rate Analysis.
19	IV	12/2/24	Valuation Purpose of Valuation.
20	IV	15/2/24	Different values.
21	IV	17/2/24	Problems on Valuation.
22	IV	19/2/24	Methods on Valuation.
23	IV	23/2/24	Rental Basis, Land & Building basis
24	IV	24/2/24	Direct comparision Method.

Signature of Faculty _____ HOD _____

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ACTUAL COVERAGE

Class : BE Sem. : I Subject : Quantity Surveying Contracts and Tenders Lectures Per Week : 03 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
1/1/24	Definitation of Estimation & valuation	
4/1/24	Tyes of Estimate, data required for	
8/1/24	Estimation. units of Measurement.	
11/1/24	Modes of Measurement face leject.	
13/1/24	Abstract sheet, Measurment sheet	
20/1/24	Work charge establishment, centage charge	
22/1/24	Preparing detailed estimate,	
25/1/24	Problems on detailed Estimate.	
27/1/24	problems on — " — Estimate	
01/2/24	Load Bearing structure.	
03/2/24	Bar Bending schedule schedule of	
10/2/24	R.C.C. Bar Bending Schedule.	
12/2/24	Specification Drafting special.	
18/2/24	specifications. Method of execution.	
22/2/24	mode of payment. excavation etc.	
26/2/24	Rate Analysis for various items	
27/2/24	labour, Materials, Task work etc.	
03/3/24	Various factors affecting the Rate Analysis.	
~~05/03/24~~	~~Purpose of valuation.~~	
05/3/2024	Definition of valuation	
08/3/2024	Problems on valuation.	
10/3/2024	Methods of valuation: Rental Basis	
12/03/2024	land and Building valuation.	
15/03/24	Problems on valuation.	
17/03/2024	Tenders, Tender Notice, Tenders documents.	
19/3/2024	Qualitative & Quantative evaluation.	
24/3/24	& Tenders. Global Tenders.	

Signature of Faculty

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LESSON PLAN

Class : BE Sem. : II Subject : QSCT Lectures Per Week : 03 Hrs.

Lect. No.	Unit No.	Planned Date	Topics / Subtopics Planned
25	V	26/2/24	Method of inviting Tenders., Tender i
26	V	1/3/24	Tendering Procedure, tendering documents
27	V	3/3/24	comparative statements. E-Tendering.
28	V	5/3/24	PWD procedure of work execution.
29	V	8/3/24	administrative approval, Technical Sanc
30	V	10/3/24	Piecework, Rate list, Daily labour ch
31	VI	12/3/24	Contracts. - Indian contract Act. (18
32	VI	15/3/24	Termination of contract. etc.
33	VI	17/3/24	condition of contract.
34	VI	19/3/24	Defect liability period.
35	VI	22/3/24	Arbitration. Introduction.
36	VI	24/3/24	Powers of Arbitrator. Need of Arbitrati
37		26/3/24	Revesion
38		29/3/24	Revesion
39		31/3/24.	Revesion
40		2/4/24	Revesion.

Signature of Faculty

HOD

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

ACTUAL COVERAGE

Class : BE Sem. : II Subject : Quantity Surveying contracts & Tenders Lectures Per Week : 03 Hrs.

Actual Conduction Date	Topics / Subtopics Actually covered	HoD Sign
25/3/24	Various Methods of execution.	
24/5/24	PWD and Rate list granions Materials	
25/5/24	Contracts and Arbitration.	
26/5/24.	Termination of contract.	
27/5/24	Gencral & special conditions conditions	
31/5/24	of contract, Advance payment, Final bill	

Signature of Faculty

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Session : 2020 / 2021 Semester : II.

Branch : CIVIL ENGINEERING

COLLEGE OI

Roll No.	Name of the Student	Date	1/1/21	4/1/20	08/1/20	11/1/20	13/1	20/1	22/1	25/1	27/1	1/2	3/2	16/2	12/2	18/2	22/2	26/2	1/3	3/3	27/2	5/3	8/3	10/3
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
01	Ramteke D. V.		-	-	-	1	2	3	-	-	-	-	4	-	-	-	-	-	5	-	6	-	-	-
2	Avaghade A. K.		-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	Kulkarni L. S.		-	1	-	-	-	-	-	-	2	-	3	4	-	-	-	-	-	-	-	-	-	-
4	Bhosale N. M.		-	-	-	1	-	2	-	-	3	-	-	4	-	-	-	-	5	-	6	-	-	7
5	Dhawale A. R.		1	-	-	-	-	-	-	2	-	-	-	-	-	-	3	-	-	-	-	-	-	-
6	Medhe A. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Ichhankari V. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Badhe Tanmay R.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Jondhale A. B.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
10	Wanere P. V.		1	-	-	2	-	-	-	-	-	-	-	-	-	-	3	-	-	4	-	-	-	-
11	Varma P. G.		1	-	-	-	-	-	-	2	3	-	-	-	-	-	4	5	-	6	7	-	-	-
12	Ghule Kajal K.		-	-	-	-	-	1	2	-	-	3	4	-	5	-	6	-	-	-	-	-	-	-
13	Vachhani M. S.		1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
14	Karilkar S. S.		-	-	-	-	1	-	-	-	2	-	3	4	5	6	-	7	8	9	10	-	-	-
15	Yevalikar R. P.		1	2	3	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	Taral S. R.		-	1	2	3	4	-	5	6	-	-	-	-	-	-	7	-	8	-	-	-	-	-
17	Kulkarni S. D.		-	1	-	2	-	3	-	4	-	5	6	7	-	-	8	-	-	9	10		11	1
18	Lakal M. M.		-	-	-	1	2	3	4	5	6	7	8	9	-	10	11	-	-	12	13	-	14	1
19	Kolekar S. B.		-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	Aghane A. B.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	-	-	-
21	Pawar A. V.		1	-	2	-	3	4	-	5	6	-	7	8	9	10	11	12	-	13	14	15	-	-
22	Kulkarni A. P.		-	1	-	-	-	2	-	3	4	5	-	-	-	-	6	-	-	7	-	-	-	8
23	Bandgar M. B.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-

Signature of Faculty :-

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

ENGINEERING, LAVALE

Name of Subject : Quantity Surveying Contract & Tenders.

3/3	17/3	19/3	24/3	26/3	24/5	25/5	28/5	27/5	31/5	1/6	3/6	6/6	9/6																		Online Test Marks				
4	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
7	–	–	–	–	3	–	–	9	–	–	10	–	11				1	1				3	1					11	-			
1	–	–	–	–	2	–	–	–	3	–	–	4	5					5				2	5					5				
7	–	–	–	5	–	–	6	–	–	–	–	–	7					7				2	7					7				
7	8	9	10	11	12	13	–	–	14	15	16	–	–				1	6				3	6					16				
3	–	–	–	–	–	–	–	4	–	–	–	–	5					5				2	5					5				
–	–	–	–	–	–	–	–	7	–	(7)	–	(8)	–					5				2	8					8				
–	–	–	–	–	–	–	–	8	–	(8)	–	–	(9)					9				2	7					9				
1	–	–	–	–	9	–	10	–	–	11	12	–	13				1	3				3	3					13				
1	–	–	–	–	–	2	–	–	–	–	–	3	–					3				2	3					3				
1	–	–	–	5	–	–	6	–	7	–	8	9	10				1	0				3	7					10				
7	8	–	9	10	11	–	12	–	13	14	–	–	15				1	5				3	5					15				
6	–	7	–	8	9	14	–	11	12	13	14	15	–				1	5				2	5					15				
2	–	–	–	–	3	–	–	–	4	5	–	–	–					5				2	5					5				
0	–	–	11	–	12	–	13	–	14	–	15	16	–				1	6				3	6					16				
1	6	7	–	8	9	10	–	–	10	H	12	–					1	2				3	2					12				
8	–	9	–	10	11	12	–	–	–	13	14	–					1	4				3	4					14				
3	–	–	14	–	–	15	16	–	–	17	18	–	–				1	8				3	8					18				
16	–	17	18	19	19	20	–	–	21	22	–	23	–				2	3				4	3					23				
1	–	–	–	–	–	–	–	2	–	–	–	–	3					3				2	3					3				
31	–	–	–	–	–	–	2	–	–	–	3	–	–					3				2	3					3				
16	–	17	18	19		20		21	–	–	22	–	23				2	3				4	3					23				
8	–	9	10	–		11	–	12	–	13	14	–	15				1	5				3	5					15				
1	–	–	–	–	–	2	–	–	–	–	–	3					0	3				2	3					03				
3	3	3	3	3	3	3	3	3	3	3																						

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H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Session : 2024 2024 Semester : II

Branch : CIVIL ENGINEERING

COLLEGE O

Roll No.	Name of the Student	Date	1/1/24	4/1/24	6&8/1/24	11/1/24	13/1/24	20/1/24	22/1/24	25/1/24	27/1/24	1/2/24	3/2/24	10/2/24	12/2/24	18/2/24	22/2/24	26/2/24	1/3/24	3/3/24	4/3/24	5/3/24	8/3/24	10/3/24
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
24	Gaikwad A. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
25	Mohite A M.		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	
26	Mane J. B.		-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	Lokhande L. M.		1	2	-	-	-	-	-	-	3	-	✱	-	4	-	-	-	-	1	-	-	-	
28	Phukekar P. V.		1	2	3	4	5	6	-	-	-	7	8	9	10	11	12	13	14	15	16	17	18	19
29	B. K. Bharat		-	-	-	-	-	-	1	-	2	3	-	-	-	-	4	-	-	-	-	-	-	
30	Chavan Org. D.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	Kokare V. P.		1	2	-	3	4	-	5	-	6	7	8	9	10	11	-	-	-	-	-	-	-	
32	Pratik M. P.		1	2	-	-	-	3	4	-	5	6	-	7	8	-	10	-	11	12	13	-	13	
33	Jadhav A. M.		-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
34	Salunkhe A. V.		-	-	-	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	Durkule S. M.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
36	Lathkar Yogesh B.		1	-	-	-	-	2	-	3	4	5	6	7	8	9	-	10	-	-	12	-	-	
37	Badve A P.		1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	Sawant K.		-	-	-	-	-	-	-	-	-	-	-	1	-	2	3	-	-	-	-	-	-	
39	Aman Tripathi		-	-	-	1	-	-	-	-	-	2	-	3	4	5	6	-	-	-	7	8	9	
40	Neeraj kumar M.		-	-	-	-	-	-	1	2	-	-	-	-	-	3	4	5	-	-	-	-	6	
41	Ugale P. R.		-	1	-	-	-	-	2	-	-	-	-	3	-	4	5	-	6	7	8	-	10	
42	Chavan. S. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
43	Rathod K. P.		1	-	-	-	-	-	2	3	-	4	-	-	-	-	-	-	-	-	-	-	-	
44	Sarsikar P S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	
45	Zadbuke V. O.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	Jadhav K. T.		-	-	-	-	1	2	3	4	5	-	-	-	-	-	6	-	7	-	8	-		

Signature of Faculty :-

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

ENGINEERING, LAVALE

Name of Subject : Quantity Surveying Contracts & Tenders.

5/3/21	17/3/21	19/3/21	24/3/21	26/3/21	24/5/21	25/5/21	26/5/21	27/5/21	31/5/21	1/6/21	3/6/21	6/6/21	9/6/21																			Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Total	%	I	II	Insem Exam
1	–	–	–	–	–	2	–	–	–	–	–	–	3				3					3	3					3				
2	1	2	3	4		5	6	7	–	8	9	10	–				10					3	0					10				
2	–	–	–	–	–		3	–	4	5	6	–	7				7					3	7					7				
5	–	–	–	–	–		6	–	7	8	9	–	10				10					3	0					10				
19	–	–	–	–	–	20		21	22	23	24	–	25				25					4	4					25				
4	–	–	–	5	–	6	7	8	–	9	10	–	11				11					3	1					11				
–	–	–	–	–	12		13	14	–	15	16	–	–				16					3	6					16				
1	–	–	–	–	–	–	12	–	13	14	15	16	–				16					3	6					16				
13	–	14	–	15	16	–	17	–	18	19	20	–	–				20					4	0					20				
1	–	–	–	–	–	2	3	–	4	5	6	7	–				7					2	7					7				
2	–	–	–	–	3	–	4	5	–	–	6	7	–				7					2	7					7				
–	–	–	–	–	~~07~~	–	~~13~~	~~14~~	–	–	~~15~~	~~16~~	–				16					3	6					16				
11	12	13	–	14	15	–	–	–	16	17	18	19	20				20					4	0					20				
7	–	5	6	–	–	7	–	8	9	10	11	12	–				12					3	2					12				
3	–	–	–	–	4	5	–	–	6	7	8	9	–				9					3	9					9				
10	11	12	–	–	13	14	–	–	15	16	17	18	–				18					2	8					18				
6	–	–	–	–	–	–	7	–	8	9	10	–	–				10					3	0					10				
11	–	12	13	14	15		16	17		18	–	–	19				19					3	9					19				
1	–	–	–	–	–	–	2	3	–	3	4	–	5				5					2	0					5				
4	–	–	–	–	–	5	6	7	–	8	9	–	–				9					2	7					9				
1	–	–	–	–	2	3	–	–	–	–	–	–	4				4					2	0					4				
–	–	–	–	–	~~10~~ 1	–	~~11~~ 2	–	~~12~~ 3	–	–	~~13~~ 4																13				
9	–	10	11	12	–	–	13	–	14	–	–	2	15				15					2	5					15				
35	35	35	35	35	35	35	35	35	35	35	35																					

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H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Session : 2020/ 2021 Semester : II

Branch : CIVIL Engineering

COLLEGE OF

Roll No.	Name of the Student	Date	1/1/21	4/1/20	8/1/20	11/1/20	13/1	20/1	22/1	25/1	27/1	1/2	3/2	10/2	12/2	18/2	22/1	26/2	1/3	3/3	17/2	5/3	8/3	10/3
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
47	Kumar D. R.		-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	Adesh N. B.		-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
49	Roshan Kumar K.		-	2	3	4	-	-	-	5	-	6	-	-	-	7	-	-	8	-	9	-	-	-
50	Sawe C. S.		-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	Pawar R. S.		1	2	-	-	-	-	-	3	-	-	-	-	-	-	-	4	-	-	5	-	-	6
52	Mavale S. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
53	Yash K. P.		-	-	-	1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-
54	Dongaswal R. R		-	-	-	-	1	-	-	-	-	-	2	-	-	-	3	-	-	-	-	-	-	-
55	Sabne Shrikant D		-	1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	3	4	-	-	-
56	Therat R. R		-	1	-	2	3	4	5	-	-	-	-	6	-	7	8	-	-	-	9	-	10	-
57	Shweta Gr. K		1	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	3	4	5	6	7	
58	Waghishwar O. N		1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	5	-	6	-	-	-
59	Sawant A. N		-	-	-	1	2	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
60	Anand P Bhole		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
61	Mane Vikram Shivaji		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
62	Sharma K. K.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
63	Mane A. D		1	2	-	-	3	4	-	-	-	-	5	-	-	6	7	-	8	9	-	-	-	
64	Vikash Kumar		-	1	-	2	-	3	-	4	5	-	-	-	-	6	-	-	-	-	-	7	8	
65	Pukham P. S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
66	Masure A. R		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
67	Sayyed M. R. K.		-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
68	Wadkar S. I.		-	-	-	1	2	3	-	4	-	-	5	-	6	-	7	-	8	-	9	-	10	
69	Tambhale M. O.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signature of Faculty :-

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

ENGINEERING, LAVALE

Name of Subject : Quantity Surveying Contract & Tenders - I

15/3	17/3	19/3	24/3	26/3	24/5	25/5	24/5	27/5	31/5	1/21	3/21	6/21	9/21	Online Test Marks				
24	25	26	27	28	29	30	31	32	33	34	35	36	37	Total	%	I	II	Insem Exam
1	-	-	-	-	-	-	2	-	-	-	-	-	3	3				
1	-	-	-	-	2	3	-	-	3	4	-	-	5	5				
10	11	-	12	13	-	-	-	13	14	15	16	-	-	10				
1	-	-	-	-	-	-	-	2	-	-	-	-	-	2				
6	7	-	8	9	-	10	-	11	12	13	14	-	-	14				
1	-	-	-	-	-	-	-	2	-	-	-	3		3				
3	-	-	4	5	-	6	-	-	7	8	9	10	-	10				
3	-	-	-	-	-	4	-	5	6	7	8	9	-	9				
5	6	7	8	9	-	10	-	11	12	13	14	-	-	14				
0	11	-	-	-	12	-	-	13	14	-	-	15		15				
0	-	11	12	13	-	14	-	-	15	16	-	-	17	17				
5	-	-	-	-	-	8	9	-	-	-	10	11	12	12				
5	-	-	-	-	-	-	-	4	5	6	7	-	-	7				
	-	-	-	-	-	-	2	-	3	4	5	6	-	6				
	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
	-	-	-	-	-	10	-	-	-	11	12			12				
	-	-	10	11	12	13	14	15	16	-	17	18		18				
	-	-	-	-	-	-	-	-	+	-	-			-				
	-	-	-	-	-	+	-	-	-	-	-			-				
	-	-	-	-	2	-	-	-	-	3	-	4		4				
13	14	15	16	17	18	19	-	-	20	-	21			21				
	-	-	-	-	-	-	-	-	-	-				-				
														182				

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

COLLEGE OF

Session : 2020/2021 Semester : II

Branch : CIVIL Engineering

Roll No.	Name of the Student	Date	1/1/21	4/1/21	8/1/21	11/1/21	13/1/21	20/1/21	22/1/21	25/1/21	27/1/21	1/2/21	3/2/21	10/2/21	12/2/21	15/2/21	22/2/21	26/2/21	1/3/21	3/3/21	27/2/21	5/3/21	8/3/21	10/3/21
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
70	Nrangale N.N.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
71	Rathod K.K.		-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
72	Mule Manohar P.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	3	4	5	-
73	Malar R. D.		-	-	-	-	-	-	-	1	-	2	3	-	-	-	4	5	-	-	-	-	-	-
74	Pawkar S. B.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	Pilikar N.S.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
76	Shaikh A. A.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
77	Thorbole A. C.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
79	Maitar A. A.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Signature of Faculty :-

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

ENGINEERING, LAVALE

Name of Subject : Quantity Surveying (contract & Tendering)

4	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	Online Test Marks: Total	%	I	II	Insem Exam
-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-			0	0								-				
	-	-	-		-	-	-	-	-	-	-	-	-		-	1			2	0								1				
1	-	8	9	10	-	-	-	-	-	-	-	-	11		1	1			3	1								11				
0	1	-	-	-	-	-	-	-	-	-	-	-	6		0	6			2	6								06				
-	-	-	-	-	-	-	-	-	-	-	-	-	-						0	0								-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-						0	0								-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-						0	0								-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-						0	0								-				
-	-	-	-	-	-	-	-	-	-	-	-	-	-						0	0								-				
															1	8												18				
														2	5	2																
														2	8	2																
														1	8	2																

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

PLAN & ACTUAL COVERAGE OF LABORATORY WORK

Class : BE Civil Batch : A

Sr. No.	Name of Experiment / Assignment / Drawing sheet	Planned Date	Date of Completion	Signature	
				Faculty	HOD
1	DSR.	04/1/24	04/1/24		
2	PWD Method.	11/1/24	11/1/24		
3	R.C.C. framed Bldg.	25/1/24	25/1/24		
4	Steel Reinforcement	10/02/24	10/02/24		
5	Rate Analysis.	22/2/24	22/2/24		
6	Valuation of Bldg.	03/03/24	03/03/24		
7	Estimation of pipe culvert	12/03/24	12/03/24		
8	Tender Notice.	24/03/24	24/03/24		

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

PLAN & ACTUAL COVERAGE OF LABORATORY WORK

Class : BE Civil Batch : B

Sr. No.	Name of Experiment / Assignment / Drawing sheet	Planned Date	Date of Completion	Signature	
				Faculty	HOD
1	D.S.R	04/1/24	04/1/24		
2	PWD Method.	11/1/24	11/1/24		
3	R.C.C framed Bldg.	25/1/24	25/1/24		
4	Steel Reinforcement	10/02/24	10/02/24		
5	Rate Analysis.	22/2/24	022/2/24		
6	Valuation of Bldg.	03/03/24	03/3/24		
7	Estimation of pipe culvert	12/03/24	12/03/24		
8	Tender Notice.	24/03/24	24/03/24		
			H.O.D.		

Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Subscription Installment Due | To Be Paid By Thursday, 1st Feb, 2024

Bharati Vidyapeeth's College of Engineering,Lavale, Pune

Mechanical Engineering [2023-24]

Course Outcome

Year : Second Year - SE Sem I
Subject : Solid Mechanics(Theory | Regular)
Course Code : 202041

Sr. No.	CO Id	Course Outcome	PO/PSO	Cognitive Levels	Knowledge Categories	CO linking	Added By	Modified By
1	CO1	DEFINE various types of stresses and strain developed on determinate and indeterminate members.	PO2, PO3, PO4, PO5, PO1, PSO1, PSO2	Remember	Conceptual	View	Nilesh Raut	Nilesh Raut
2	CO2	DRAW Shear force and bending moment diagram for various types of transverse loading and support.	PO2, PO3, PO1, PSO1, PSO2	Remember	Procedural	View	Nilesh Raut	Nilesh Raut
3	CO3	COMPUTE the slope & deflection, bending stresses and shear stresses on a beam.	PO2, PO3, PO1, PSO1, PSO2	Apply	Procedural	View	Nilesh Raut	Nilesh Raut
4	CO4	CALCULATE torsional shear stress in shaft and buckling on the column.	PO2, PO3, PO4, PO1, PSO1, PSO2	Apply	Conceptual	View	Nilesh Raut	Nilesh Raut
5	CO5	APPLY the concept of principal stresses and theories of failure to determine stresses on a 2-D element	PO2, PO3, PO4, PO5, PO10, PO1, PSO1, PSO2	Apply	Factual, Conceptual, Procedural	View	Nilesh Raut	Nilesh Raut
6	CO6	UTILIZE the concepts of SFD & BMD, torsion and principal stresses to solve combined loading application based problems.	PO2, PO3, PO4, PO5, PO10, PO1, PSO1, PSO2	Apply	Conceptual, Procedural, Fundamental Design Principles	View	Nilesh Raut	Nilesh Raut

Subscription Installment Due | To Be Paid By Thursday, 1st Feb, 2024

Module List

410242 Machine Learning [BE Sem I - Uday Patkar]

+ Add New Module

#	Module	Type	% Weightage	Syllabus	Marks	Duration (Minutes)	Date	Threshold	Question Paper
1	InSem Examination	External	80	Unit 1,2	30	60		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
2	End Sem Examination	External	80	Unit 3,4,5,6	70	150		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00-00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00-00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
3	Assignment 1	Internal	20	Unit 1	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
4	Assignment 2	Internal	20	Unit 2	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
5	Assignment 3	Internal	20	Unit 3	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
6	Assignment 4	Internal	20	Unit 4	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)
7	Assignment 5	Internal	20	unit 5	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)

	#	Module	Type	% Weightage	Syllabus	Marks	Duration (Minutes)	Date	Threshold	Question Paper
☐	8	Assignment 6	Internal	20	Unit 6	10	30		0	Generate Question Paper (Outcome/GenerateQuestionPaper.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D &batch=) Questionwise Analysis (Outcome/ExamQuestionwiseScore.php?value=%7B%22ins%22:%221142%22,%22acayr%22:%229%22,%22sy%22:%00%22,%22examCreator%22:%22Uday%2520Patkar%22%7D)

Subscription Installment Due | To Be Paid By Thursday, 1st Feb, 2024

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE PUNE - 412115

Class Time Table (TERM –I A.Y. 2022-23)

Name of the Department: Electronics& Telecommunication Engineering

Class: SE Sem. – I **Class Room No.: G-13**

(w.e.f. 17/08/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	DC NSS G-13	EC SGG G-13	DC NSS G-13	EM-III PK G-13	EM-III PK G-13	09:30	
10:30	EC SGG G-13	EM-III PK G-13	DC – A NSS 123 DS –B AT CCF-3 EC –C SGG 107 - A	DS MAP G-13	Library	10:30	
11.30	ELCL TSH G-13	DC NSS G-13		ELCL TSH G-13	DS MAP G-13		
	R E C E S S						
1.15	EM-III PK G-13	DS MAP G-13	EM-III-T PK G-13	EC SGG G-13	ELCL TSH G-13		
	R E C E S S						
2.30	ESD – A LBC 125 EC – B SGG 107 - A DS – C AT CCF-3	EC –A SGG 107 - E ESD –B ASP 125 ELCL – C TSH 107 - E	TNP	DS –A AT LAB-3 ELCL – B TSH 107 - E DC –C LKW 123	ELCL – A TSH 107 - E DC – B LKW 123 ESD – C NSS 125		
3.30							

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	EM – III	Engineering Mathematics III	Prof. Prashant Kadam
2	DC	Digital Circuits	Prof. Dr. Neha S. Shahare/ Prof. Lalita K. Wani
3	EC	Electronic Circuits	Prof. Swati G. Gawhale
4	ELCL	Electrical Circuits	Prof.T ottappa S. Hasarmani
5	DS	Data Structures	Prof. Megha A. Patil
6	ESD	Electronic Skill Development	Prof. Leena B. Chaudhari / Prof. Aishwarya S. Pathak / Prof. Dr. Neha S. Shahare

GFM :-Prof. Aishwarya S. Pathak (Mobile - 7887828824)

Timetable In-charge

H.O.D

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE, PUNE - 412115

Class Time Table (TERM –I A.Y. 2022-23)

Name of the Department: Electronics & Telecommunication Engineering

Class: TE Sem. – I **Class Room No.: 128**

(w.e.f.18/07/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	DBMS ASP 128	DC LBC 128	JAVA ASP 128	MC SGG 128	EMT-T NPK 128	09:30	JAVA – C ASP 118
10:30	JAVA – A ASP 118	DC – A LBC 125	MC – A SGG 118	SD – A ABW 107-D	DBMS ASP 128	10:30	
11.30	DC - B LBC 125 SD - C ABW 107-D	MC – B SGG 118 DBMS – C ASP CCF-4	DBMS – B ASP CCF-4 DC – C LBC 125	JAVA – B ASP CCF-4 MC – C SGG 118	JAVA ASP 128	11.30	
R E C E S S							
1.15	MC SGG 128	EMT NPK 128	**DEPT.MEETING**	DC LBC 128	MC SGG 128		
R E C E S S							
02:30	DBMS – A ASP 118 SD –B ABW 107-D	TNP	EMT NPK 128	DBMS ASP 128	DC LBC 128		
03:30			EMT NPK 128	JAVA/HC1 ASP/PDP 128/108	HC1 PDP 108		

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	DC	Digital Communication	Prof.Leena B. Chaudhari
2	MC	Microcontroller	Prof.Swati G. Gawhale
3	DBMS	Database Management	Prof.Aishwarya S. Pathak
4	JAVA	Fundamentals of JavaProgramming	Prof.Aishwarya S. Pathak
5	SD	Skill Development	Prof. Atul B. Wani
6	EMT	Electromagnetics Theory	Prof. Atul B. Wani
7	HC1	Honours Course	Prof.Prajakta Pawar

GFM :-Prof.Leena B. Chaudhari(Mobile - 9420787236)

Timetable Incharge

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE PUNE - 412115

Class Time Table (TERM –I A.Y. 2022-23)

Name of the Department: Electronics& Telecommunication Engineering

Class: BE Sem. – I **Class Room No.: 122**

(w.e.f.18/07/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	EPD ABW 122	RMT NSS 122	CC LBC 122	EPD ABW 122	VLSI LKW 118	09:30	
10:30	VLSI LKW 122	VLSI LKW 122	EPD ABW 122	CC LBC 122		10:30	
11.30	RMT NSS 122	Library	ES-RTOS LKW 122	VLSI LKW 122	ES-RTOS LKW 122		
	R E C E S S						
1.15	ES-RTOS LKW 122	CC LBC 122	DEPT. MEETING	RMT NSS 122			
	R E C E S S						
02:30	TNP	ES-RTOS LKW 118	CC LBC 118	RMT NSS 118	PR – I 118		
03:30							

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	VLSI	VLSI Design & Technology	Prof. Lalita.K.Wani
2	ES-RTOS	Embedded Systems & Real Time Operating Systems	Prof. Lalita. K. Wani
3	EPD	Electronic Product Design	Prof. Atul B. Wani
4	RMT	Radiation and Microwave Theory	Prof.Dr.Neha S. Shahare
5	CC	Cloud Computing	Prof. Leena B. Chaudhari
6	PR-I	Project Stage - I	

GFM :-Prof. Lalita. K. Wani(Mobile - 9604610137)

Timetable Incharge

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE, PUNE - 412115

Class Time Table (TERM –II A.Y. 2022-23)

Name of the Department: Electronics & Telecommunication Engineering

Class: SE Sem. – II **Class Room No.: 128**

(w.e.f.15/02/2023)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	OOP-A PMK 111	DAL-A MAP 111	SS LKW 128	CS ASP 128	PBL-A ASP 107-D	09:30	PCS-A LBC 125
10:30	SCSL-B LKW/ASP 118 PBL-C ASP 107-D	PBL-B LKW 107-E SCSL-C LKW/ASP 118	CS ASP 128	LIBRARY	PBL-B LKW 107-E ESD-C SGG 123	10:30	ESD-B SGG 123 PBL-C ASP 107-D
11.30	SS LKW 128	OOP PDP 128	ESD SGG 128	PCS LBC 128	PCS LBC 128	11.30	
R E C E S S							
1.15	CS ASP 128	SS LKW 128	OOP PDP 128	OOP PDP 128	ESD SGG 128		
T E A B R E A K							
2.30	PCS LBC 128	SS-T LKW 128	PBL-A ASP 107-D	SCSL-A LKW/ASP 118	ESD-A SGG 123		
3.30	R&D	SPORTS	DAL-B PJC 118 PCS-C LBC 125	OOP-B PMK 111 DAL-C PJC 111	PCS-B LBC 125 OOP-C PMK 111		

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	SS	Signals & Systems	Prof. Lalita K. Wani
2	CS	Control Systems	Prof. Aishwarya S. Pathak
3	PCS	Principle of Communication Systems	Prof.Leena B. Chaudhari
4	ESD	Employability Skill Development	Prof.Swati G. Gawhale
5	OOP	Object Oriented Programming	Prof. Prajakta D. Pawar
6	OOP-LAB	Object Oriented Programming Lab	Prof. Pratima M.Kadam
7	SCSL	Signals & Control System Lab	Prof. LalitaK. Wani
			Prof. Aishwarya S. Pathak
8	DAL-A	Data Analytics Lab	Prof. Megha A.Patil
9	DAL-B,C		Prof. Parinita J.Chate
10	PBL-B	Project Based Learning	Prof. Lalita K. Wani
	PBL-A,C		Prof. Aishwarya S. Pathak

GFM :-Prof. Aishwarya S. Pathak (Mobile - 7887828824)

Prof.Aishwarya Pathak
Timetable Incharge

Prof. Atul B. Wani
HOD

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's College of Engineering Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
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Class Time Table (TERM –II A.Y. 2022-23)

Name of the Department: Electronics & Telecommunication Engineering

Class: TE Sem. – II **Class Room No.: G-23**

(w.e.f.20/02/2023)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	PM ABW G-23	PDC SGG G-23	EP-A LBC 118 MP-B ABW 107-D CN-C NPK 107-A	MP-A 123 PDC-B SGG 107-E EP-C LBC 118	CN-A NPK 107-A EP-B LBC 118 MP-C ABW 125	09:30	
10:30	PDC SGG G-23	EP LBC G-23				10:30	
11.30	EP LBC G-23	CN NPK G-23	PM ABW G-23	PM ABW G-23		11.30	
R E C E S S							
1.15	CN NPK G-23	LIBRARY	DEPT.MEETING	CN NPK G-23			
TEA BREAK							
2.30	PDC-A SGG 107-E	MP-A NPK 123	PDC SGG G-23	EP LBC G-23			
3.30	CN-B NPK 107-A MP-C ABW 125	MP-B ABW 107-D PDC-C SGG 107-E	SPORTS				

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	CN	Cellular Network	Mrs. Namrata P. Khope
2	PM	Project Management	Prof. Atul B. Wani
3	EP	Embedded Processor	Prof.Leena B. Chaudhari
4	PDC	Power Devices and Circuits	Prof.Swati G. Gawhale
5	MP-B,C	Mini Project	Prof. Atul B. Wani
6	MP-A	Mini Project	Mrs. Namrata P. Khope

GFM :-Prof. LeenaB. Chaudhari(Mobile - 9420787236)

Prof.Aishwarya Pathak
Timetable Incharge

Prof. Atul B. Wani
HOD
Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE, PUNE - 412115

Class Time Table (TERM –II A.Y. 2022-23)

Name of the Department: Electronics & Telecommunication Engineering

Class: BE Sem. – II **Class Room No.: 122**

(w.e.f.23/01/2023)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
09:30	IE-T NPK 122	DBM-T ABW 122	MC ASP 122	DBM-T ABW 122	R&D	09:30	
10:30		IE-T NPK 122		MC ASP 122		10:30	
11.30	DM NPK 122	LIBRARY	FOC LKW 122	FOC LKW 122	DM NPK 122	11.30	
R E C E S S							
1.15		MC ASP 122	DM NPK 122		FOC LKW 122		
T E A B R E A K							
2.30	FOC-LAB LKW 118	MC-LAB ASP 107-A	PR-II	PR-II	PR-II		
3.30							

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	FOC	Fiber Optic Communication	Prof. Lalita.K.Wani
2	MC	Mobile Computing	Prof. Aishwarya.S.Pathak
3	DM	Digital Marketing	Mrs. Namrata P. Khope
4	IE	Innovation and Entrepreneurship	Mrs. Namrata P. Khope
5	DBM	Digital Business Management	Prof. Atul B. Wani
6	PR	Project Stage-II	

GFM :-Prof. Lalita. K. Wani (Mobile - 9604610137)

Prof. Aishwarya Pathak
Timetable Incharge

Prof. Atul B. Wani
HOD

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

	NAME OF STAFF MEMBER	U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
MONDAY	9.30 to 10.30	BE(PR) QSCT A 117			BE(PR) CM C 114	BE(PR) APC B 120	TE(L) WWE 115			SE(L) GTE 121	
	10.30 to 11.30			TE(L) DRCS115				SE(L) SA 121			
	11.30 to 12.15										
	12.15 to 01.15							SE(PR) CT B WS	SE (PR) PBL C 116	SE(PR) GTE A 120	
	01.15 to 02.15				BE(L) CM 121	BE(L) APC 115					
	02.15 to 02.30										
	02.30 to 03.30	BE (L) QSCT 115		TE(PR) DRCS C2 117	TE(L) PM 121		TE(PR) WWE A LG06	FE B(PR) EM B 116		TE(PR) RS GIS B 114	
	03.30 to 04.30										
		U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
Tuesday	9.30 to 10.30		BE(PR) DHS A 117		BE(PR) CM B 114	BE(PR) APC C 120		SE(L) SA 121		TE (L) RS GIS 115	
	10.30 to 11.30			TE(L) DRCS 115			SE(L) CT 121	FE B (L) EM			
	11.30 to 12.15										
	12.15 to 01.15		BE(L) DHS 121				SE (PR) CT C WS		SE(PR) SUR A 117	SE (PR) GTE B 120	
	01.15 to 02.15		TE(L) Audit C 115		BE(L) CM 121						
	02.15 to 02.30										
	02.30 to 03.30			TE(PR) DRCS C1 117				FE B (PR) EM C 116	SE(L) SUR 121		
	03.30 to 04.30										

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
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	NAME OF STAFF MEMBER	U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
Wednesday	9.30 to 10.30	BE(PR) QSCT B 117					TE(L) WWE 115	BE(PR) APC A 120		SE(L) GTE 121	
	10.30 to 11.30			TE (L) DRCS 115	SE (L) PM 121						
	11.30 to 12.15										
	12.15 to 01.15					BE(L) APC 115	SE (PR) CT A WS			SE (PR) GTE C 120	
	01.15 to 02.15		BE(L) DHS 115								
	02.15 to 02.30										
	02.30 to 03.30			TE(PR) DRCS A1 117	BE(L) CM 121		TE(PR) WWE B LG06	SE (L) SA 121		TE(PR) RS GIS C 114	
	03.30 to 04.30								TE(L) SUR 121		
		U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
Thursday	9.30 to 10.30	BE(PR) QSCT C 117	BE(PR) DHS B 117		SE (L) PM 121	TE(L) ATP 115					
	10.30 to 11.30						SE(L) CT 121	*FE B (L) EM (11.30 to 12.300		TE (L) RS GIS 115	
	11.30 to 12.15										
	12.15 to 01.15	BE(L) QSCT 115	SE (PR) PBL A 120		SE (PR) PBL B 114				SE(PR) SUR C 117		
	01.15 to 02.15									TE (L) RS GIS 115	
	02.15 to 02.30										
	02.30 to 03.30		BE (L) DHS 115	TE(PR) DRCS A2 117		TE(PR) ATP B 130		SE (L) SA 121			
	03.30 to 04.30										

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

NAME OF STAFF MEMBER		U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
Friday	9.30 to 10.30		BE(PR) DHS C 120		BE(PR) CM A 114		TE(L) WWE 115	FE B (L) EM		SE(L) GTE 121	
	10.30 to 11.30					TE(L) ATP 115			SE(L) SUR 121		
	11.30 to 12.15										
	12.15 to 01.15	BE(L) QSCT 115	SE (PR) PBL A 120	TE(PR) DRCS B1 117	SE (PR) PBL B 114		TE (PR) WWE C LG06		SE (PR) PBL C 116		
	01.15 to 02.15					BE(L) APC 115					
	02.15 to 02.30										
	02.30 to 03.30			TE(PR) DRCS B1 117		TE(PR) ATP C 130	SE (L) CT 121	FE B (PR) EM A 116		TE(PR) RS GIS A 114	
	03.30 to 04.30										
		U.S. PATIL	D. K. Mokashi	S. C. Mane	S. C. Patil	N. A. Gangurde	S. A. Shegane	L. P. Pudage	Visiting Faculty 01	Visiting Faculty 02	Visiting Faculty 03
Saturday	9.30 to 10.30										
	10.30 to 11.30										
	11.30 to 12.15										
	12.15 to 01.15										
	01.15 to 02.15										
	Total	11	14	15	15	17	16	15	13	18	

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Class Time Table (Sem-II , A.Y. 2021 -2022)

Name of the Department: Department of Civil Engineering

Class: S.E. (Civil) Sem. – IV Class Room No.: 121– (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	GTE(L) SE, (VF) 121	SA(L) SE, (LPP) 121	GTE(L) SE, (VF) 121	PM (L) SE, (SCP), 121	GTE(L) SE, (VF) 121	
10:30to11:30	SA(L) SE, (LPP) 121	CT(L) SE, (VF) 121	PM (L) SE, (SCP), 121	CT(L) SE, (VF) 121	CT(L) SE, (VF) 121	
11.30to12.15	R E C E S S					
12.15to1.15	GTE(PR),(A),120 CT(PR),(B), WS PBL(PR),C,116	GTE(PR),(B),120 CT(PR),(C), WS SUR(PR),(A) 117	GTE(PR),(C),120 CT(PR),(A), WS SUR(PR),(B) 117	PBL(PR),A,120 PBL(PR),B,114 SUR(PR),(C) 117	PBL(PR),A,120 PBL(PR),B,114 PBL(PR),C,116	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	PM (L) SE, (SCP), 121	SUR(L) SE, (SVS) 121	SA(L) SE, (LPP) 121	SA(L) SE, (LPP) 121	SUR(L) SE, (SVS) 121	
3.30 to 4.30	PBL(Activity)	SPORTS	SUR(L) SE, (VF) 121	LIBRARY	PBL(Activity)	

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher	L	P
1	GTE	Geotechnical Engineering	Prof. Visiting Faculty	3	6
2	SUR	Survey	Prof. Visiting Faculty	3	6
3	CT	Concrete Technology	Prof. L. P. Pudage (LPP)		2
4	CT	Concrete Technology	Prof. S. V. Shegane (SAS)	3	6
5	SA	Structural Analysis	Prof. L. P. Pudage (LPP)	4	
6	PM	Project Management	Prof. S. C. Patil (SCP)	3	
7	PBL	Project Based Learning (A)	Prof. D. K. Mokashi (DKM)		4
8	PBL	Project Based Learning (B)	Prof. S. C. Patil (SCP)		4
9	PBL	Project Based Learning (C)	Prof. Visiting Faculty		4

GFM :- Mr. S. C. Mane (Mobile - 9975808004)

Time Table In- Charge

H.O.D.

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Class Time Table (Sem–II , A.Y. 2021 -2022)]

Name of the Department: Department of Civil Engineering

Class: T.E. (Civil) Sem. – VI Class Room No.: 115– (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	WWE(L) TE,SVS,115	RSGIS(L) TE,VF,115	WWE(L) TE,SVS,115	ATP(L) TE, NAG,115	WWE(L) TE,SVS,115	
10:30to11:30	DRCS(L) TE,SCM,115	DRCS(L) TE,SCM,115	DRCS(L) TE,SCM,115	RSGIS(L) TE,VF,115	ATP(L) TE, NAG,115	
11.30to12.15	R E C E S S					
12.15to1.15	Project Based Learning	ATP(L) TE, NAG,115	Club Activity	SPORTS	WWE(PR)C,EE RSGIS(PR)A,114 DRCS(PR)B1,117	
1:15 to2:15		AUDIT Course II,(DKM) 130		RSGIS(L) TE,VF,115		
2.15 to2.30	R E C E S S					
2.30 to 3.30	WWE(PR)A,EE RSGIS(PR)B ,114 DRCS(PR)C2,117	ATP(PR)A,130 LIBRARY (B) , DRCS(PR)C1,117	WWE(PR)B,EE RSGIS(PR)C,114 DRCS(PR)A1,117	ATP(PR)B,130 LIBRARY (C) , DRCS(PR)A2,117	ATP(PR)C,130 LIBRARY (A) , DRCS(PR)B2,117	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher	L	P
1	WWE	Waste Water Engineering	Prof. S. A. Shegane (SAS)	3	6
2	DRCS	Design of RC Structures	Prof. S. C. Mane (SCM)	3	12
3	RSGIS	Remote Sensing and GIS	Prof.	3	6
4	ATP	Elective II : Architecture and Town Planning	Prof. N. A. Gangurde(NAG)	3	6
5	AUDIT Course II	Leadership and Personality Development / Industrial Safety	Prof. D.K. Mokashi (DKM)		2
6	INTERNSHIP	Internship	Prof. S. C. Patil		

GFM: - Mr. D. K. Mokashi (Mobile - 9890301504)

Time Table In- Charge

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Dept. of Civil Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Class Time Table (Sem–II , A.Y. 2021 -2022)]

Name of the Department: Department of Civil Engineering

Class: B.E. (Civil) Sem. – VIII **Class Room No.: 115/130/121–** (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	QSCT(PR) A,117 APC(PR),B,120 CM(PR)C,114	DHS(PR) A,117 APC(PR),C,120 CM(PR)B,114	QSCT(PR) B,117 APC(PR),A,120 Project(PR)C,114	QSCT(PR) C,117 DHS(PR),B,120 Project(PR)A,114	Project(PR) B,117 DHS(PR),C,120 CM(PR)A,114	
10:30to11:30						
11.30to12.15	R E C E S S					
12.15to1.15	CM(L) BE,SCP,115	DHS(L) BE,DKM,121	APC(L) BE,NAG,115	QSCT(L) BE,USP,115	QSCT(L) BE,USP,115	
1:15 to2:15	APC(L) BE, NAG,115	CM(L) BE,SCP,121	DHS(L) BE,DKM,115	LIBRARY	APC(L) BE,NAG,115	
2.15 to2.30	R E C E S S					
2.30 to 3.30	QSCT(L) BE,USP,115	SPORTS	CM(L) BE,SCP,115	DHS(L) BE,DKM,115	Club Activity	
3.30 to 4.30	Project	Project	Project	Project		

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher	L	P
1	QS & CT	Quantity Surveying, Contracts And Tenders	Prof. U. S. Patil (USP)	3	12
2	DHS	Dams And Hydraulic Structures	Prof. D. K. Mokashi (DKM)	3	6
3	APC	Elective-III (Air Pollution Control)	Prof. N. A.Gangurde(NAG)	3	6
4	CM	Elective-IV(Construction Management)	Prof. S. C. Patil (SCP)	3	
5	PROJECT				

GFM :- Mr. S.C. Patil (Mobile -7350766305)

Time Table In- Charge

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Dept. of Civil Engineering
Bharati Vidyapeeth's
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

DSE Class Time Table (Sem-I , A.Y. 2021 -2022)]

Name of the Department: Department of Civil Engineering

Class: S.E. (Civil) Sem. – III Class Room No.: 130– (w.e.f. 20/12/2021) Online

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	M-III,(JAD)	EG(JBS)	EG(JBS)	M-III,(JAD)	EG(JBS)	
10:30to11:30	BTAP(SSS)	M-III,(JAD)	FM(DKM)	BTAP(SSS)	BTAP(SSS)	
11.30to12.15	R E C E S S					
12.15to1.15	FM(DKM)	MOS (SCM)	BTAP(SSS)	FM(DKM)	FM(DKM)	
1:15 to2:15	MOS (SCM)	EG(JBS)	MOS (SCM)	MOS (SCM)	M-III,(JAD)	
2.15 to2.30	R E C E S S					
2.30 to 3.30	EG(PR)	FM(PR)	MOS(PR)	BTAP(PR)	M-III (TU)	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher	L	P
1	FM	Fluid Mechanics	Prof. D. K. Mokashi (DKM)	4	6
2	MOS	Mechanics of structure	Prof. S. C. Mane (SCM)	4	6
3	M-III	Engineering Mathematics III	Prof. J.A. Dhanke(JAD)	4	6
4	BTAP	Building Technology and Architectural Planning	Prof. S. S. Shinde (SSS)	4	6
5	EG	Engineering Geology	Prof. J. B. Singh (JBS)	4	

GFM :- Mr. S. C. Mane (Mobile - 9975808004)

Time Table In- Charge

H.O.D.

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Semester: IV /VI/VIII

Laboratory Name: - GTE/DHS (Room No 120) – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	APC(PR), B,120 BE	APC(PR), C,120 BE	APC(PR), A,120 BE	DHS(PR) ,B,120 BE	DHS(PR), C,120 BE	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15	GTE(PR), (A),120 SE	GTE(PR), (B),120 SE	GTE(PR), (C),120 SE	PBL(PR), A,120 SE	PBL(PR), A,120 SE	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30						
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	APC(PR) A,B	Elective-III (Air Pollution Control)	Prof. N. A. Gangurde (NAG)
2	APC(PR) C	Elective-III (Air Pollution Control)	Prof. Visiting Faculty
3	DHS(PR) B, C	Dams And Hydraulic Structures	Prof. D. K. Mokashi (DKM)
4	GTE (PR) A, B, C	Geotechnical Engineering	Prof. Visiting Faculty

Time Table In- Charge

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Dept. of Civil Engineering
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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem IV /VI /VIII

Laboratory Name &:- SUR/ QSCT/ DRCS **(Room No 117) –** (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	QSCT(PR) A,117 BE	DHS(PR) A,117 BE	QSCT(PR) B,117 BE	QSCT(PR) C,117 BE	Project(PR) B,117 BE	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15		SUR(PR), (A) 117 SE	SUR(PR), (B) 117 SE	SUR(PR), (C) 117 SE	DRCS(PR) B1,117 TE	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	DRCS(PR) C2,117 TE	DRCS(PR) C1,117 TE	DRCS(PR) A1,117 TE	DRCS(PR) A2,117 TE	DRCS(PR) B2,117 TE	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	QSCT(PR)A, B,C	Quantity Surveying, Contracts And Tenders	Prof. U. S. Patil (USP)
2	DHS (PR) B	Dams And Hydraulic Structures	Prof. D. K. Mokashi (DKM)
3	DRCS(PR) A,B,C	Design of RC Structures	Prof. S. C. Mane (SCM)
4	SUR(PR) B	Survey	Prof. Visiting

Time Table In- Charge

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Dept. of Civil Engineering
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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Laboratory Name & Room No:- FM-I (G27) - (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15						
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30		FM(PR)				
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	FM-I (PR) SE	Fluid Mechanics-I	Prof. Mr. D.K.Mokashi (DKM)
2			
3			
4			

Time Table In-Charge

H.O.D.

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Laboratory Name & Room No: - **EM** (**116**) – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15	PBL(PR),C, Visiting SE				PBL(PR),C, Visiting SE	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	EM (PR) FE B LPP B- Batch	EM (PR) FE B LPP C- Batch			EM (PR) FE B LPP A- Batch	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	EM (PR) FE	Engineering Mechanics	Prof. L. P. Pudage (LPP)
2	PBL (PR) SE	Project Based Learning	Visiting
3			
4			

Time Table In-Charge

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Dept. of Civil Engineering
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College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Laboratory Name & Room No:- **CM & RS GIS (114)** – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	CM(PR) C,114	CM(PR) B,114	Project(PR) C,114	Project(PR) A,114	CM(PR) A,114	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15					RSGIS(PR) A,114	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	RSGIS(PR) B ,114		RSGIS(PR) C,114			
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	CM(PR) BE	Construction Management	Prof. Mr. S. C. Patil (SCP)
2	RSGIS(PR)	Remote Sensing and GIS	Visiting
3			
4			

Time Table In- Charge

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Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Laboratory Name & Room No:- **WWE (LG06)** – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15					WWE(PR)C, LG06	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	WWE(PR)A, LG06		WWE(PR)B, LG06			
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	WWE (PR) TE	Waste Water Engineering	Prof. S. A. Shegane (SAS)
2			
3			
4			

Time Table In-Charge

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College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

DSE Class Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name & Room No:- Seminar (130) – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	M-III,(JAD)	EG(JBS)	EG(JBS)	M-III,(JAD)	EG(JBS)	
10:30to11:30	BTAP(SSS)	M-III,(JAD)	FM(DKM)	BTAP(SSS)	BTAP(SSS)	
11.30to12.15	RECESS					
12.15to1.15	FM(DKM)	MOS (SCM)	BTAP(SSS)	FM(DKM)	FM(DKM)	
1:15 to2:15	MOS (SCM)	EG(JBS)	MOS (SCM)	MOS (SCM)	M-III,(JAD)	
2.15 to2.30	R E C E S S					
2.30 to 3.30		ATP(PR)A,130		ATP(PR)B,130	ATP(PR)C,130	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	ATP (PR)	Elective II : Architecture and Town Planning	Prof. N. A. Gangurde(NAG)
2			
3			

Time Table In- Charge

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Dept. of Civil Engineering
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College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - II A.Y. 2021-22)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Laboratory Name & Room No:- **CT (WS01)** – (w.e.f. 01/01/2022)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15	CT(PR),(B), WS	CT(PR),(C), WS	CT(PR),(A), WS			
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30						
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	CT (PR) SE	Concrete Technology	Prof. S. A. Shegane (SAS)
2			
3			
4			

Time Table In- Charge

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. U. S. Patil

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE QSCT(PR) A 117		BE QSCT(PR) B 117	BE QSCT(PR) C 117		
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15				QSCT (L) 115	QSCT (L) 115	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	QSCT (L) 115					
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	QSCT	Quantity Surveying ,Contracts and Tenders	03	06	09
2	Project	BE Project		02	02
		Total			11

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. D. K. Mokashi

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30		BE DHS(PR) A 117		BE DHS(PR) B 120	BE DHS(PR) C 120	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15		DHS(L) 121		SE PBL(PR) A 120	SE PBL(PR) A 120	
1:15 to2:15		AC(L) 115	DHS(L) 121			
2.15 to2.30	R E C E S S					
2.30 to 3.30				DHS(L) 121		
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	DHS	Dams and Hydraulic Structure	03	06	09
2	PBL	Project Based Learning		04	04
3	Audit Course	Leadership and Personality Development/ Industrial Safety		01	01
4	Project	BE Project		02	02
		Total			16

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Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. S. C. Mane

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30	DRCS(L) 115	DRCS(L) 115	DRCS(L) 115			
11.30to12.15	RECESS					
12.15to1.15					DRCS(PR) B1,117 TE	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	DRCS(PR) C2,117 TE	DRCS(PR) C1,117 TE	DRCS(PR) A1,117 TE	DRCS(PR) A2,117 TE	DRCS(PR) B2,117 TE	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	DRCS	Design of RC Structure	03	12	15
2	Project	BE Project		02	02
3					
		Total			17

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. S. C. Patil

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE CM (PR) C 114	BE CM (PR) B 114		PM(L)121	BE CM (PR) A 114	
10:30to11:30			PM(L)121			
11.30to12.15	RECESS					
12.15to1.15	CM(L)115			SE PBL(PR) B 114	SE PBL(PR) B 114	
1:15 to2:15		CM(L)121				
2.15 to2.30	R E C E S S					
2.30 to 3.30	PM(L)121		CM(L)115			
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	CM	Construction Management	03	06	09
2	PBL	Project Based Learning		04	04
3	PM	Project Management	03		03
4	Project	BE Project		02	02
		Total			18

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College of Engineering Lavale, Pune

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Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. N. A. Gangurde

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE APC(PR) B 120	BE APC(PR) C 120		ATP(L) 115		
10:30to11:30					ATP(L) 115	
11.30to12.15	RECESS					
12.15to1.15		ATP(L) 115	APC(L)115			
1:15 to2:15	APC(L)115				APC(L)115	
2.15 to2.30	R E C E S S					
2.30 to 3.30		TE ATP(PR) A 130		TE ATP(PR) B 130	TE ATP(PR) C 130	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	ATP	Architectural Town Planning	03	06	09
2	APC	Air Pollution Control	03	04	07
3	Project	BE Project		02	02
		Total			18

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College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. S. A. Shegne

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	WWE(L)115		WWE(L)115		WWE(L)115	
10:30to11:30		CT(L)121		CT(L)121		
11.30to12.15	RECESS					
12.15to1.15		CT(PR) C WS	CT(PR) A WS		TE WWE(PR) C LG06	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	TE WWE(PR) A LG06		TE WWE(PR) B LG06		CT(L)121	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	WWE	Waste water Engineering	03	06	09
2	CT	Concrete Technology	03	04	07
3	Project	BE Project		02	02
		Total			18

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Bharati Vidyapeeth's
College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. L. L. Pudage

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30		SA(L) 121	BE APC(PR) A 120		EM(L) FEB	
10:30to11:30	SA(L) 121	EM(L) FEB		*EM(L) FEB (11.30 to 12.30)		
11.30to12.15	RECESS					
12.15to1.15	CT(PR) B WS					
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	FE B EM(PR) B 116	FE B EM(PR) C 116	SA(L) 121	SA(L) 121	FE B EM(PR) A 116	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	SA	Structural Analysis	04		04
2	EM	Engineering Mechanics	03	06	09
3	APC	Air Pollution Control		02	02
4	CT	Concrete Technology		2	2
5	Project	BE Project		0	0
		Total			17

Time Table In-Charge

H.O.D.

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. Visiting 01

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30				SUR(L)121	SUR(L)121	
11.30to12.15	RECESS					
12.15to1.15	PBL(PR) C 116	SE SUR(PR) A 117	SE SUR(PR) B 117	SE SUR(PR) C 117	PBL(PR) C 116	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30		SUR(L)121				
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	SUR	Survey	03	06	09
2	PBL	Project Based Learning		004	04
3					
		Total			13

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Department of Civil Engineering

Personal Time Table

CLASS: SE (IV)/BE (VIII) (Civil) (TERM - II A.Y. 2021-22) – (w.e.f. 01/01/2022)

Name of Faculty: Prof. Visiting 02

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	GTE(L)121	RSGIS(L)115	GTE(L)121		GTE(L)121	
10:30to11:30				RSGIS(L)115		
11.30to12.15	**RECESS**					
12.15to1.15	SE GTE(PR) A 120	SE GTE(PR) B 120	SE GTE(PR) C 120		TE RS GIS (PR) A 114	
1:15 to2:15				RSGIS(L)115		
2.15 to2.30	**R E C E S S**					
2.30 to 3.30	TE RS GIS (PR) B 114		TE RS GIS (PR) C 114			
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	L	P	Total
1	GTE	Geotechnical Engineering	03	06	09
2	RS GIS	Remote Sensing and GIS	03	06	09
3					
		Total			18

Time Table In- Charge

H.O.D.

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Name of Staff Member		S. R. Patil	A. A. Datarkar	N.R. Singh	N. N. Raut	S.S. Tambade	S.N. Kadam	A.B. Mane	S.P. Dhamone	S.Y. Nagwase	S.R. Kale	P.G. Rahate
MONDAY	9.30											
	10:15						CCA(A)	SMD		H&P	DMEI	
	11:15			HT	AE			EAM				
	12:15											
	01.00		ET	HVAC					FEA			MQC
	02:00											
	02:30											
	03:30											
	04:30											
TUESDAY	9.30											
	10:15		H&P	HT	SM	DOM(B)						
	11:15						CCA(A)			H&P	DMEI	
	12:15											
	01.00	EMM				DOM(A)	CCA(B)		TOMII			
	02:00											
	02:30											
	03:30											
	04:30											
WEDNESDAY	9.30				SM							
	10:15				AE	DOM(A)				H&P		MQC
	11:15		ET	HT				EAM				
	12:15											
	01.00		H&P				CCA(B)			TM		
	02:00											
	2.30											
	03:30											
	4.30											

H. O. D.
Mechanical Engineering
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College Of Engineering, Lavale Pune

THURSDAY	9.30											
	10:15		ET	HVAC					FEA			MQC
	11:15					DOM(A)	CCA(B)	EAM	TOMII			
	12:15											
	01.00	EMM	H&P			DOM(B)				TM		
	02:00											
	02:30											
	03:30											
	04:30											
FRIDAY	9.30											
	10:15	EMM			AE			SMD	TOMII			
	11:15			HVAC				EAM	FEA	TM		
	12:15											
	01.00				SM	DOM(B)	CCA(A)				DMEI	
	02:00											
	02:30											
	03:30											
	04:30											

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Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)SE SEM-I

GFM: Prof.A.B.Mane &Prof.A.A.Datarkar

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	SMD	SM	SM	ET	EMM
11.15 am to 12.15pm	EEE	EEE	ET	SMD	SMD
1 pm to 2 pm.	ET	EMM	EEE	EMM	SM

Sr.No	Subject Name	Name of the Faculty
1	SMD- Solid Modeling And Drafting	Prof.A.B. Mane
2	ET-Engineering Thermodynamics	Prof.A.A.Datarkar
3	SM-Solid Mechanics	Prof.N.N.Raut
4	EMM-Engineering Materials And Metallurgy	Prof.S.R.Patil
5	EEE-Electrical and Electronics Engineering	Prof.T.S.Hasaramani/Visiting Faculty

Time-Table Coordinator

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering

B

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021) BE A SEM-I

GFM: Prof.S.P.Dhamone & Prof.S.S.Tambde

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	CCA	H&P	DOM	FEA/HVAC	AE/EAM
11.15 am to 12.15pm	AE/EAM	CCA	AE/EAM	DOM	FEA/HVAC
1 pm to 2 pm.	FEA/HVAC	DOM	H & P	H&P	CCA

Sr.No	Subject Name	Name of the Faculty
1	DOM-Dynamics of Machinery	Prof.S.S.Tambde
2	H&P-Hydraulics and Pneumatics	Prof.A.A.Datarkar
3	AE- Automobile Engineering	Prof.N.N.Raut
4	CCA-CAD CAM Automation	Prof.S.N.Kadam
5	FEA-Finite Element Analysis	Prof.S.P.Dhamone
6	EAM-Energy Audit Management	Prof.A.B.Mane
7	HVAC-Heating Ventilation Air Conditioning	Prof.Nilesh Singh

Time-Table Coordinator

H. O. D.
Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)TE SEM-I

GFM: Prof.S.R.Kale & Prof.Nilesh Singh

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	DME-I	HT	MQC	MQC	TOM-II
11.15 am to 12.15pm	HT	DME-I	HT	TOM-II	TM
1 pm to 2 pm.	MQC	TOM-II	TM	TM	DME I

Sr.No	Subject Name	Name of the Faculty
1	DME-I Design of Machine Element-I	Prof.S.R.Kale
2	HT-Heat Transfer	Prof.Nilesh Singh
3	TM-Turbo Machinery	Prof.S.Y.Nagwase
4	TOM-II- Theory of Machine II	Prof.S.P.Dhamone
5	MQC-Metrology & Quality Control	Prof.P.G.Rahate

Time-Table Coordinator

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021) BE B SEM-I

GFM: Prof.N.N.Raut &Prof.S.N.Kadam

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	H&P	DOM	H&P	FEA/HVAC	AE/EAM
11.15 am to 12.15pm	AE/EAM	H & P	AE/EAM	CCA	FEA/HVAC
1 pm to 2 pm.	FEA/HVAC	CCA	CCA	DOM	DOM

Sr.No	Subject Name	Name of the Faculty
1	DOM-Dynamics of Machinery	Prof.S.S.Tambde
2	H&P-Hydraulics and Pneumatics	Prof.S.Y.Nagwase
3	AE- Automobile Engineering	Prof.N.N.Raut
4	CCA-CAD CAM Automation	Prof.S.N.Kadam
5	FEA-Finite Element Analysis	Prof.S.P.Dhamone
6	EAM-Energy Audit Management	Prof.A.B.Mane
7	HVAC-Heating Ventilation Air Conditioning	Prof.Nilesh Singh

Time-Table Coordinator

H. O. D.
Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof.S.R.Patil

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am					EMM
11.15 am to 12.15pm					
1 pm to 2 pm.		EMM		EMM	

Time-Table Coordinator

H. O. D.
Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof. A.A.Datarkar

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am		H&P		ET	
11.15 am to 12.15pm			ET		
1 pm to 2 pm.	ET		H&P	H&P	

Time Table Coordinator

H. O. D.
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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof.Nilesh Singh

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am		HT		HVAC	
11.15 am to 12.15pm	HT		HT		HVAC
1 pm to 2 pm.	HVAC				

Time-Table Coordinator

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof. Nilesh Raut

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am		SM	SM		AE
11.15 am to 12.15pm	AE		AE		
1 pm to 2 pm.					SM

Time-Table Coordinator

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Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) BE A SEM-I
Faculty Name : S.S.Tambade

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am		DOM(B)	DOM(A)		
11.15 am to 12.15pm				DOM(A)	
1 pm to 2 pm.		DOM(A)		DOM(B)	DOM(B)

Time-Table Coordinator

H. O. D.
Mechanical Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : S.N.Kadam

w.e.f. 15/06/2020

Time	Monday	Tuesday	Wednesday	Thursday	Friday
10.15 am to 11.15 am	CCA(A)				
11.15 am to 12.15pm		CCA(A)		CCA(B)	
1 pm to 2 pm.		CCA(B)	CCA(B)		CCA(A)

Time-Table Coordinator

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof.A.B.Mane

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	SMD				EAM
11.15 am to 12.15pm	EAM		EAM	SMD	SMD
1 pm to 2 pm.					

Time Table Coordinator

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof.S.P.Dhamone

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am				FEA	TOM-II
11.15 am to 12.15pm				TOM-II	FEA
1 pm to 2 pm.	FEA	TOM-II			

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name: S.Y.Nagwase

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	H & P		H & P		
11.15 am to 12.15pm		H & P			TM
1 pm to 2 pm.			TM	TM	

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : S.R.Kale

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	DME-I				
11.15 am to 12.15pm		DME-I			
1 pm to 2 pm.					DME I

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM-I
Faculty Name : Prof.P.G.Rahate

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am			MQC	MQC	
11.15 am to 12.15pm					
1 pm to 2 pm.	MQC				

Time-Table Coordinator

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) BE A SEM-I
Faculty Name : Prof.T.S.Hasaramani

w.e.f. 15/06/2020

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am					
11.15 am to 12.15pm	EEE	EEE			
1 pm to 2 pm.			EEE		

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Name of Staff Member		S. R. Patil	A. A. Datarkar	N.R. Singh	N. N. Raut	S.S. Tambade	S.N. Kadam	A.B. Manc	S.P. Dhamone	S.Y. Nagwase	S.R. Kale	P.G. Rahate	A.M. Pasarkar
MONDAY	9.30												
	10:15	AMP(A)			KOM							MP	NMO
	11:15			EE(A)			MTX		MSD(B)				
	12:15		FM										
	01.00	AMP(B)						SMD	MSD(A)	RAC			
	02:00												
	02:30				SM								
	03:30												
	04:30												
TUESDAY	9.30												
	10:15			EE(B)		AT			MSD(A)	RAC			
	11:15								MSD(B)		DMEII		
	12:15				KOM								
	01.00		TH	EE(A)			MTX						
	02:00												
	02:30												EMM
	03:30							SMD					
	04:30												
WEDNESDAY	9.30												
	10:15			EE(A)			MTX		MSD(B)				
	11:15	AMP(A)		EE(B)									NMO
	12:15					AT							
	01.00	AMP(B)			SM			MPII					
	02:00												
	2.30												
	03:30		TH										EMM
	4.30												

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THURSDAY	9.30		FM										
	10:15			EE(B)	KOM						DMEII		
	11:15	AMP(B)						MPII	(MSD(A)				
	12:15											MP	
	01.00	AMP(A)											NMO
	02:00												
	02:30		TH										
	03:30												
	04:30												
FRIDAY	9.30					AT							
	10:15		FM					MPII					
	11:15									RAC			
	12:15											MP	
	01.00										DMEII		EMM
	02:00												
	02:30							SMD					
	03:30				SM								
	04:30												

Time-Table Incharge

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)

SE
SEM-II

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
09.30 am to 10:30 am	M III	M III	M III	FM	AT
10:30 am to 11:30 am	KOM	AT	MP	KOM	FM
12:15 pm to 1:15 pm.	FM	KOM	AT	MP	MP

Sr.No	Subject Name	Name of the Faculty
1	Engineering Mathematics - III	Prof.A B Bhongale
2	Kinematics of Machinery	Prof.N N Raut
3	Applied Thermodynamics	Prof.S.S.Tambade
4	Fluid Mechanics	Prof.A A Datarkar
5	Manufacturing Processes	Prof.P G Rahate

Time Table Coordinator

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)

TE
SEM-II

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	NMO	RAC	MTX	DME II	MP II
11.15 am to 12.15pm	MTX	DME-II	NMO	MP II	RAC
1 pm to 2 pm.	RAC	MTX	MP II	NMO	DME II

Sr.No	Subject Name	Name of the Faculty
1	Design of Machine Element-II	Prof.S.R.Kale
2	Numerical Methods and Optimization*	Prof.A M Pasarkar
3	Refrigeration and Air Conditioning	Prof.S.Y.Nagwase
4	Mechatronics	Prof.S N Kadam
5	Manufacturing - Process-II	Prof. A B Mane

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)

BE-A SEM-II

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am	AMP	MSD	EE	IE
11.15 am to 12.15pm	EE	IE	AMP	MSD
1 pm to 2 pm.	MSD	EE	IE	AMP

Sr.No	Subject Name	Name of the Faculty
1	Energy Engineering	Prof.N R Singh
2	Mechanical System Design	Prof.S P Dhamone
3	Elective III - Industrial Engineering	Prof.K A Tapre
4	Elective IV - Advanced Manufacturing Processes	Prof.S R Patil

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DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)

BE-B SEM-II

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am	IE	EE	MSD	EE
11.15 am to 12.15pm	MSD	MSD	EE	AMP
1 pm to 2 pm.	AMP	IE	AMP	IE

Sr.No	Subject Name	Name of the Faculty
1	Energy Engineering	Prof.N R Singh
2	Mechanical System Design	Prof.S P Dhamone
3	Elective III - Industrial Engineering	Prof.K A Tapre
4	Elective IV - Advanced Manufacturing Processes	Prof.S R Patil

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
ONLINE THEORY CLASS TIME TABLE (2020-2021)

DSE

w.e.f. 01/02/2021

	Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
SEMESTER II	*09.30 am to 10:30 am*	M III	M III	M III	FM	AT
	10:30 am to 11:30 am	KOM	AT	MP	KOM	FM
	12:15 pm to 1:15 pm.	FM	KOM	AT	MP	MP
SEMESTER I	*1:15 pm to 2:15 pm*	SMD	THERMO	SM	EEE	EMM
	2:30 pm to 3:30 pm	SM	EMM	EEE	THERMO	SMD
	3:30 pm to 4:30 pm	EEE	SMD	THERMO	EMM	SM

Sr.No	Subject Name	Name of the Faculty	Sr.No	Subject Name	Name of the Faculty
1	Engineering Mathematics - III	Prof.J A Dhanke	6	Solid Mechanics	Prof.N N Raut
2	Kinematics of Machinery	Prof.N N Raut	7	Solid Modeling and Drafting	Prof A B Mane
3	Applied Thermodynamics	Prof.S.S.Tambade	8	Engineering Thermodynamics	Prof.A A Datarkar
4	Fluid Mechanics	Prof.A A Datarkar	9	Engineering Materials and Metallurgy	Prof A M Pasarkar
5	Manufacturing Processes	Prof.P G Rahate	10	Electrical and Electronics Engineering	Prof T S Hasarmani (Electrical) - Prof L B Chaudhari (Electronics)

GFM (Guardian Faculty Member)
Roll No 22 to 37 - Prof.S.S.Tambade
Roll No 38 and onwards - Prof.P G Rahate

Time Table Coordinator

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. S R Patil

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am	AMP(A)			
11.15 am to 12.15pm			AMP(A)	AMP(B)
1 pm to 2 pm.	AMP(B)		AMP(B)	AMP(A)

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. A.A.Datarkar

w.e.f. 01/02/2021

	Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
SEMESTER II	*09.30 am to 10:30 am*				FM	
	10:30 am to 11:30 am					FM
	12:15 pm to 1:15 pm.	FM				
SEMESTER I	*1:15 pm to 2:15 pm*		THERMO			
	2:30 pm to 3:30 pm				THERMO	
	3:30 pm to 4:30 pm			THERMO		

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. Nilesh Singh

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am		EE(B)	EE(A)	EE(B)
11.15 am to 12.15pm	EE(A)		EE(B)	
1 pm to 2 pm.		EE(A)		

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. N.N.Raut

w.e.f. 01/02/2021

	Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
SEMESTER II	*09.30 am to 10:30 am*					
	10:30 am to 11:30 am	KOM			KOM	
	12:15 pm to 1:15 pm.		KOM			
SEMESTER I	*1:15 pm to 2:15 pm*			SM		
	2:30 pm to 3:30 pm	SM				
	3:30 pm to 4:30 pm					SM

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. S.S.Tambade

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
09.30 am to 10:30 am					AT
10:30 am to 11:30 am		AT			
12:15 pm to 1:15 pm.			AT		

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. S.N.Kadam

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am			MTX		
11.15 am to 12.15pm	MTX				
1 pm to 2 pm.		MTX			

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. A.B.Mane

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am					MP II
11.15 am to 12.15pm				MP II	
1 pm to 2 pm.			MP II		
1.15 to 2.15 pm	SMD				
2.30 to 3.30 pm					SMD
3.30 to 4.30 pm		SMD			

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021)SEM II

Faculty Name : Prof.S.P.Dhamone

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am		MSD(A)	MSD(B)	
11.15 am to 12.15pm	MSD(B)	MSD(B)		MSD(A)
1 pm to 2 pm.	MSD(A)			

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEMII
Faculty Name: Prof.S.Y.Nagwase

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am		RAC			
11.15 am to 12.15pm					RAC
1 pm to 2 pm.	RAC				

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Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. S.R.Kale

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am				DME II	
11.15 am to 12.15pm		DME-II			
1 pm to 2 pm.					DME II

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. P.G.Rahate

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
09.30 am to 10:30 am					
10:30 am to 11:30 am			MP		
12:15 pm to 1:15 pm.				MP	MP

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Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. A.M.Pasarkar

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
10.15 am to 11.15 am	NMO				
11.15 am to 12.15pm			NMO		
1 pm to 2 pm.				NMO	
1.15 to 2.15 pm					EMM
2.30 to 3.30 pm		EMM			
3.30 to 4.30 pm			EMM		

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DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof. K.A.Tapre(Visiting Faculty)

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*
10.15 am to 11.15 am	IE(B)			IE(A)
11.15 am to 12.15pm		IE(A)		
1 pm to 2 pm.		IE(B)	IE(A)	IE(B)

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Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II
Faculty Name : Prof.A B Bhongale

w.e.f. 01/01/2021

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
09.30 am to 10:30 am	M III	M III	M III		
10:30 am to 11:30 am					
12:15 pm to 1:15 pm.					

Time Table Coordinator

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF MECHANICAL ENGINEERING
Individual Faculty TIME TABLE (2020-2021) SEM II

Faculty Name : Prof. Prof T S Hasarmani (Electrical)

w.e.f. 01/02/2021

	Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*
SEMESTER I	*1:15 pm to 2:15 pm*				EEE	
	2:30 pm to 3:30 pm			EEE		
	3:30 pm to 4:30 pm	EEE				

Time Table Coordinator

H. O. D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Laboratory Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE (Civil) Sem I

Laboratory Name & Room No:- SOM (WS01 - Workshop) – (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	--	--	--	--	--	--
10:30to11:30						--
11.30to12.15	RECESS					
12.15to1.15						--
1:15 to2:15					--	--
2.15 to2.30	R E C E S S					
2.30 to 3.30	SE, SOM(B)(V2),			SE, SOM(A)(V2),	SE, SOM(C) (V2)	
3.30 to 4.30						

Sr. No.	Short Form of the Subject / Practical	Long Form of Subject / Practical	Name of the Teacher
1	SOM (PR) SE	Strength of Material	Prof. Visiting Faculty (V2)
2			
3			

Time Table In-Charge

H.O.D.

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. U. S. Patil (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30		SE,SUR(L) 130	SE,SUR(L) 130		FE,A, BCEE(L)	FE,A, BCEE(L)
10:30to11:30						
11.30 to 12.30	FE,A, BCEE(L)					
11.30to12.15	RECESS					
12.15to1.15				SE,SUR(L) 130	SE,SUR(L) 130	
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	SE, SUR(PR) A,117		SE,SUR,(PR) C,117	SE,SUR,(PR) B,177		
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Basic Civil and Environmental Engineering (BCEE) Division: A	03		03
2	Surveying (SUR)	04	06	10
3	Project		02	
	Total	07	08	15

Time Table In- Charge

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. D. K. Mokashi (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE, ATP, (PR) A,114				TE,FM-II,(L),115	
10:30to11:30			TE,FM-II,(L),115	BE,ATP,(L)121		
11.30to12.15	RECESS					
12.15to1.15		TE,FM-II,(L),115		TE,FM-II,(L),115		
1:15 to2:15	BE,ATP,(L)121	BE,ATP,(L)121				
2.15 to2.30	R E C E S S					
2.30 to 3.30	TE,FM-II,(PR), C,G025		TE,FM-II,(PR), B,G025		TE,FM-II,(PR), A,G025	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Architectural Town Planning (ATP)	03	02	05
2	Fluid Mechanics –II (FM-II)	04	06	10
3	Project		02	02
	Total	07	10	17

Time Table In- Charge

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. S.C. Mane (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	SE,SOM,(L), 130				SE,SOM,(L), 130	SE,SOM,(L), 130
10:30to11:30	TE,SD-I, (L),115	TE,SD-I, (L),115		TE,SD-I, (L),115	TE,SD-I, (L),115	
11.30to12.15	RECESS					
12.15to1.15		SE,SOM,(L), 130	TE,SD-I, (PR),A, G07			
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	TE,SD-I,(PR),B, G07			TE,SD-I, (PR),A, G07	TE,SD-I,(PR),B, G07	
3.30 to 4.30						

Sr. No:	Name of Subject	Lecture	Practical	Total
1	Strength of Material (SOM)	04		04
2	Structural Design-I (SD-I)	04	08	12
3	Project		02	02
	Total	08	10	18

Time Table In-Charge

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. S. T. Rathod (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	TE,SA-II,(L), 115	TE,SA-II,(L), 115	BE,SD-III,(PR),A, 120	TE,SA-II,(L), 115	BE,SD-III,(PR),B, 120	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15				BE,SD-III,(PR),C, 120	TE,SA-II,(L), 115	
1:15 to2:15			BE,SD-III,(L),121			
2.15 to2.30	R E C E S S					
2.30 to 3.30	BE,SD-III,(L),121		BE,SD-III,(L),121	BE,SD-III,(L),121	TE,ESD,(PR)	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Structural Analysis-II (SA-II)	04		04
2	Structural Design-III (SD-III)	04	06	10
3	Employability skill Development (ESD)		02	02
4	Project		02	02
	Total	08	10	18

Time Table In-Charge

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. S. C. Patil (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE,TRE, (PR),B, 116	BE,TRE, (PR),A, 116	BE,TRE, (PR),C, 116		BE,ATP, (PR),C, 114	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15	BE,TRE,(L),121	BE,TRE,(L),121	BE,TRE,(L),121	BE,ATP, (PR),B, 114		
1:15 to2:15	TE,IE,(L),115	TE,IE,(L),115			TE,IE,(L),115	
2.15 to2.30	R E C E S S					
2.30 to 3.30						
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Infrastructural Engineering	03		03
2	Transportation Engineering	03	06	09
3	Architectural Town Planning		04	04
4	Project		02	02
	Total	06	12	18

Time Table In-Charge

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. S. D. Dhamankar (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30	BE,EE-II, (PR),C, LG05	BE,EE-II, (PR),B, LG05	TE,HWRE, (L),115	BE,EE-II, (L),121	BE,EE-II, (PR),A, LG05	
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15	TE,HWRE, (L),115		TE,HWRE, (PR),B,116		BE,EE-II,(L),121	
1:15 to2:15				TE,HWRE, (L),115		
2.15 to2.30	R E C E S S					
2.30 to 3.30				TE,HWRE, (PR),C,116		
3.30 to 4.30	BE,EE-II, (L),121					

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Hydrology and Water Resource Engineering (HWRE)	03	04	07
2	Environmental Engineering	03	06	09
3	Project		02	02
	Total	06	12	18

Time Table In- Charge

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. P. P. Mahadik (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15						
1:15 to2:15	SE,BTM,(L), 130	SE,BTM,(L), 130	SE,BTM,(L), 130			
2.15 to2.30	R E C E S S					
2.30 to 3.30	TE,HWRE, (PR),A,116		SE,BTM, (PR),A,G07	SE,BTM, (PR),C,G07	SE,BTM, (PR),B,G07	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Hydrology and Water Resource Engineering (HWRE)		02	02
2	Building Technology and Material	04	06	10
3	Basic Civil and Environmental Engineering (BCEE) Division:			
	Total	04	08	12+

Time Table In- Charge

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COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. Visiting faculty (V1) (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30				SE,GTE, (L),130	FE,B, BCEE(L)	
10:30to11:30						FE,B, BCEE(L)
11.30to12.15	RECESS					
12.15to1.15	SE,GTE, (L),130					
1:15 to2:15			FE,B, BCEE(L)	SE,GTE, (L),130	SE,GTE, (L),130	
2.15 to2.30	R E C E S S					
2.30 to 3.30	SE,GTE, C,120	FE,B,BCEE, A,(PR),114	SE,GTE, B,120	TE,ESD,B	SE,GTE, A,120	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Geotechnical Engineering	04	06	10
2	Employability skill Development (ESD)		02	02
3	Basic Civil and Environmental Engineering (BCEE) Division: B	03	02	05
	Total	06	12	17

Time Table In-Charge

H.O.D.

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. Visiting faculty (V2) (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30						
11.30to12.15	RECESS					
12.15to1.15			TE,SD-I, (PR),C, G07			
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30	SE,SOM, (PR),B, WS01	FE,A,BCEE, C,(PR),117	TE,SD-I, (PR),C, G07	SE,SOM, (PR),A, WS01	SE,SOM, (PR),C, WS01	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Strength of Material (SOM)		06	06
2	Structural Design-I (SD-I)		04	04
3	Basic Civil and Environmental Engineering (BCEE) Division:		02	
	Total		12	10

Time Table In-Charge

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. Visiting faculty (V3) (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30				BE,TQM, (L),121	FE,B,BCEE, B,(PR),117	
11.30to12.15	RECESS					
12.15to1.15						
1:15 to2:15		FE,C,BCEE, (L)	FE,C,BCEE, (L)		BE,TQM, (L),121	
2.15 to2.30	R E C E S S					
2.30 to 3.30	FE,C,BCEE, A,(PR),114	BE,TQM, (L),121	TE,ESD, (PR),A,	FE,C,BCEE, B,C,(PR),114	FE,B,BCEE, B,(PR),117	
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Total Quality Management (TQM)	03		03
2	Employability skill Development (ESD)		02	02
3	Basic Civil and Environmental Engineering (BCEE) Division: C	03	10	09
	Total	06	12	18

Time Table In- Charge

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College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE – 412115

Personal Time Table (TERM - I A.Y. 2019-20)

Name of the Department: Civil Engineering

CLASS: SE/TE/BE (Civil) Sem I/ II/III/IV /V/VI/VII/VIII

Name of faculty: - Prof. Mr. Atul Bongale (w.e.f. 15/06/2019)

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to10:30						
10:30to11:30	SE,M-III, (L),130	SE,M-III, (L),130	SE,M-III, (L),130	SE,M-III, (TU),130	SE,M-III, (L),130	
11.30to12.15	RECESS					
12.15to1.15						
1:15 to2:15						
2.15 to2.30	R E C E S S					
2.30 to 3.30						
3.30 to 4.30						

Sr. No.	Name of Subject	Lecture	Practical	Total
1	Engineering Mechanics –III (M-III)	04	01	05
	Total	04	01	5

Time Table In- Charge

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Bharati Vidyapeeth's
College of Engineering Lavale, Pune

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 8/8/2019 **FE [SEM- I]-A** **Class Room: I**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	M-I	CHEM	SME	PPS	M-I	ES
10:30 to11:30	PPS	BXE	SME A PPS B WS C	CHEM	BXE	SPORTS
11:30 to 12:30	CHEM	PPS		BXE	CHEM	LIBRARY
12.30 to 1.15	**RECESS (LUNCH BREAK)**					
1:15 to 2:15	SME	ES	PPS	M-I	SME	
2.15 to 2.30	**(BREAK)**					
2.30 to 3.30	WS A M I B CHEM C	PPS A CHEM B BXE C	M I A SME B M I C	CHEM A BXE B PPS C	BXE A WS B SME C	
3.30 to 4.30						

Head
Dept. of Engineering Sciences,
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Lavale, Pune - 412 115.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 8/8/2019 **FE [SEM] – I -B** **Class Room: II**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	SME	PHY	BEE	M-I	EM	ES
10:30 to11:30	PHY	EM	PHY	BEE	BEE A SME B M I C	SPORTS
11:30 to 12:30	M-I	BEE	EM	PHY		TEST/GFM MEETING
12.30 to 1.15	**RECESS (LUNCH BREAK)**					
1:15 to 2:15	EM	SME	SME	ES	M-I	
2.15 to 2.30	**(BREAK)**					
2.30 to 3.30	M I A EM B SME C	PHY A WS B EM C	WS A BEE B PHY C	SME A PHY B WS C	EM A M I B BEE C	
3.30 to 4.30						

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GFM – Prof. Mrs. Jyoti. Dhanke

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE

SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	M-I FE-A (JAD)	CHEM FE-A (NJ)	SME FE-A (PR)	*9:30 to 10:30*	PPS FE-A (AMI)	M-I FE-A (JAD)	ES FE-A (VF)
10:30 to 11:30	PPS FE-A (AMI)	BXE FE-A (PPA)		*10:30 to 11:30*	CHEM FE-A (NJ)	BXE FE-A (PPA)	L.LAB/SPORTS FE-A (GP)
11:30 to 12.30	CHEM FE-A (NJ)	PPS FE-A (AMI)		*11:30 to 12.30*	BXE FE-A (PPA)	CHEM FE-A (NJ)	LIBRARY (JJ)
12.30 to 1:15	*R E C E S S (LUNCH BREAK)*						
1:15 to 2:15	SME FE-A (PR)	ES FE-A (VF)	PPS FE-A (AMI)	*1:15 to 2:15*	M-I FE-A (JAD)	SME FE-A (PR)	
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

H.O.D

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE

SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject : Maths_Prof.Jyoti Dhanke

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	M-I FE-A (JAD)			*9:30 to 10:30*		M-I FE-A (JAD)	
10:30 to 11:30				*10:30 to 11:30*			
11:30 to 12.30				*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*	M-I FE-A (JAD)		
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

H.O.D

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Dept. of Engineering Sciences,
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE

SECTION –A, TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject: CHEM= Dr. Nidhi Jain

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30		CHEM FE-A (NJ)		*9:30 to 10:30*			
10:30 to 11:30				*10:30 to 11:30*	CHEM FE-A (NJ)		
11:30 to 12.30	CHEM FE-A (NJ)			*11:30 to 12.30*		CHEM FE-A (NJ)	
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

H.O.D

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Dept. of Engineering Sciences,
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE

SECTION -A, TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject: PPS= PROF. AVINASH INGOLE

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30				*9:30 to 10:30*	PPS FE-A (AMI)		
10:30 to 11:30	PPS FE-A (AMI)			*10:30 to 11:30*			
11:30 to 12.30		PPS FE-A (AMI)		*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15			PPS FE-A (AMI)	*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE

SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject: SME= PROF. P. RAHATE

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30			SME FE-A (PR)	*9:30 to 10:30*			
10:30 to 11:30				*10:30 to 11:30*			
11:30 to 12.30				*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15	SME FE-A (PR)			*1:15 to 2:15*		SME FE-A (PR)	
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject: BXE= DR. P. P. ATRE

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30				*9:30 to 10:30*			
10:30 to 11:30		BXE FE-A (PPA)		*10:30 to 11:30*		BXE FE-A (PPA)	
11:30 to 12.30				*11:30 to 12.30*	BXE FE-A (PPA)		
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*			
2.15 to 2.30							
2.30 to 4.30							

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SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Subject: ES=

Time	Monday	Tuesday	Wednesday	Time	Thursday	Friday	Saturday
9:30 to 10:30				9:30 to 10:30			ES FE-A (VF)
10:30 to 11:30				10:30 to 11:30			
11:30 to 12.30				11:30 to 12.30			
12.30 to 1:15							
1:15 to 2:15		ES FE-A (VF)		1:15 to 2:15			
2.15 to 2.30	BREAK						
2.30 to 4.30							

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DEPARTMENT OF ENGINEERING SCIENCE
M-I LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30	M I FE-A DIV BATCH-B (JAD)		M I FE-A DIV BATCH- A/ C (JAD)			

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DEPARTMENT OF ENGINEERING SCIENCE
SME LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: 0

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30			SME FE-A DIV BATCH-A (PR)			
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	*B R E A K*					
2.30 to 4.30			SME FE-A DIV BATCH-B (PR)		SME FE-A DIV BATCH-C (PR)	

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DEPARTMENT OF ENGINEERING SCIENCE
PPS LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30			PPS FE-A DIV BATCH-B (AMI)			
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30		PPS FE-A DIV BATCH-A (AMI)		PPS FE-A DIV BATCH-C (AMI)		

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DEPARTMENT OF ENGINEERING SCIENCE
CHEM LAB TIME TABLE (2019-2020)

BRANCH: FE A SEM- I

FE-A Room: LG-06

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 4.30	CHEM FE-A DIV BATCH-C (NJ)	CHEM FE-A DIV BATCH-B (NJ)		CHEM FE-A DIV BATCH-A (NJ)		

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-08

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30		BXE FE-A DIV BATCH-C (PPA)		BXE FE-A DIV BATCH-B (PPA)	BXE FE-A DIV BATCH-A (PPA)	

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SECTION -B TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: LG-02

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	SME FE-B (PR)	PHY FE-B (SB)	BEE FE-B (TSH)	*9:30 to 10:30*	M-I FE-B (JAD)	EM FE-B (STR)	ES FE-B (VF)
10:30 to 11:30	PHY FE-B (SB)	EM FE-B (STR)	PHY FE-B (SB)	*10:30 to 11:30*	BEE FE-B (TSH)		L.LAB/SPORTS FE-B (GP)
11:30 to 12.30	M-I FE-B (JAD)	BEE FE-B (TSH)	EM FE-B (STR)	*11:30 to 12.30*	PHY FE-B (SB)		TEST/GFM MEETING (JAD)
12.30 to 1:15	*R E C E S S (LUNCH BREAK)*						
1:15 to 2:15	EM FE-B (STR)	SME FE-B (PR)	SME FE-B (PR)	*1:15 to 2:15*	ES FE-B (VF)	M-I FE-B (JAD)	
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION –B, TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I
SUBJECT:PHYSICS=DR.SHIKHA BHARDWAJ

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30		PHY FE-B (SB)		*9:30 to 10:30*			
10:30 to 11:30	PHY FE-B (SB)		PHY FE-B (SB)	*10:30 to 11:30*			
11:30 to 12.30				*11:30 to 12.30*	PHY FE-B (SB)		
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -B TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I
SUBJECT:MATHS =PROF. J. DHANKE

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30				*9:30 to 10:30*	M-I FE-B (JAD)		
10:30 to 11:30				*10:30 to 11:30*			
11:30 to 12.30	M-I FE-B (JAD)			*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*		M-I FE-B (JAD)	
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -B TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I
SUBJECT:BEE=PROF. T.S HASARMANI

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30			BEE FE-B (TSH)	*9:30 to 10:30*			
10:30 to 11:30				*10:30 to 11:30*	BEE FE-B (TSH)		
11:30 to 12.30		BEE FE-B (TSH)		*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -B TIME TABLE (2019-2020)

BRANCH: FE SEM- I
SUBJECT:SME =PROF. P. RAHATE

FE-B Room: LG-02

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	SME FE-B (PR)			*9:30 to 10:30*			
10:30 to 11:30				*10:30 to 11:30*			
11:30 to 12.30				*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15		SME FE-B (PR)	SME FE-B (PR)	*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -B TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I
SUBJECT: EM =PROF. S.T. RATHOD

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30				*9:30 to 10:30*		EM FE-B (STR)	
10:30 to 11:30		EM FE-B (STR)		*10:30 to 11:30*			
11:30 to 12.30			EM FE-B (STR)	*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15	EM FE-B (STR)			*1:15 to 2:15*			
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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SECTION -B TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I
SUBJECT:ES =

Time	*Monday*	*Tuesday*	*Wednesday*	Time	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30				*9:30 to 10:30*			ES FE-B (VF)
10:30 to 11:30				*10:30 to 11:30*			
11:30 to 12.30				*11:30 to 12.30*			
12.30 to 1:15							
1:15 to 2:15				*1:15 to 2:15*	ES FE-B (VF)		
2.15 to 2.30	*B R E A K*						
2.30 to 4.30							

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DEPARTMENT OF ENGINEERING SCIENCE
BEE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: LG 01

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30					BEE FE-B DIV BATCH-A (TSH)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	*B R E A K*					
2.30 to 4.30			BEE FE-B DIV BATCH-B (TSH)		BEE FE-B DIV BATCH-C (TSH)	

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DEPARTMENT OF ENGINEERING SCIENCE
EM LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30	EM FE-B DIV BATCH-B (STR)	EM FE-B DIV BATCH-C (STR)			EM FE-B DIV BATCH-A (STR)	

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DEPARTMENT OF ENGINEERING SCIENCE
SME LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30					SME FE-B DIV BATCH-B (PR)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30	SME FE-B DIV BATCH-C (PR)			SME FE-B DIV BATCH-A (PR)		

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DEPARTMENT OF ENGINEERING SCIENCE
M-I LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30					M I FE-B DIV BATCH-C (JAD)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30	M I FE-B DIV BATCH-A (JAD)				M I FE-B DIV BATCH-B (JAD)	

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DEPARTMENT OF ENGINEERING SCIENCE
PHY LAB TIME TABLE (2019-2020)

BRANCH: FE B SEM- I

FE-B Room: LG 07

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 4.30		PHY FE-B DIV BATCH-A (SB)	PHY FE-B DIV BATCH-C (SB)	PHY FE-B DIV BATCH-B (SB)		

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DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 8/8/2019 **FE [SEM- I]-A** **Class Room: I**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	M-I	CHEM	SME	PPS	M-I	ES
10:30 to11:30	PPS	BXE	SME A PPS B WS C	CHEM	BXE	SPORTS
11:30 to 12:30	CHEM	PPS		BXE	CHEM	LIBRARY
12.30 to 1.15	**RECESS (LUNCH BREAK)**					
1:15 to 2:15	SME	ES	PPS	M-I	SME	
2.15 to 2.30	**(BREAK)**					
2.30 to 3.30	WS A M I B CHEM C	PPS A CHEM B BXE C	M I A SME B M I C	CHEM A BXE B PPS C	BXE A WS B SME C	
3.30 to 4.30						

GFM – Prof. Dr. Nidhi Jain

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Dr. Mrs.N.Jain	FE-Sem-I	CHEM	4	6	-	Chemistry lab - (A,B, C)
2	Prof. Mrs.J.A.Dhanke	FE-Sem-I	M-I	3	-	6	
3	Prof. Mr.A.P.Atre	FE-Sem-I	BXE	3	6	-	Electronics lab - (A,B, C)
4	Prof. Mr.A.Ingole	FE-Sem-I	PPS	3	6	-	Computer lab L1,L2(A,B, C)
5	Prof. P.Rahate	FE-Sem-I	SME	3	6	-	Drawing Hall - (A,B, C)
6	Visiting Faculty	FE-Sem-I	ES	2	-	-	Civil lab - (A,B, C)
7	Prof. A. Datarkar	FE-Sem-I	WS		6		Work shop - (A, B)
8	Dr. Mrs. G. Patil	FE-Sem-I	Sports	-	1	-	Ground

Ms. Archana Kadam

Time Table In-charge

22/8/19

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DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 8/8/2019 **FE [SEM] – I -B** **Class Room: II**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	SME	PHY	BEE	M-I	EM	ES
10:30 to11:30	PHY	EM	PHY	BEE	BEE A SME B M I C	SPORTS
11:30 to 12:30	M-I	BEE	EM	PHY		TEST/GFM MEETING
12.30 to 1.15	**RECESS (LUNCH BREAK)**					
1:15 to 2:15	EM	SME	SME	ES	M-I	
2.15 to 2.30	**(BREAK)**					
2.30 to 3.30						
3.30 to 4.30	M I A EM B SME C	PHY A WS B EM C	WS A BEE B PHY C	SME A PHY B WS C	EM A M I B BEE C	

GFM – Prof. Mrs. Jyoti. Dhanke

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Dr.S.Bhardwaj	FE-Sem-I	PHY	4	6	-	Physics lab-(A,B,C)
2	Prof. P.Rahate	FE-Sem-I	SME	3	6		Drawing Hall - (A,B,C)
3	Prof. Mrs.J.A.Dhanke	FE-Sem-I	M-I	3	-	6	--
4	Prof. Mr. S. T. Rathod	FE-Sem-I	EM	3	6	-	Computer lab L1,L2(A,B,C)
5	Prof. Mr.T.S.Hasarmani	FE-Sem-I	BEE	3	6	-	Electrical lab - (A,B,C)
6	Visiting faculty	FE-Sem-I	ES	2	6	-	Civil lab - (A,B,C)

Ms. Archana Kadam

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DEPARTMENT OF ENGINEERING SCIENCE

SECTION -A TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-02

Time	Monday	Tuesday	Wednesday	Time	Thursday	Friday	Saturday
9:30 to 10:30	M-I FE-A (JAD)	CHEM FE-A (NJ)	SME FE-A (PR)	9:30 to 10:30	PPS FE-A (AMI)	M-I FE-A (JAD)	ES FE-A (VF)
10:30 to 11:30	PPS FE-A (AMI)	BXE FE-A (PPA)		10:30 to 11:30	CHEM FE-A (NJ)	BXE FE-A (PPA)	L.LAB/SPORTS FE-A (GP)
11:30 to 12.30	CHEM FE-A (NJ)	PPS FE-A (AMI)		11:30 to 12.30	BXE FE-A (PPA)	CHEM FE-A (NJ)	LIBRARY (JJ)
12.30 to 1:15	R E C E S S (LUNCH BREAK)						
1:15 to 2:15	SME FE-A (PR)	ES FE-A (VF)	PPS FE-A (AMI)	1:15 to 2:15	M-I FE-A (JAD)	SME FE-A (PR)	
2.15 to 2.30	B R E A K						
2.30 to 4.30							

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DEPARTMENT OF ENGINEERING SCIENCE
CHEM LAB TIME TABLE (2019-2020)

FE-A Room: LG-06

BRANCH: FE A SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 2:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30	CHEM FE-A DIV BATCH-C (NJ)	CHEM FE-A DIV BATCH-B (NJ)		CHEM FE-A DIV BATCH-A (NJ)		

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: LG-08

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30		BXE FE-A DIV BATCH-C (PPA)		BXE FE-A DIV BATCH-B (PPA)	BXE FE-A DIV BATCH-A (PPA)	

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30			WS FE-A DIV BATCH-C (AD)			
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30	WS FE-A DIV BATCH-A (AD)				WS FE-A DIV BATCH-B (AD)	

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-A Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30	M I FE-A DIV BATCH-B (JAD)		M I FE-A DIV BATCH- A/ C (JAD)			

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BHARATI VIDYAPEETH'S
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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

FE-A Room: 0

BRANCH: FE SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30			SME FE-A DIV BATCH-A (PR)			
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30			SME FE-A DIV BATCH-B (PR)		SME FE-A DIV BATCH-C (PR)	

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DEPARTMENT OF ENGINEERING SCIENCE

SECTION -B TIME TABLE (2019-2020)

FE-B Room: LG-02

BRANCH: FE SEM- I

Time	Monday	Tuesday	Wednesday	Time	Thursday	Friday	Saturday
9:30 to 10:30	SME FE-B (PR)	PHY FE-B (SB)	BEE FE-B (TSH)	9:30 to 10:30	M-I FE-B (JAD)	EM FE-B (STR)	ES FE-B (VF)
10:30 to 11:30	PHY FE-B (SB)	EM FE-B (STR)	PHY FE-B (SB)	10:30 to 11:30	BEE FE-B (TSH)		L.LAB/SPORTS FE-B (GP)
11:30 to 12.30	M-I FE-B (JAD)	BEE FE-B (TSH)	EM FE-B (STR)	11:30 to 12.30	PHY FE-B (SB)		TEST/GFM MEETING (JAD)
12.30 to 1:15	R E C E S S (LUNCH BREAK)						
1:15 to 2:15	EM FE-B (STR)	SME FE-B (PR)	SME FE-B (PR)	1:15 to 2:15	ES FE-B (VF)	M-I FE-B (JAD)	
2.15 to 2.30	B R E A K						
2.30 to 4.30							

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DEPARTMENT OF ENGINEERING SCIENCE
CHEM LAB TIME TABLE (2019-2020)

FE-B Room: LG 07

BRANCH: FE B SEM- 1

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 2:15						
2.15 to 2.30	BREAK					
2.30 to 4.30		PHY FE-B DIV BATCH-A (SB)	PHY FE-B DIV BATCH-C (SB)	PHY FE-B DIV BATCH-B (SB)		

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: LG 01

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30					BEE FE-B DIV BATCH-A (TSH)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	BREAK					
2.30 to 4.30			BEE FE-B DIV BATCH-B (TSH)		BEE FE-B DIV BATCH-C (TSH)	

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: LG 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30		WS FE-B DIV BATCH-B (AD)	WS FE-B DIV BATCH-A (AD)	WS FE-B DIV BATCH-C (AD)		

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30					M I FE-B DIV BATCH-C (JAD)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30	M I FE-B DIV BATCH-A (JAD)				M I FE-B DIV BATCH-B (JAD)	

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30					SME FE-B DIV BATCH-B (PR)	
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	B R E A K					
2.30 to 4.30	SME FE-B DIV BATCH-C (PR)			SME FE-B DIV BATCH-A (PR)		

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DEPARTMENT OF ENGINEERING SCIENCE
BXE LAB TIME TABLE (2019-2020)

BRANCH: FE SEM- I

FE-B Room: 0

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:30						
12.30 to 1:15						
1:15 to 3:15						
2.15 to 2.30	*B R E A K*					
2.30 to 4.30	EM FE-B DIV BATCH-B (STR)	EM FE-B DIV BATCH-C (STR)			EM FE-B DIV BATCH-A (STR)	

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF MECHANICAL ENGINEERING
LAB TIME TABLE (2019-2020)

W.E.F.:- 10/10/2019 to 16-10-201 Language Lab SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30				TEB2- LL (Dr. P P A)		TEA3- LL (T S H)
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15		TEB1- LL (J A D)				
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	TEA2- LL (T. S. H.)				TEA1- LL (Dr. N J)	
3:30 to 4.30						

TE A1 0 1 To 20
TE A2 21 to 40
TE A3 41 onwards

TE B1 0 1 To 21
TE B2 22 to 41

Sr No.	Faculty Name	Subject Name	L	P	T	Load
1	PROF T. S. Hasarmani	Language Lab TE A2		4		
2	PROF Dr. P. P. Atre	Language Lab TE B2		2		
3	PROF J A Dhanke	Language Lab TE B1		2		
4	PROF Dr. Nidhi Jain	Language Lab TE A1 & A3		2		

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 07/01/2020 **FE [SEM- II] - A** **Class Room: LG02**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	M-II	PHY	PHY	EM	BEE	TEST/GFM MEETING
10:30 to11:30	PHY	BEE	BEE	PHY	PBL A BEE B EG C	PE-E.F.A.(SPORT)
11:30 to 12:30	M-II	ES II	ES II DEPT. MEETING	EG		LIBRARY
12.30 to 1.15	RECESS (LUNCH BREAK)					
1:15 to 2:15	EM	EM	M-II	M-II	EG(TT)	
2.15 to 2.30	(BREAK)					
2.30 to 3.30 3.30 to 4.30	EG A M II (TT) B PHY C	EM A PHY B BEE C	M II(TT) A EM B PBL C	PHY A PBL B M II(TT) C	BEE A EG B EM C	

GFM – Prof. Mr.T.S.Hasarmani

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Dr.S.Bhardwaj	FE-Sem-II	PHY	4	6	-	Chemistry lab - (A,B, C)
2	Prof. Mrs.J.A.Dhanke	FE-Sem-II	M-II	4	-	6	Maths T-Room
3	Prof. Mr.T.S.Hasarmani	FE-Sem-II	BEE	3	6	-	Electronics lab - (A,B, C)
4	Prof. Mr. S. T. Rathod	FE-Sem-II	EM	3	6	-	Computer lab L1,L2(A,B, C)
5	Prof. A. Datarkar	FE-Sem-II	EG	2	6		Drawing Hall - (A,B, C)
6	All Faculty	FE-Sem-II	PBL	-	6	-	LG-02
7	Visiting Faculty	FE-Sem-II	ES II	2	-	-	Civil lab - (A,B, C)
8	Dr. Mrs. G. Patil	FE-Sem-II	PE-EFA	-	-	-	Ground

Ms. Archana Kadam
TimeTable In-charge

Dr.ShikhaBhardwaj
H.O.D

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF ENGINEERING SCIENCE
TIME TABLE (2019-2020)

W.E.F.:- 07/01/2020 **FE [SEM-II] – B** **Class Room: LG03**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	EG	CHEM	BXE	M-II	CHEM	PE-E.F.A.(SPORT)
10:30 to11:30	BXE	PPS	MII	CHEM	BXE A PBL B M II(TT) C	TEST/GFM MEETING
11:30 to 12:30	PPS	BXE	PPS DEPT. MEETING	M-II		LIBRARY
12.30 to 1.15	**RECESS (LUNCH BREAK)**					
1:15 to 2:15	ES II	EG(TT)	CHEM	ES II	M-II	
2.15 to 2.30	**(BREAK)**					
2.30 to 3.30 3.30 to 4.30	M II(TT) A PPS B PBL C	CHEM A EG B PPS C	EG A BXE B CHEM C	PBL A M II(TT) B EG C	PPS A CHEM B BXE C	

GFM – Prof. Dr. Pradip Atre

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Dr. Mrs.N.Jain	FE-Sem-II	CHEM	4	6	-	Physics lab-(A,B,C)
2	Prof. A. Datarkar	FE-Sem-II	EG	2	6		DRAWING HALL - (A, B)
3	Prof. Mrs.J.A.Dhanke	FE-Sem-II	M-II	4	-	6	Maths T-Room
4	Prof. Mr.A.Ingole	FE-Sem-II	PPS	3	6	-	Computer lab L1,L2(A,B,C)
5	Prof. Mr. P. P. Atre	FE-Sem-II	BXE	3	6	-	Electrical lab - (A,B,C)
6	Prof. Mr.A.Ingole	FE-Sem-II	PBL	-	6	-	LG-03
7	Visiting faculty	FE-Sem-II	ES II	2	-	-	Civil lab - (A,B,C)
8	Dr. Mrs. G. Patil	FE-Sem-II	PE-EFA	-	-	-	Ground

Ms. Archana Kadam
Time Table In-charge

Dr.ShikhaBhardwaj
H.O.D

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COLLEGE OF ENGINEERING, LAVALE PUNE-15

Department of Mechanical Engineering

Individual Time Table (2019-20) Semester-II

Faculty Name:- Prof. T. S. Hasarmani

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30				(EEE) G-14		
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15			(EEE) G-14	A-3(EEE)	A-2(EEE)	
1:15 to 2:15						
2:15 to 2:30	BREAK					
2:30 to 3:30					A-1(EEE)	
3:30 to 4:30				(EEE) G-14		

Batch
A-1:- 1 to 20
A-2:- 21 to 40
A-3:- 41 to Onwards

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 27/8/2018 SE COMPUTER-SEM- I Class Room: I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DM	DM	DM	DSA	DM	DSL(C) SS(A) AC1(B)
10:30 to11:30	OOP	OOP	OOP	COA	COA	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DSA	DSA	COA	OOP	DSA	
1:15 to 2:15	COA	DELD	DELD	DELD	DELD	
2.15 to 2.30	(BREAK)					
2.30 to 3.30	DSL(A) SS(B) AC1(C)	DSL(B) SS(C) AC1(A)	DEL(A) OOPL(B) DSL(C)	DEL(B) OOPL(C) DSL(A)	DEL(C) OOPL(A) DSL(B)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.S.S Pawar	SE-COMP-I	DM	4	-	-	-
2	Prof.Shivani Pawar(V)	SE-COMP-I	DELD	4	-	-	-
3	Prof.A.M Ingole	SE-COMP-I	DSA	4	-	-	-
4	Prof.P.M Kadam	SE-COMP-I	CQA	4	-	-	-
5	Prof.P.D Pawar	SE-COMP-I	OOP	4	-	-	-
6	Prof.Shivani Pawar(V)	SE-COMP-I	DEL	-	6	-	ELEX LAB-A,B,C
7	Prof.A.M Ingole	SE-COMP-I	DSL	-	12	-	LAB(5)-A,B,C
8	Prof.P.D Pawar	SE-COMP-I	OOPL	-	6	-	LAB(6)-A,B,C
9	Prof.P.M Kadam	S.E COMP-I	SS	-	6	-	LAB(7)-A,B,C
10	Prof.P.P.Salunkhe	S.E COMP-I	AC1	-	6	-	LAB(8)-A,B,C

PROF.P.M KADAM
Time Table In-charge
Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

PROF. U.C.PATKAR
H.O.D
H. O. D.
Computer Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 27/8/2018 TE COMPUTER-SEM- I Class Room: II

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	TOC	TOC	TOC	SEPM	SEPM	
10:30 to11:30	SEPM	DBMS	DBMS	CN	CN	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DBMS(A) SDL(B) CNL(C)	DBMS(B) SDL(C) CNL(A)	DBMS(C) SDL(A) CNL(B)	DBMS(A) SDL(B) AC3(C)	DBMS(B) SDL(C) AC3(A)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ISEE	ISEE	ISEE	DBMS(C) SDL(A) AC3(B)	SDL(TT)	
3.30 to 4.30	DBMS	CN	CN			

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. P.M.Kadam	T.E COMP-I	SEPM	3	-	-	
2	Prof. P.J Chate	T.E COMP-I	CN	4	-	-	
3	Prof.Y.V Kadam	T.E COMP-I	DBMS	3	-	-	
4	Prof. K.Bala	T.E COMP-I	TOC	3	-	-	
5	Prof. A.R.Patil	T.E COMP-I	ISEE	3	-	-	
6	Prof. K.Bala	T.E COMP-I	SDL	-	12	-	LAB(2)-A,B,C
7	Prof.Y.V Kadam	T.E COMP-I	DBMS	-	12	-	LAB(1)-A,B,C
8	Prof. P.J Chate	T.E COMP-I	CNL	-	6	-	LAB(3)-A,B,C
9	Prof.P.M Kadam	T.E COMP-I	AC3	-	6	-	LAB(8)-A,B,C

PROF.P.M KADAM
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Computer Engineering
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 27/8/2018 BE COMPUTER-SEM- I Class Room: II

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-I(A) LP-II(B)	LP-I(A) LP-II(B)	LP-I(B) LP-II(A)	LP-I(B) LP-II(A)	PROJECT(A) AC5(B)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DA	E-II	E-II	AIR	PROJECT(B) AC5(A)	
1:15 to 2:15	E-I	DA	E-I	HPC		
2.15 to 2.30	BREAK					
2.30 to 3.30	E-II	AIR	AIR	DA		
3.30 to 4.30	HPC	HPC	HPC	E-I		

GFM – PROF. P.P.SALUNKHE CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
2	Prof. U.C Patkar	B.E COMP-I	AIR	3	-	-	-
3	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-
4	Prof.P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
5	Prof. U.C Patkar	B.E COMP-I	E-II	3	-	-	-
6	Prof. U.C Patkar	B.E COMP-I	LP-I	-	8	-	LAB(1)-A,B
7	Prof. A.R Patil	B.E COMP-I	LP-II	-	8	-	LAB(2)-A,B
8	Prof.P.P.Salunkhe	B.E COMP-I	AC5	-	4	-	LAB(8)-A,B
9	Prof. U.C Patkar	B.E COMP-I	PROJECT	-	4	-	LAB(3)-A,B

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/8/2018 — DSE COMPUTER-SEM- I — Class Room: I

Time	25/8/18	1/9/18	8/9/18	15/9/18	22/9/18	29/9/18	6/10/18	13/10/18
9:30 to 10:30	OOP	DM	DELD	COA	DSA	DM	OOP	COA
10:30 to 11:30	OOP	DM	DELD	COA	DSA	DELD	DSA	COA
11:30 to 12:15	RECESS (LUNCH BREAK)							
12:15 to 1:15	DM	OOP	DM	OOP	COA	OOP	COA	DELD
1:15 to 2:15	DM	OOP	DM	OOP	COA	OOP	COA	DELD
2.15 to 2.30	(BREAK)							
2.30 to 3.30	DSA	COA	DSA	DELD	DELD	DSA	DM	
3.30 to 4.30	DSA	COA	DSA	DELD	DELD	DSA	DM	

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name
1	Prof.S.S Pawar	SE-COMP-I	DM
2	Prof.Shivani Pawar(V)	SE-COMP-I	DELD
3	Prof.A.M Ingole	SE-COMP-I	DSA
4	Prof.P.M Kadam	SE-COMP-I	COA
5	Prof.P.D Pawar	SE-COMP-I	OOP

21/8/18

PROF.P.M KADAM
Time Table In-charge

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21/8/2018

PROF. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/7/2018 BE COMPUTER-SEM- I Class Room: II

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-I(A) LP-II(B)	LP-I(A) LP-II(B)	LP-I(B) LP-II(A)	LP-I(B) LP-II(A)	PROJECT(A) AC5(B)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	E-II	E-II	E-II	AIR	PROJECT(B) AC5(A)	
1:15 to 2:15	HPC	AIR	E-I	HPC		
2.15 to 2.30	BREAK					
2.30 to 3.30	DA	DA	AIR	DA		
3.30 to 4.30	E-I	HPC	HPC	E-I		

GFM – PROF. P.P.SALUNKHE CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
2	Prof. M.A Patil	B.E COMP-I	AIR	3	-	-	-
3	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-
4	Prof.P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
5	Prof. U.C Patkar	B.E COMP-I	E-II	3	-	-	-
6	Prof. U.C Patkar	B.E COMP-I	LP-I	-	8	-	LAB(1)-A,B
7	Prof. A.R Patil	B.E COMP-I	LP-II	-	8	-	LAB(2)-A,B
8	Prof.P.P.Salunkhe	B.E COMP-I	AC5	-	4	-	LAB(8)-A,B
9	Prof. U.C Patkar	B.E COMP-I	PROJECT	-	4	-	LAB(3)-A,B

PROF.P.M KADAM
Time Table In-charge
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24/7/2018

PROF. U.C.PATKAR
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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018 SE COMPUTER-SEM- I Class Room: I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DM	DM	DM	COA	DM	DSL(C) SS(A) AC1(B)
10:30 to11:30	OOP	OOP	OOP	OOP	COA	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DSA	DSA	COA	DSA	DSA	
1:15 to 2:15	COA	DELD	DELD	DELD	DELD	
2.15 to 2.30	(BREAK)					
2.30 to 3.30	DSL(A) SS(B) AC1(C)	DSL(B) SS(C) AC1(A)	DEL(A) OOPL(B) DSL(C)	DEL(B) OOPL(C) DSL(A)	DEL(C) OOPL(A) DSL(B)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.S.S Pawar	SE-COMP-I	DM	4	-	-	-
2	Prof.Shivani Pawar(V)	SE-COMP-I	DELD	4	-	-	-
3	Prof.A.M Ingole	SE-COMP-I	DSA	4	-	-	-
4	Prof.P.M Kadam	SE-COMP-I	COA	4	-	-	-
5	Prof.P.D Pawar	SE-COMP-I	OOP	4	-	-	-
6	Prof.Shivani Pawar(V)	SE-COMP-I	DEL	-	6	-	ELEX LAB-A,B,C
7	Prof.A.M Ingole	SE-COMP-I	DSL	-	12	-	LAB(5)-A,B,C
8	Prof.P.D Pawar	SE-COMP-I	OOPL	-	6	-	LAB(6)-A,B,C
9	Prof.P.M Kadam	S.E COMP-I	SS	-	6	-	LAB(7)-A,B,C
10	Prof.M.A.Patil	S.E COMP-I	AC1	-	6	-	LAB(8)-A,B,C

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BHARATI VIDYAPEETH'S
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DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018 TE COMPUTER-SEM- I Class Room: II

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	TOC	TOC	TOC	SEPM	SEPM	
10:30 to11:30	SEPM	DBMS	DBMS	CN	CN	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DBMS(A) SDL(B) CNL(C)	DBMS(B) SDL(C) CNL(A)	DBMS(C) SDL(A) CNL(B)	DBMS(A) SDL(B) AC3(C)	DBMS(B) SDL(C) AC3(A)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ISEE	ISEE	ISEE	DBMS(C) SDL(A) AC3(B)	SDL(TT)	
3.30 to 4.30	DBMS	CN	CN			

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. M.A Patil	T.E COMP-I	SEPM	3	-	-	
2	Prof. P.J Chate	T.E COMP-I	CN	4	-	-	
3	Prof.Y.V Kadam	T.E COMP-I	DBMS	3	-	-	
4	Prof. K.Bala	T.E COMP-I	TOC	3	-	-	
5	Prof. A.R.Patil	T.E COMP-I	ISEE	3	-	-	
6	Prof. K.Bala	T.E COMP-I	SDL	-	12	-	LAB(2)-A,B,C
7	Prof.Y.V Kadam	T.E COMP-I	DBMS	-	12	-	LAB(1)-A,B,C
8	Prof. P.J Chate	T.E COMP-I	CNL	-	6	-	LAB(3)-A,B,C
9	Prof.P.M Kadam	T.E COMP-I	AC3	-	6	-	LAB(8)-A,B,C

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DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018 BE COMPUTER-SEM- I Class Room: II

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-I(A) LP-II(B)	LP-I(A) LP-II(B)	LP-I(B) LP-II(A)	LP-I(B) LP-II(A)	PROJECT(A) AC5(B)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	E-II	E-II	E-II	DA	PROJECT(B) AC5(A)	
1:15 to 2:15	E-I	AIR	E-I	E-I		
2.15 to 2.30	BREAK					
2.30 to 3.30	DA	DA	AIR	AIR		
3.30 to 4.30	HPC	HPC	HPC	HPC		

GFM – PROF. P.P.SALUNKHE CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
2	Prof. M.A Patil	B.E COMP-I	AIR	3	-	-	-
3	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-
4	Prof.P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
5	Prof. U.C Patkar	B.E COMP-I	E-II	3	-	-	-
6	Prof. U.C Patkar	B.E COMP-I	LP-I	-	8	-	LAB(1)-A,B
7	Prof. A.R Patil	B.E COMP-I	LP-II	-	8	-	LAB(2)-A,B
8	Prof.P.P.Salunkhe	B.E COMP-I	AC5	-	4	-	LAB(8)-A,B
9	Prof. U.C Patkar	B.E COMP-I	PROJECT	-	4	-	LAB(3)-A,B

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F:- 17/12/2018 SE COMPUTER-SEM- II Class Room: 104

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	M-III	M-III	M-III	M-III	ML(B) CGL(C) ADSL(A)	ML(C) ADSL(A) M-III (B) / AC2 (B)
10:30 to11:30	MP	MP	CG	MP		
11:30 to 12:15	RECESS(LUNCH BREAK)					Guest Lecture /HOD Student Meeting
12:15 to 1:15	CG	CG	ADS	ADS	CG	
1:15 to 2:15	ADS	ADS	PPL	PPL	PPL	
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ML(A) CGL(B) ADSL(C)	MP	ML(C) CGL(A) ADSL(B)	ML(A) ADSL(B) M-III (C) / AC2 (C)	ML(B) ADSL(C) M-III (A)/ AC2 (A)	
3.30 to 4.30		SPORTS/LIB MEETING				

GFM – MRS.P.M.KADAM

MENTOR– SSP, AMI, ABK.

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.Bhongale	SE-COMP-II	M-III	4	-	3	LAB 4 (A,B,C)
2	Mr.S.S.Pawar	SE-COMP-II	CG	4	-	-	-
3	Mrs.K.Bala	SE-COMP-II	ADS	4	-	-	-
4	Mrs.P.M.Kadam	SE-COMP-II	MP	4	-	-	-
5	Mr.A.R.Patil	SE-COMP-II	PPL	3	-	-	-
6	Mr.S.S.Pawar	SE-COMP-II	CGL	-	6	-	LAB 1 (A,B,C)
7	Mrs.K.Bala	SE-COMP-II	ADSL	-	12	-	CCF LAB 1 (A,B,C)
8	Mr.P.P.Salunkhe	SE-COMP-II	ML	-	12	-	LAB 3 (A,B,C)
9	Mr.A.R.Patil	S.E COMP-II	AC2	-	-	3	LAB 4 (A,B,C)
10	Mrs.Gauri Patil	S.E COMP-II	SPORTS	-	1	-	Gymkhana
11	Mr.J.B.Jadhav	S.E COMP-II	LIBRARY	-	1	-	Library

Note : M-III& AC2 Tutorial is only for 1hr respectively.

MRS.P.M KADAM
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11/12/2018
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F:- 17/12/2018 | TE COMPUTER-SEM- II | Class Room: 108

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DAA	DAA	DAA	DAA	SMD	SPOS(C) STC(A) AC4(B)
10:30 to11:30	SPOS	SPOS	SPOS	SPOS	SPORTS / LIBRARY	
11:30 to 12:15	RECESS(LUNCH BREAK)					Guest Lecture /HOD Student Meeting
12:15 to 1:15	SPOSL(A) ESIOTL(B) WTL(C)	SPOSL(B) ESIOTL(C) WTL(A)	SPOSL(C) ESIOTL(A) WTL(B)	SPOSL(A) STC(B) AC4(C)	SPOSL(B) STC(C) AC4(A)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ESIOT	SMD	ESIOT	ESIOT	ESIOT	
3.30 to 4.30	SMD	MEETING	WT	WT	WT	

GFM –MRS.K.BALA

MENTOR –PJC,PDP,YVK

Sr No	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.Y.V.Kadam	T.E COMP-II	DAA	4	-	-	
2	Mrs. P.J.Chate	T.E COMP-II	SPOS	4	-	-	
3	Mrs.P.D.Pawar	T.E COMP-II	WT	3	-	-	
4	Mrs.P.M.Kadam	T.E COMP-II	ESIOT	4	-	-	
5	Mrs.P.D.Pawar	T.E COMP-II	SMD	3	-	-	
6	Mrs.P.D.Pawar	T.E COMP-II	STC	-	6	-	LAB1(A) , LAB 4 (B,C)
7	Mrs.P.D.Pawar	T.E COMP-II	WTL	-	6	-	LAB 1 (A,B,C)
8	Mrs. P.J.Chate	T.E COMP-II	SPOSL	-	12	-	LAB 2 (A,B,C)
9	Mrs.P.M.Kadam	T.E COMP-II	ESIOTL	-	6	-	LAB 3 (A,B,C)
10	Mr.S.S.Pawar	T.E COMP-II	AC4	-	2	-	CCF LAB 4(B)
11	Mr.A.M.Ingole	T.E COMP-II	AC4	-	2	-	CCF LAB 4(C)
12	Mrs.K.Bala	T.E COMP-II	AC4	-	2	-	CCF LAB 4(A)
13	Mrs.GauriPatil	T.E COMP-II	SPORTS	-	1	-	Gymkhana
14	Mr.J.B.Jadhav	T.E COMP-II	LIBRARY	-	1	-	Library

MRS.P.M KADAM
TimeTable In-charge

Dept. of Computer Engineering
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11/12/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F:- 17/12/2018 BE COMPUTER-SEM- II Class Room: 104,108

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-III(A)	LP-III(A)	LP-IV(A)	LP-IV(A)	PROJECT(A)	
10:30 to11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					Guest Lecture /HOD Student Meeting
12:15 to 1:15	ML	IACS	ML	AC6(A)	PROJECT(A)	
1:15 to 2:15	E-IV	E-IV	E-IV			
2.15 to 2.30	BREAK					
2.30 to 3.30	E-III	E-III	E-III	SPORTS/LIB	PROJECT(A)	
3.30 to 4.30	IACS	MEETING	IACS	ML		

GFM – MR.P.P.SALUNKHE

MENTOR –ARP

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.U.C.Patkar	B.E COMP-II	ML	3	-	-	-
2	Mr.Y.V.Kadam	B.E COMP-II	IACS	3	-	-	-
3	Mr.A.R.Patil	B.E COMP-II	E-III	3	-	-	-
4	Mr.S.S.Pawar	B.E COMP-II	E-IV	3	-	-	-
5	Mr.U.C.Patkar	B.E COMP-II	LP-III	-	4	-	LAB 2 (A)
6	Mr.A.R.Patil	B.E COMP-II	LP-IV	-	4	-	LAB 2 (A)
7	Mr.P.P.Salunkhe	B.E COMP-II	AC6	-	2	-	LAB 4 (A)
8	Mr.U.C.Patkar	B.E COMP-II	PROJECT	-	6	-	CCF LAB 2(A)
9	Mrs.GauriPatil	B.E COMP-II	SPORTS	-	1	-	Gymkhana
10	Mr.J.B.Jadhav	B.E COMP-II	LIBRARY	-	1	-	Library

MRS.P.M KADAM
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BHARATI VIDYAPEETH'S
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DEPARTMENT OF COMPUTER ENGINEERING
CLASSROOM TIME TABLE (2018-2019)

BRANCH : SE,BE Computer SEM- II

Class Room: 104

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	**M-III** SE COMP (AB)	**M-III** SE COMP (AB)	**M-III** SE COMP (AB)	**M-III** SE COMP (AB)		
10:30 to 11:30	**MP** SE COMP (PMK)	**MP** SE COMP (PMK)	**CG** SE COMP (SSP)	**MP** SE COMP (PMK)		
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15	**CG** SE COMP (SSP)	**CG** SE COMP (SSP)	**ADS** SE COMP (KB)	**ADS** SE COMP (KB)	**CG** SE COMP (SSP)	
1:15 to 2:15	**ADS** SE COMP (KB)	**ADS** SE COMP (KB)	**PPL** SE COMP (ARP)	**PPL** SE COMP (ARP)	**PPL** SE COMP (ARP)	
2.15 to 2.30	*B R E A K*					
2.30 to 3.30	**E-III** BE COMP (ARP)	**MP** SE COMP (PMK)	**E-III** BE COMP (ARP)			
3.30 to 4.30	**IACS** BE COMP (YVK)		**IACS** BE COMP (YVK)	**ML** BE COMP (UCP)		

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DEPARTMENT OF COMPUTER ENGINEERING
CLASSROOM TIME TABLE (2018-2019)

BRANCH : TE,BE Computer SEM- II **Class Room: 108**

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	**DAA** TE COMP (YVK)	**DAA** TE COMP (YVK)	**DAA** TE COMP (YVK)	**DAA** TE COMP (YVK)	**SMD** TE COMP (PDP)	
10:30 to 11:30	**SPOS** TE COMP (PJC)	**SPOS** TE COMP (PJC)	**SPOS** TE COMP (PJC)	**SPOS** TE COMP (PJC)		
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15	**ML** BE COMP (UCP)	**IACS** SE COMP (YVK)	**ML** BE COMP (UCP)			
1:15 to 2:15	**E-IV** BE COMP (SSP)	**E-IV** BE COMP (SSP)	**E-IV** BE COMP (SSP)			
2.15 to 2.30	*B R E A K*					
2.30 to 3.30	**ESIOT** TE COMP (PMK)	**SMD** TE COMP (PDP)	**ESIOT** TE COMP (PMK)	**ESIOT** TE COMP (PMK)	**ESIOT** TE COMP (PMK)	
3.30 to 4.30	**SMD** TE COMP (PDP)		**WT** TE COMP (PDP)	**WT** TE COMP (PDP)	**WT** TE COMP (PDP)	

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15

DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II

Name of Lab: Programming Lab

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					CGL SE COMP BATCH C (SSP)	STC TE COMP BATCH A (PDP)
10:30 to 11:30						
11:30 to 12:15	R E C E S S (LUNCH BREAK)					
12:15 to 1:15	WTL TE COMP BATCH C (PDP)	WTL TE COMP BATCH A (PDP)	WTL TE COMP BATCH B (PDP)			
1:15 to 2:15						
2.15 to 2.30	B R E A K					
2.30 to 3.30	CGL SE COMP BATCH B (SSP)		CGL SE COMP BATCH A (SSP)			
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II

Name of Lab: Operating System Lab

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30	**LP-III** BE COMP BATCH A (UCP)	**LP-III** BE COMP BATCH A (UCP)	**LP-IV** BE COMP BATCH A (ARP)	**LP-IV** BE COMP BATCH A (ARP)		**SPOSL** TE COMP BATCH C (PJC)
10:30 to 11:30						
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15	**SPOSL** TE COMP BATCH A (PJC)	**SPOSL** TE COMP BATCH B (PJC)	**SPOSL** TE COMP BATCH C (PJC))	**SPOSL** TE COMP BATCH A (PJC)	**SPOSL** TE COMP BATCH B (PJC))	
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 3.30		**E-III** BE COMP (ARP)				
3.30 to 4.30						

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BHARATI VIDYAPEETH'S
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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II

Name of Lab: Graphics Lab

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30					**ML** SE COMP BATCH B (PPS)	**ML** SE COMP BATCH C (PPS)
10:30 to 11:30						
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15	**ESIOTL** TE COMP BATCH B (PMK)	**ESIOTL** TE COMP BATCH C (PMK)	**ESIOTL** TE COMP BATCH A (PMK)			
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 3.30	**ML** SE COMP BATCH A (PPS)		**ML** SE COMP BATCH C (PPS)	**ML** SE COMP BATCH A (PPS)	**ML** SE COMP BATCH B (PPS)	
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II **Name of Lab: Hardware Lab**

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						**M-III** SE COMP BATCH B (AG)
10:30 to 11:30						**AC2** SE COMP BATCH B (ARP)
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15				**STC** TE COMP BATCH B (PDP)	**STC** TE COMP BATCH C (PDP)	
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 3.30				**M-III** SE COMP BATCH C (AG)	**M-III** SE COMP BATCH A (AG)	
3.30 to 4.30				**AC2** SE COMP BATCH C (ARP)	**AC2** SE COMP BATCH A (ARP)	

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II **Name of Lab: CCF Lab 1**

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30					**ADSL** SE COMP BATCH A (KB) ↕	**ADSL** SE COMP BATCH A (KB) ↕
10:30 to 11:30						
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 3.30	**ADSL** SE COMP BATCH C (KB) ↕		**ADSL** SE COMP BATCH B (KB) ↕	**ADSL** SE COMP BATCH B (KB) ↕	**ADSL** SE COMP BATCH C (KB) ↕	
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II

Name of Lab: CCF Lab 2

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					PROJECT BE COMP BATCH A (UCP)	
10:30 to 11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15					PROJECT BE COMP BATCH A (UCP)	
1:15 to 2:15						
2.15 to 2.30	BREAK					
2.30 to 3.30					PROJECT BE COMP BATCH A (UCP)	
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- II **Name of Lab: CCF Lab 3**

Time	*Monday*	*Tuesday*	*Wednesday*	*Thursday*	*Friday*	*Saturday*
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:15	*R E C E S S (LUNCH BREAK)*					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	*B R E A K*					
2.30 to 3.30	**FPL-II** BATCH C Group-A (AMI)	**FPL-II** BATCH C Group-B (AMI)	**FPL-II** BATCH B Group-A,B (AMI)	**FPL-II** BATCH A Group-A (AMI)	**FPL-II** BATCH A Group-B (AMI)	
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019)

BRANCH: Computer SEM- I **Name of Lab: CCF Lab 4**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						AC4 SE COMP-I BATCH B (SSP)
10:30 to 11:30						
11:30 to 12:15	R E C E S S (LUNCH BREAK)					
12:15 to 1:15				AC4 SE COMP-I BATCH C (AMI)	AC4 SE COMP-I BATCH A (KB)	
1:15 to 2:15						
2.15 to 2.30	B R E A K					
2.30 to 3.30						
3.30 to 4.30						

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DEPARTMENT OF COMPUTER ENGINEERING

CLASSROOM – I TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE , BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DM	DM	DM	COA	DM	
10:30 to11:30	OOP	OOP	OOP	OOP	COA	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DSA	DSA	COA	DSA	DSA	
1:15 to 2:15	COA	DELD	DELD	DELD	DELD	
2.15 to 2.30	(BREAK)					
2.30 to 3.30	DA	DA	AIR	AIR		
3.30 to 4.30	HPC	HPC	HPC	HPC		

GFM – PROF. P.M.KADAM

CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.S.S Pawar	SE-COMP-I	DM	4	-	-	-
2	Prof.Shivani Pawar(V)	SE-COMP-I	DELD	4	-	-	-
3	Prof.A.M Ingole	SE-COMP-I	DSA	4	-	-	-
4	Prof.P.M Kadam	SE-COMP-I	COA	4	-	-	-
5	Prof.P.D Pawar	SE-COMP-I	OOP	4	-	-	-
6	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
7	Prof. M.A Patil	B.E COMP-I	AIR	3	-	-	-
8	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-

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DEPARTMENT OF COMPUTER ENGINEERING

CLASSROOM – II TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

TE , BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	TOC	TOC	TOC	SEPM	SEPM	
10:30 to11:30	SEPM	DBMS	DBMS	CN	CN	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	E-II	E-II	E-II	DA		
1:15 to 2:15	E-I	AIR	E-I	E-I		
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ISEE	ISEE	ISEE			
3.30 to 4.30	DBMS	CN	CN			

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. M.A Patil	T.E COMP-I	SEPM	3	-	-	-
2	Prof. P.J Chate	T.E COMP-I	CN	4	-	-	-
3	Prof.Y.V Kadam	T.E COMP-I	DBMS	3	-	-	-
4	Prof. K.Bala	T.E COMP-I	TOC	3	-	-	-
5	Prof. A.R.Patil	T.E COMP-I	ISEE	3	-	-	-
6	Prof.P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
7	Prof. U.C Patkar	B.E COMP-I	E-II	3	-	-	-
8	Prof. M.A Patil	B.E COMP-I	AIR	3	-	-	-
9	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-

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DEPARTMENT OF COMPUTER ENGINEERING

ACADEMIC YEAR : 2018-2019 (SEM-I)

ClasS GFM :

CLASS	NAME OF FACULTY
SE COMPUTER	PROF.P.M.KADAM
TE COMPUTER	PROF.K.BALA
BE COMPUTER	PROF.P.P.SALUNKHE

Class Co-Ordinators :

CLASS	NAME OF FACULTY
FE COMPUTER	PROF.S.S.PAWAR
SE COMPUTER	PROF.A.M.INGOLE
TE COMPUTER	PROF.P.J.CHATE
BE COMPUTER	PROF.A.R.PATIL

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 1**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-I(A)	LP-I(A)	LP-I(B)	LP-I(B)		
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15	DBMS(A)	DBMS(B)	DBMS(C)	DBMS(A)	DBMS(B)	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30				DBMS(C)		
3:30 to 4:30						

LAB INCHARGE : PROF. Y.V KADAM

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	PROF.Y.V.KADAM	TE COMP-I	DBMSL	-	12	-	Lab 1(A,B,C)
2	PROF.U.C.PATKAR	BE COMP-I	LP-I	-	8	-	Lab 1(A,B)

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LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 2**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-II(A)	LP-II(A)	LP-II(B)	LP-II(B)		
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15	SDL(B)	SDL(C)	SDL(A)	SDL(B)	SDL(C)	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30				SDL(B)		
3:30 to 4:30						

LAB INCHARGE : PROF.K.BALA

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. K.BALA	T.E COMP-I	SDL	-	12	-	LAB 2-A,B,C
2	Prof. A.R PATIL	B.E COMP-I	LP-II	-	8	-	LAB 2-A,B

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 3**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					PROJECT(A)	
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15	CNL(C)	CNL(A)	CNL(B)		PROJECT(B)	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30						
3:30 to 4:30						

LAB INCHARGE : PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	PROF.P.J.CHATE	TE COMP-I	CNL	-	6	-	Lab 3(A,B,C)
2	PROF.U.C.PATKAR	BE COMP-I	PROJECT	-	4	-	Lab 3(A,B)

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 5**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						DSL(C) ↕
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15						
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30	DSL(A) ↕	DSL(B) ↕	DSL(C) ↕	DSL(C) ↕	DSL(B) ↕	
3:30 to 4:30						

LAB INCHARGE : PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.A.M Ingole	SE-COMP-I	DSL	-	12	-	LAB(5)-A,B,C

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 6**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15			OOPL(B)	OOPL(C)	OOPL(A)	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30						
3:30 to 4:30						

LAB INCHARGE : PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.D Pawar	SE-COMP-I	OOPL	-	6	-	LAB(6)-A,B,C

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 7**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						SS (A)
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15						
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30	SS(B)	SS(C)				
3:30 to 4:30						

LAB INCHARGE : PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.M Kadam	S.E COMP-I	SS	-	6	-	LAB(7)-A,B,C

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DEPARTMENT OF COMPUTER ENGINEERING
LAB TIME TABLE (2018-2019) SEM-I

W.E.F.:-15/6/2018 **LAB 8**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						AC1(B) ↕
10:30 to 11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30	AC1(C) ↕	AC1(A) ↕				
3:30 to 4:30						

LAB INCHARGE : PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.M.A.Patil	S.E COMP-I	AC1	-	6	-	LAB(8)-A,B,C

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COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-I(A)	LP-I(A)	LP-I(B)	LP-I(B)	PROJECT(A)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	E-II	E-II	E-II		PROJECT(B)	
1:15 to 2:15						
2.15 to 2.30	BREAK					
2.30 to 3.30						
3.30 to 4.30						

GFM – PROF. P.P.SALUNKHE

CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. U.C Patkar	B.E COMP-I	E-II	3	-	-	-
2	Prof. U.C Patkar	B.E COMP-I	LP-I	-	8	-	LAB(1)-A,B
3	Prof. U.C Patkar	B.E COMP-I	PROJECT	-	4	-	LAB(3)-A,B

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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30				CN	CN	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	CNL(C)	CNL(A)	CNL(B)			
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30						
3.30 to 4.30			CN			

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. P.J Chate	T.E COMP-I	CN	4	-	-	
2	Prof. P.J Chate	T.E COMP-I	CNL	-	6	-	LAB(3)-A,B,C

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DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						DSL(C)
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DSA	DSA		DSA	DSA	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	DSL(A)	DSL(B)	DSL(C)	DSL(C)	DSL(B)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.A.M Ingole	SE-COMP-I	DSA	4	-	-	-
2	Prof.A.M Ingole	SE-COMP-I	DSL	-	12	-	LAB(5)-A,B,C

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TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	TOC	TOC	TOC			
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	SDL(B)	SDL(C)	SDL(A)	SDL(B)	SDL(C)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				SDL(A)	SDL(TT)	
3.30 to 4.30						

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. K.Bala	T.E COMP-I	TOC	3	-	-	
2	Prof. K.Bala	T.E COMP-I	SDL	-	12	1	LAB(2)-A,B,C

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DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

TE,BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-II(B)	LP-II(B)	LP-II(A)	LP-II(A)		
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ISEE	ISEE	ISEE			
3.30 to 4.30	HPC	HPC	HPC	HPC		

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. A.R.Patil	T.E COMP-I	ISEE	3	-	-	
2	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
3	Prof. A.R Patil	B.E COMP-I	LP-II	-	8	-	LAB(2)-A,B

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College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30		DBMS	DBMS			
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DBMS(A)	DBMS(B)	DBMS(C)	DBMS(A)	DBMS(B)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				DBMS(C)		
3.30 to 4.30	DBMS					

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.Y.V Kadam	T.E COMP-I	DBMS	3	-	-	
2	Prof.Y.V Kadam	T.E COMP-I	DBMS	-	12	-	LAB(1)-A,B,C

PROF.P.M KADAM
Time Table In-charge

Computer Engineering
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21/6/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DM	DM	DM		DM	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30						
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.S.S Pawar	SE-COMP-I	DM	4	-	-	-

PROF.P.M KADAM
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					AC5(B)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15				DA	AC5(A)	
1:15 to 2:15	E-I		E-I	E-I		
2.15 to 2.30	BREAK					
2.30 to 3.30	DA	DA				
3.30 to 4.30						

GFM – PROF. P.P.SALUNKHE

CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-
2	Prof.P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
3	Prof.P.P.Salunkhe	B.E COMP-I	AC5	-	4	-	LAB(8)-A,B

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE,TE,BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30				SEPM	SEPM	AC1(B)
10:30 to11:30	SEPM					
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15		AIR				
2.15 to 2.30	(BREAK)					
2.30 to 3.30	AC1(C)	AC1(A)		AIR	AIR	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.M.A.Patil	S.E COMP-I	AC1	-	6	-	LAB(8)-A,B,C
2	Prof. M.A Patil	T.E COMP-I	SEPM	3	-	-	
3	Prof. M.A Patil	B.E COMP-I	AIR	3	-	-	-

PROF.P.M KADAM
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Bharati Vidyapeeth's
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE,TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30				COA		SS(A)
10:30 to11:30					COA	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15			COA	AC3(C)	AC3(A)	
1:15 to 2:15	COA					
2.15 to 2.30	(BREAK)					
2.30 to 3.30	SS(B)	SS(C)		AC3(B)		
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.M Kadam	SE-COMP-I	COA	4	-	-	-
2	Prof.P.M Kadam	S.E COMP-I	SS	-	6	-	LAB(7)-A,B,C
3	Prof.P.M Kadam	T.E COMP-I	AC3	-	6	-	LAB(8)-A,B,C

PROF.P.M KADAM
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College Of Engineering, Lavale Pune.

12/6/2018
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018

SE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30	OOP	OOP	OOP	OOP		
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30			OOPL(B)	OOPL(B)	OOPL(A)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.D Pawar	SE-COMP-I	OOP	4	-	-	-
2	Prof.P.D Pawar	SE-COMP-I	OOPL	-	6	-	LAB(6)-A,B,C

PROF.P.M KADAM
Time Table In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

12/6/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 15/6/2018 SE COMPUTER-SEM- I Class Room: I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15		DELD	DELD	DELD	DELD	
2.15 to 2.30	(BREAK)					
2.30 to 3.30			DEL(A)	DEL(A)	DEL(C)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.Shivani Pawar(V)	SE-COMP-I	DELD	4	-	-	-
2	Prof.Shivani Pawar(V)	SE-COMP-I	DEL	-	6	-	ELEX LAB-A,B,C

14/6/18
PROF.P.M KADAM
Time Table In-charge

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14/6/2018
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/7/2018 SE,TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30	OOP	OOP	OOP	OOP		
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15		DBMS(B)			DBMS(B)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30			OOPL(B)	OOPL(B)	OOPL(A)	
3.30 to 4.30						

GFM – PROF. P.M.KADAM CO-ORDINATOR – PROF.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.P.D Pawar	SE-COMP-I	OOP	4	-	-	-
2	Prof.P.D Pawar	SE-COMP-I	OOPL	-	6	-	LAB(6)-A,B,C
3	Prof.P.D Pawar	TE-COMP-I	DBMS	-	4	-	LAB(1)-B

PROF.P.M KADAM
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Computer Engineering
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24/7/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/7/2018 TE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30		DBMS	DBMS			
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	DBMS(A)		DBMS(C)	DBMS(A)		
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				DBMS(C)		
3.30 to 4.30	DBMS					

GFM – PROF. K.BALA CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof.Y.V Kadam	T.E COMP-I	DBMS	3	-	-	-
2	Prof.Y.V Kadam	T.E COMP-I	DBMS	-	8	-	LAB(1)-A,C

PROF.P.M KADAM
Time Table In-charge
Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

26/7/2018
PROF. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/7/2018

TE,BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-II(B)	LP-II(B)	LP-II(A)	LP-II(A)		
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15	HPC			HPC		
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ISEE	ISEE	ISEE			
3.30 to 4.30		HPC	HPC			

GFM – PROF. K.BALA

CO-ORDINATOR – PROF.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. A.R.Patil	T.E COMP-I	ISEE	3	-	-	
2	Prof. A.R Patil	B.E COMP-I	HPC	4	-	-	-
3	Prof. A.R Patil	B.E COMP-I	LP-II	-	8	-	LAB(2)-A,B

PROF.P.M KADAM
Time Table In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale, Pune.

24/7/2018

PROF. U.C.PATKAR
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Computer Engineering
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College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING,LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 25/7/2018 BE COMPUTER-SEM- I

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					AC5(B)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15					AC5(A)	
1:15 to 2:15			E-I			
2.15 to 2.30	BREAK					
2.30 to 3.30	DA	DA		DA		
3.30 to 4.30	E-I			E-I		

GFM – PROF. P.P.SALUNKHE CO-ORDINATOR – PROF.A.R.PATIL

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Prof. P.P.Salunkhe	B.E COMP-I	DA	3	-	-	-
2	Prof. P.P.Salunkhe	B.E COMP-I	E-I	3	-	-	-
3	Prof. P.P.Salunkhe	B.E COMP-I	AC5	-	4	-	LAB(8)-A,B

PROF.P.M KADAM
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Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

24/7/2018

PROF. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **BE COMPUTER-SEM- II** **MR. U.C.PATKAR**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-III(A)	LP-III(A)			PROJECT(A)	
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	ML		ML		PROJECT(A)	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30					PROJECT(A)	
3.30 to 4.30				ML		

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.U.C.Patkar	B.E COMP-II	ML	3	-	-	-
2	Mr.U.C.Patkar	B.E COMP-II	LP-III	-	4	-	LAB 2 (A)
3	Mr.U.C.Patkar	B.E COMP-II	PROJECT	-	6	-	CCF LAB 2(A)

MRS.P.M KADAM
TimeTable In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

27/10/2018

MR. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 | TE COMPUTER-SEM- II | Mrs. P.J.CHATE

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						SPOS(C) Lab
10:30 to11:30	SPOS	SPOS	SPOS	SPOS		
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	SPOS(A) Lab	SPOS(B) Lab	SPOS(C) Lab	SPOS(A) Lab	SPOS(B) Lab	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30						
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs. P.J.Chate	T.E COMP-II	SPOS	4	-	-	-
2	Mrs. P.J.Chate	T.E COMP-II	SPOSL	-	12	-	LAB 2 (A,B,C)

MRS.P.M KADAM
TimeTable In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

27/10/2018

MR. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
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TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE COMPUTER-SEM- II** **MRS.K.BALA**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					ADSL(A)	ADSL(A)
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15			ADS	ADS	AC4(A)	
1:15 to 2:15	ADS	ADS				
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ADSL(C)		ADSL(B)	ADSL(B)	ADSL(C)	
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs.K.Bala	SE-COMP-II	ADS	4	-	-	-
2	Mrs.K.Bala	SE-COMP-II	ADSL	-	12	-	CCF LAB 1 A,B,C
3	Mrs.K.Bala	T.E COMP-II	AC4	-	2	-	CCF LAB 4(A)

MRS.P.M KADAM
TimeTable In-charge
Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

21/11/2018
MR. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **TE COMPUTER-SEM- II** **MRS.P.D.PAWAR**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					SMD	STC(A) ↕
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	WTL(C) ↕	WTL(A) ↕	WTL(B) ↕	STC(B) ↕	STC(C) ↕	
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30		SMD				
3.30 to 4.30	SMD		WT	WT	WT	

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs.P.D.Pawar	T.E COMP-II	WT	3	-	-	
2	Mrs.P.D.Pawar	T.E COMP-II	SMD	3	-	-	
3	Mrs.P.D.Pawar	T.E COMP-II	STC	-	6	-	LAB1(A) , LAB 4 (B,C)
4	Mrs.P.D.Pawar	T.E COMP-II	WTL	-	6	-	LAB 1 (A,B,C)

MRS.P.M KADAM
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Computer Engineering
Bharati Vidyapeeth's
College of Engineering, Lavale

24/11/2018

MR. U.C.PATKAR
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COLLEGE OF ENGINEERING, LAVALE, PUNE-15
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W.E.F.:- 17/12/2018 **SE.BE COMPUTER-SEM- II** **Mr.A.R.PATIL**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30			LP-IV(A)	LP-IV(A)		
10:30 to11:30						AC2(B)
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15			PPL	PPL	PPL	
2.15 to 2.30	(BREAK)					
2.30 to 3.30	E-III	E-III	E-III			
3.30 to 4.30				AC2(C)	AC2(A)	

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.R.Patil	SE-COMP-II	PPL	3	-	-	-
2	Mr.A.R.Patil	S.E COMP-II	AC2	-	-	3	LAB 4 (A,B,C)
3	Mr.A.R.Patil	B.E COMP-II	E-III	3	-	-	-
4	Mr.A.R.Patil	B.E COMP-II	LP-IV	-	4	-	LAB 2 (A)

MRS.P.M KADAM
Time Table In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

27/10/2018

MR. U.C.PATKAR
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Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 TE.BE COMPUTER-SEM- II Mr.Y.V.KADAM

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	DAA	DAA	DAA	DAA		
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15		IACS				
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30						
3.30 to 4.30	IACS		IACS			

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.Y.V.Kadam	T.E COMP-II	DAA	4	-	-	
2	Mr.Y.V.Kadam	B.E COMP-II	IACS	3	-	-	-

MRS.P.M KADAM
TimeTable In-charge

Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

27/10/2018
MR. U.C.PATKAR
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Computer Engineering
Bharati Vidyapeeth's

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

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W.E.F.:- 17/12/2018 **TE COMPUTER-SEM- II** **MRS.P.P.SALUNKHE**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					ML(B)	ML(C)
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15				AC6(A)		
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ML(A)		ML(C)	ML(A)	ML(B)	
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.P.P.Salunkhe	SE-COMP-II	ML	-	12	-	LAB 3 (A,B,C)
2	Mr.P.P.Salunkhe	B.E COMP-II	AC6	-	2	-	LAB 4 (A)

MRS.P.M KADAM
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Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

24/11/2018
MR. U.C.PATKAR
H.O.D
H. O. D.
Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale, Pune-15

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE,TE,BE COMPUTER-SEM- II** **MRS.GAURI.PATIL**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30					TE SPORTS	
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				BE SPORTS		
3.30 to 4.30		SE SPORTS				

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs.Gauri Patil	S.E COMP-II	SPORTS	-	1	-	Gymkhana
2	Mrs.Gauri Patil	T.E COMP-II	SPORTS	-	1	-	Gymkhana
3	Mrs.Gauri Patil	B.E COMP-II	SPORTS	-	1	-	Gymkhana

MRS.P.M KADAM
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE,TE,BE COMPUTER-SEM- II** **Mr.S.S.PAWAR**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					CGL(C) ↕	AC4(B) ↕
10:30 to11:30			CG			
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	CG	CG			CG	
1:15 to 2:15	E-IV	E-IV	E-IV			
2.15 to 2.30	(BREAK)					
2.30 to 3.30	CGL(B) ↕		CGL(A) ↕			
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.S.S.Pawar	SE-COMP-II	CG	4	-	-	-
2	Mr.S.S.Pawar	SE-COMP-II	CGL	-	6	-	LAB 1 (A,B,C)
3	Mr.S.S.Pawar	T.E COMP-II	AC4	-	2	-	CCF LAB 4(B)
4	Mr.S.S.Pawar	B.E COMP-II	E-IV	3	-	-	-

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE,TE COMPUTER-SEM- II** **MRS.P.M.KADAM**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						AC4(B)
10:30 to11:30	MP	MP		MP		
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15	ESIOTL(B)	ESIOTL(C)	ESIOTL(A)			
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30	ESIOT	MP	ESIOT	ESIOT	ESIOT	
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs.P.M.Kadam	SE-COMP-II	MP	4	-	-	-
2	Mrs.P.M.Kadam	T.E COMP-II	ESIOT	4	-	-	
3	Mrs.P.M.Kadam	T.E COMP-II	ESIOTL	-	6	-	LAB 3 (A,B,C)

MRS.P.M KADAM
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Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

21/11/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE COMPUTER-SEM- II** **MR.A.BHONGALE**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	M-III	M-III	M-III	M-III		M-III(B)
10:30 to11:30						
11:30 to 12:15	RECESS (LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				M-III(C)	M-III(A)	
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.Bhongale	SE-COMP-II	M-III	4	-	3	LAB 4 (A,B,C)

MRS.P.M KADAM
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Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

29/11/2018
MR. U.C.PATKAR
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College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **SE,TE,BE COMPUTER-SEM- II** **MR.J.B.JADHAV**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30					T.E LIBRARY	
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2.15 to 2.30	(BREAK)					
2.30 to 3.30				B.E LIBRARY		
3.30 to 4.30		S.E LIBRARY				

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	MR.J.B.JADHAV	S.E COMP-II	LIBRARY	-	1	-	LIBRARY
2	MR.J.B.JADHAV	T.E COMP-II	LIBRARY	-	1	-	LIBRARY
3	MR.J.B.JADHAV	B.E COMP-II	LIBRARY	-	1	-	LIBRARY

MRS.P.M KADAM
TimeTable In-charge

Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

11/12/2018

MR. U.C.PATKAR
H.O.D

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

TIME TABLE (2018-2019)

W.E.F.:- 17/12/2018 **FE,TE COMPUTER-SEM- II** **Mr.A.M.Ingole**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15		FPL-II Group-B		AC4(C)		
1:15 to 2:15			FPL-II Group-A			
2.15 to 2.30	(BREAK)					
2.30 to 3.30	FPL-II(C) Group-A	FPL-II(C) Group-B	FPL-II(B) Group-A.B	FPL-II(A) Group-A	FPL-II(A) Group-B	
3.30 to 4.30						

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.M.Ingole	T.E COMP-II	AC4	-	2	-	CCF LAB 4(C)
2	Mr.A.M.Ingole	F.E GROUP A	FPL-II	1	6	-	CCF LAB 3
3	Mr.A.M.Ingole	F.E GROUP B	FPL-II	1	6	-	CCF LAB 3

MRS.P.M KADAM
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Dept. of Computer Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115.

11/12/2018.

MR. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:-17/12/2018 **LAB 1**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						STC(A)
10:30 to 11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15	WTL(C)	WTL(A)	WTL(B)		CGL(C)	
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30	CGL(B)	CGL(A)				
3:30 to 4:30						

LAB INCHARGE : MR. Y.V KADAM

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.S.S.Pawar	SE-COMP-II	CGL	-	6	-	LAB 1 (A,B,C)
2	Mrs.P.D.Pawar	T.E COMP-II	WTL	-	6	-	LAB 1 (A,B,C)
3	Mrs.P.D.Pawar	T.E COMP-II	STC	-	2	-	LAB 1 (A)

MRS.P.M KADAM
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Computer Engineering
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21/12/18

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **LAB 2**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30	LP-III(A)	LP-III(A)	LP-IV(A)	LP-IV(A)		SPOS(C) Lab
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15	SPOS(A) Lab	SPOS(B) Lab	SPOS(C) Lab	SPOS(A) Lab	SPOS(B) Lab	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30						
3:30 to 4:30						

LAB INCHARGE : MRS.K.BALA

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs. P.J.Chate	T.E COMP-II	SPOSL	-	12	-	LAB 2 (A,B,C)
2	Mr.U.C.Patkar	B.E COMP-II	LP-III	-	4	-	LAB 2 (A,B,C)
3	Mr.A.R.Patil	B.E COMP-II	LP-IV	-	4	-	LAB 2 (A,B,C)

27/10/18

MRS.P.M KADAM
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Computer Engineering
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27/10/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **LAB 3**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					ML(B) ↕	ML(C) ↕
10:30 to 11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15	ESIOT(B) Lab ↕	ESIOT(C) Lab ↕	ESIOT(A) Lab ↕			
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30	ML(A) ↕		ML(C) ↕	ML(A) ↕	ML(B) ↕	
3:30 to 4:30						

LAB INCHARGE : MRS.P.J.CHATE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.P.P.Salunkhe	SE-COMP-II	ML	-	12	-	LAB 3 (A,B,C)
2	Mrs.P.M.Kadam	T.E COMP-II	ESIOTL	-	6	-	LAB 3 (A,B,C)

MRS.P.M KADAM
TimeTable In-charge
Computer Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune.

27/11/2018

MR. U.C.PATKAR
H.O.D.
Computer Engineering
Bharati Vidyapeeth's

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **LAB 4**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						M-III(B)
10:30 to 11:30						AC2(B)
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15				STC(B)	STC(C)	
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30				M-III(C)	M-III(A)	
3:30 to 4:30				AC2(C)	AC2(A)	

LAB INCHARGE : MRS.P.M.KADAM

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.R.Patil	S.E COMP-II	AC2	-	3	-	LAB 4 (A,B,C)
2	Mrs.P.D.Pawar	T.E COMP-II	STC	-	4	-	LAB 4 (B,C)
3	Mr.A.Bhongale	SE-COMP-II	M-III	-	-	3	LAB 4 (A,B,C)

MRS.P.M KADAM
Time Table In-charge

MR. U.C.PATKAR
H.O.D.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **CCF LAB 1**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					ADSL(A)	ADSL(A)
10:30 to 11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30	ADSL(C)		ADSL(B)	ADSL(B)	ADSL(C)	
3:30 to 4:30						

LAB INCHARGE : MR.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mrs.K.Bala	SE-COMP-II	ADSL	-	12	-	CCF LAB I (A,B,C)

MRS.P.M KADAM
Time Table In-charge

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **CCF LAB 2**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30					PROJECT(A)	
10:30 to 11:30						
11:30 to 12:15	**RECESS(LUNCH BREAK)**					
12:15 to 1:15					PROJECT(A)	
1:15 to 2:15						
2:15 to 2:30	**RECESS**					
2:30 to 3:30					PROJECT(A)	
3:30 to 4:30						

LAB INCHARGE : MR.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.U.C.Patkar	B.E COMP-II	PROJECT	-	6	-	CCF LAB 2(A)

27/10/18

MRS.P.M KADAM
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27/10/2018

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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **CCF LAB 3**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15						
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30	FPL-II(C) Group-A	FPL-II(C) Group-B	FPL-II(B) Group-A,B	FPL-II(A) Group-A	FPL-II(A) Group-B	
3:30 to 4:30						

LAB INCHARGE : MR.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.A.M.Ingole	F.E GROUP A	FPL-II	-	6	-	CCF LAB 3
2	Mr.A.M.Ingole	F.E GROUP B	FPL-II	-	6	-	CCF LAB 3

MRS.P.M KADAM
TimeTable In-charge

Dept. of Computer Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115.

MR. U.C.PATKAR
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BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING

LAB TIME TABLE (2018-2019) SEM-II

W.E.F.:- 17/12/2018 **CCF LAB 4**

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
9:30 to 10:30						
10:30 to 11:30						AC4(B) ↕
11:30 to 12:15	RECESS(LUNCH BREAK)					
12:15 to 1:15				AC4(C) ↕	AC4(A) ↕	
1:15 to 2:15						
2:15 to 2:30	RECESS					
2:30 to 3:30						
3:30 to 4:30						

LAB INCHARGE : MR.A.M.INGOLE

Sr No.	Faculty Name	Class & SEM	Subject Name	L	P	T	LAB
1	Mr.S.S.Pawar	T.E COMP-II	AC4	-	6	-	CCF LAB 4(B)
2	Mr.A.M.Ingole	T.E COMP-II	AC4	-	2	-	CCF LAB 4(C)
3	Mrs.K.Bala	T.E COMP-II	AC4	-	2	-	CCF LAB 4(A)

MRS.P.M KADAM
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21/12/18
MR. U.C.PATKAR
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Computer Engineering
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College Of Engineering, Lavale Pune.

Minutes of the Meeting

Agenda:
1) Syllabus completion
2) National Conference
3) InSem Examination
4) College fees Dues
5) Students sugessions

1) Syllabus of all subjects of current semester completed or not upto insem examination was discussed with students. Also regarding preparation of in semester examination that is previous years question papers answer writting, discussion of numericals, etc.

2) For up coming 2nd national conference all students register to participate in conference other wise present a certificate of paper presented out side college conference.

3) In Sem examination is going to conduct by SPPU from 2/3/2020 to 6/3/2020. All should present and give at most attention to prepare with in this upcoming examination

4) Those students have college fees, hostel fees dues should pay these dues with intime to avoid further inconvenience.

5) Some students sugessions
(a) Regarding stationary files. The stationary files not sold single file from store. Students asking to purchase single or 2-3 files should be sold by store. Since our store sold only set of files
(b) Students asking for sports activities for this year.
(c) Regarding SPPU question paper should be print on A4 size paper most of the time exam department printing 2-paper on A-4 sheet which is difficult to read some figures and graphes and dimensions.

27.2.2020

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING LAVALE, PUNE
Dept. of ...Mechanical

Class - TE B Day - ~~Wednesday~~ Thursday Date 27/02/20

Meeting No. ..... Students HOD/ Students GFM Meeting

ATTENDANCE AT THE MEETING

Sr. No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature
1	38	Tat Shreyash		31			
2	31	Sakhare Gopinath		32			
3	16	Mining Inglo		33			
4	09	Kosbu Altaf		34			
5	32	Heramb Sawant		35			
6	13	Yatish D. Mahajan		36			
7	40	Pratik N Tonde		37			
8	30	Roshan A Nehete		38			
9	04	Atish Jadhav		39			
10	19	Rahul Nikam		40			
11	27	Jidnyesh Raut		41			
12	05	Dnyaneshwari		42			
13	36	Aditya Sonawane		43			
14	17	Yogesh Mirajgave		44			
15	22	Mahesh padekar		45			
16	14	Nitish. Mangalpalli		46			
17	35	Dhaval Shivale		47			
18	03	Jadhav Amartya		48			
19	23	patil sanket		49			
20	24	Patil suraj		50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			

H.O.D.
Mechanical Engineering
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College Of Engineering, Lavale Pune

Minutes of the Meeting

Agenda

1) NPTEL Registration
2) Placement Drives attendence
3) Semester VII result
4) Regarding attendence.
5) Students suggessions
6) Syllabus Review

1) Online certification cources registration of Swayam portal will closed on 3 Feb. 2020 before that all students to register with their choice of subject & topic.

2) All job seeker students must attend off campus placement drives as well as on campus drives. The student should judge # himself according to placement criteria and requirements.

3) BE Mech 2015 cource (credit & percentage) result are declared, all students instructed to verify their marks and if any descripency immediatly report to your respective subject teacher and examination cell.

4) Still so many students not achieved their attendence up to 75%. Letters & phone called done with their parents and informed regarding attendence rule of SPPU.

5) Students asking for On campus placement drives for this year. Yet any drive not happened for Mechanical students.

6) Syllabus competition review for the current semester is discussed among students. Students are advice to start study in view of their upcoming In semester examinations

CEM / H.O.D

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING LAVALE, PUNE

Dept. of Mechanical

Class - BE Mech. B Day - Thr. Date 30-01-2020

Meeting No. ..... Students HOD/ Students GFM Meeting

ATTENDANCE AT THE MEETING

Sr. No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature
1	29	Jadhav Raj. G		31			
2	11	Bachhav Shubham		32			
3	43	Pandharpure M.R		33			
4	28	Padhav Ajinkya		34			
5	41	Varun Nair		35			
6	26	Tejshri Gavhane		36			
7	53	Saukat Sayyad		37			
8	35	Prajval Mali		38			
9	50	Shubham Sawant		39			
10	49	Pratith Sawant		40			
11	04	Patil Yogesh S.		41			
12	02	Panchal Venkatesh		42			
13	44	Rathod shubham		43			
14	48	Sawant Prashant		44			
15	22	Athare Khandu		45			
16	45	Rishikesh Patil		46			
17	38	Mahite Onkar		47			
18	39	more sagar		48			
19	21	Dhebe suresh		49			
20	06	Vaishnav Sable		50			
21				51			
22				52			
23				53			
24				54			
25				55			
26				56			
27				57			
28				58			

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BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING LAVALE, PUNE

Dept. of Civil Engineering

Class - BE/TE Civil Day - Monday Date 31/10/2022

Meeting No. ..... Students HOD/ Students GFM Meeting

ATTENDANCE AT THE MEETING

Sr. No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature
1	10	Amol Arun Ambekar	Ambekar	31	41	Aishwarya D.	Ambekar
2	6	Vivek Jadhav	Jadhav	32	29	Jadhav Vaibhav	
3	34	Vishal Yamgar	Yamgar	33	30	Gavali Harshada	Gavali
4	31	Akshat Agarac	Akshat	34	27	Patil Pranjal	Patil
5	33	Atharva Gurav	Gurav	35	28	Yashashree Patil	Patil
6	49	Aditya R. Kasar		36	29	Aniket Divekar	Divekar
7	03	Abhishek Bade		37	11	Sushil Girase	Girase
8	57	Yogesh Pawara		38			
9	58	Ashish Bafje		39			
10	56	Mohit chauhan		40			
11	40	Menake Kunjaini		41			
12	13	Onkar Pawar		42			
13	60	Abhishek Bhosale	Bhosale	43			
14	14	Sakshi Shinde		44			
15	17	Auhad Abhishek	Auhad	45			
16	39	Priyanka Khavare		46			
17	20	Swaraj Kadam	Kadam	47			
18	21	Latika Sonawane	Sonawane	48			
19	22	Sanket Kondvilkar	Sanket	49			
20	23	Shreya Chaware	Shreya	50			
21	24	Abhijeet Bala	Abhijeet	51			
22	25	Gayatri Pandit	Gayatri	52			
23	38	Snehal chavan		53			
24	16	Ketaki Kothalkar	Ketaki	54			
25	37	Soumya Nagrale		55			
26	18	Shubham Gullapelli	Shubham	56			
27	04	siddhant khindre	Siddhant	57			
28	36	Reshu Singh	Reshu	58			
29	65	Shreyash Borgaonkar	Shreyash	59			
30	26	mittawad narendrakumar	narendra	60			

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Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

Minutes of the Meeting

BE civil / TE civil

① Examination:- Oral and practical Examinations will be started from 10 November 2022. All the students should complete their termwork and submission of their respective subjects.

② Examination form:- last date to fill the Examination form is 11/11/2022 so all the students should fill the Examination form immediately without fail and check Their subjects Accordingly.

③ completion of syllabus:- All the ~~students~~ students ~~should~~ have said that the syllabus should be completed in time before the examination.

④ Available of stationary in stores:- students are not getting the stationary from the store. for the completion of Journals for the submission purpose.

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Bharati Vidyapeeth's
College of Engineering Lavale, Pune

GFM / H.O.D

Name ... Dr. Vijay Patil

Minutes of the Meeting

1) As per SPPU Guidelines online / offline from 29/11/2021 still non of the students are turn up for offline classes. All are attending online classes. Though it is not mandatory to attend the college in offline mode.
2) Examinations forms are started & student can fill the form from 29/11/2021 to 13/12/2021 without late fees.
3) SE, TE, BE submission for teamwork and all journals time table differ. Please follow the time table.
4) Submission of BE Project & TC will be till 30/12/2021 only.
5) We are waiting for SPPU Guidlines then only we will conduct the oral / practical examination.
6) As per faculty members TE & BE syllabus has completed till now & SE student syllabus will be completed before 15/12/2021
7) Students those who have their pending fees please clear till 5/12/2021.
8) Hostel, Bus & mess & canteen facilities are open for the students come to college.
9) Regarding TE internship, every faculty members have given 9 to 10 students for mentorship. If student face any problem they can join or contact to faculty members.
10) Till date total 18 Project Group's got Project Guidance.
11) TE Student should published min 1 & max 2 Papers on STC-Students
12) BE student must Published min 1 & max no limit Papers on their Project topics in UGC Approved list.
13) 5 Startup's are started from department of computer engineering.
14) Student must use edbitech portal for their Practical submission.
15) For this please check your email address, Telegram Group, Whatsapp group also.
16) All students are requested to please fill all types of feedback. Link will be shared by every faculty member.
17) Honors Course, Audit course & elective Name & subject code Please check while filling examination form.
18) Till now from our department total 29 students are placed in reputated organization.
19) SE Student & Research Change Student facing Problem regarding edbitech Portal. That problem will be solved by Prof. M. A. Pathak.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,

GPM / H.O.D
Name D.T.S.W.C...PATKAR

25/11/2021

T.E m

Meeting Summary	
Total Number of Participants	
Meeting Title	General
Meeting Start Time	30/11/2021
Meeting End Time	30/11/2021
Meeting Id	4aef9627-1

Full Name	Join Time
HRISHIKESH KOTHAWADE	30/11/202
HRISHIKESH KOTHAWADE	30/11/202
Chate Parinita Jagnnath	30/11/202
Langote Tejas	30/11/202
SHRADDHA SHIROLE	30/11/202
VAISHNAVI MANDHALKAR	30/11/202
JAYESH PATIL	30/11/202
Rokade Tushar	30/11/20
SHRISHTI NANDANWAR	30/11/20
AASTHA DWIVEDI	30/11/20
AKANKSHA NEGI	30/11/20
DAMINI BORUDE	30/11/20
Kaustubh Pardhi	30/11/2
Pathan Adnankhan	30/11/2
Vrushali Ubale	30/11/2
PAYAL PARSHIVE	30/11/2
SHASHANK GUPTA	30/11/2
VISHAKHA SHINDE	30/11/2
RUCHITA BHARSAKALE	30/11/
Rutuja Kurale	30/11/
Ketan Sonawane	30/11/
AKHIL GOPLANI	30/11
RUCHIKA KHEKARE	30/11
RUSHIKESH BARAVKAR	30/11
abhishek.khot-bvcoel	30/11
ABHIJEET JAIN	30/1
Yuvraj Khedkar	30/1
Hrushikesh Pawar	30/1
DARSHAN AMRUTKAR	30/1
Sonali Patil	30/1
YOGESH KHANDEKAR	30/
Pratiksha Korde	30/
Archit Das	30/
BUDDHAPRAKASH PATIL	30/
NIKHIL KUMAR	30/
ALAN PANICKER	30
ABRITTI ROY	30
AVINASH DHAKANE	30
Bhalerao Saurabh	30
RUTUJA AMRITKAR	30
ONKAR KOTULE	30
Sawalkar Sandhya	3
ADITYA CHANKHORE	3
Mahajan Mayur	3
SANYOGITA PAIMODE	3
Bopanwar Pushkar	3



Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

29/12/2021



Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Kavale, Pune - 412 115

29/11/2021

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : Head of Department 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : Saturday 12/0
5. Leave of absence granted to : .....
6. Meeting No. ..... 7. Venue : Department of Computer Engineering

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	PROF. U.C. PATKAR In Chair	Pune		
2.	Porajakta Pawar	Pune		
3.	Pratima Kadam	Pune		
4.	Pawar Sanket	Pune		
5.	Jalunkhe Pramod	Pune		
6.	Kadam Y.V.	Pune		
7.	Mr. Sandeep Jadhav	pune		
8.	Mr. Abhijit B. Kadam	Pune		
9.				
10.				
11.				
12.				
13.				

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : Head of Department 2. Section / Unit : .....

3. Ref. No : ..... 4. Day and Date of meeting : Tuesday 15/01/19

5. Leave of absence granted to : .....

6. Meeting No. ..... 7. Venue : Department of computer engineering

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	PROF. U.C. PATKAR In Chair	Pune		
2.	Priyakta Pawar	Pune		
3.	Pratima M. Kadam	Pune		
4.	Kumkum Bala.	Pune		
5.	Kadam Y.V.	Pune		
6.	Prof S.S. Pawar	Pune		
7.	Prof. A.R. Patil	u		
8.				
9.	Mr. S.B. Jadhav	pune		
10.				
11.				
12.				
13.				

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Minutes of the Meeting

1) As per instructions received from SPPU & Government of Maharashtra college will be open from 8/11/2021 Regularly. With some rules & regulations which was given by Govt. of Maharashtra.
2) 2 vaccinations doses are compulsory for every students.
3) Hostel facility will be started from 1/11/2021 for all students with some rules & regulations. Notice will be circulated too.
4) The students those who have not vacant the Hostel from last 1.5 years they are requested to vacant the Hostel immediately.
5) Hostel fees will be charge from 1/11/2021 to 31/5/2022. by the college as per rules & regulations. Notice will be circulated too. For more details please contact to Hostel incharge.
6) As per previous circular of SPPU all faculty members those who have teach TE & BE classes have completed their 6 units/ 3 labs
7) Insem examination is over for TE & BE.
8) End sem examination may be conducted online or offline mode the circular from SPPU will be display soon.
9) Branch change of students have taken the admission in computer dept.
10) Exam form for SPPU link will be active soon.
11) Term work timetable is displayed from 8/11/2021 every student must submit their files on edhitch page only.
12) From 28/10/2021 SEC examinations are schedule for TE students.
13) All students are requested to Please fill scholarship form. For more details Please contact to Prof. megha Patil.
14) Internship for TE students is mandatory. All students are requested to Please check the details with your concern guide which are already appointed to you.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
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27/10/2021
GFM / H.O.D
Name ..... Prof. Dr. PATKAR U.C.

	Use	
1	Megha Adhikrao	
2	Megha Adhikrao	
3	Megha Adhikrao	
4	Megha Adhikrao	
5	Megha Adhikrao	
6	PM Ovhal (Guest)	
7	Jagtap (Guest)	
8	Jadhav (Guest)	
9	Shinde (Guest)	
10	Nagdive (Guest)	
11	Nagdive (Guest)	
12	Nagdive (Guest)	
13	Shahare	
14	Shahare	
15	Shahare	
16	Nagar (Guest)	
17	PMesh Nauka	
18	Laxmidhar	
19	Laxmidhar	
20	Patil (Gu	
21	Gurav	
22	Gurav	
23	Navi N	
24	Sal	
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26	Ka	
27	ku	
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30	Ha	
31	H	



Head
Dept. of Computer Engineering,
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Lavale, Pune - 412 115

29/11/2021.

Founder:
Dr. Patangrao Kadam
M.A., L.L.B., Ph.D.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.
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Date: 25 / 01 /2023

Mechanical Engineering Department

PAC Minutes of Meeting 2022-23 SEM-II

Agenda:

1. Review of the previous meeting.
2. Appointment of new course coordinators.
3. Academic calendar for SEM-II
4. Internship and In-plant training activities
5. Stakeholder feedback analysis- Students, Parents, Alumni, External examiners and industry.
6. Discussion on CO attainment parameters for BE 2019 SEM-I pattern.
7. Approval of CO-PO attainment parameters, criteria and formula by PAC.
8. Discussion about inferences and additional improvement required for better CO-attainment level of the upcoming semester.
9. Feedback about CO attainment and course curriculum of each subject upcoming semester.

Members Present for meeting

S.no	Faculty Name	Designation
1	Prof. S. R. Patil	Chairman
2	Prof. N. R. Singh	Member
3	Prof. N. N. Raut	Member
4	Prof. A. B. Mane	Member
5	Prof. S. N. Kadam	Member
6	Prof. P. G. Rahate	Member
7	Prof. A. M. Pasarkar	Member
8	Prof. S. P. Dhamone	Member

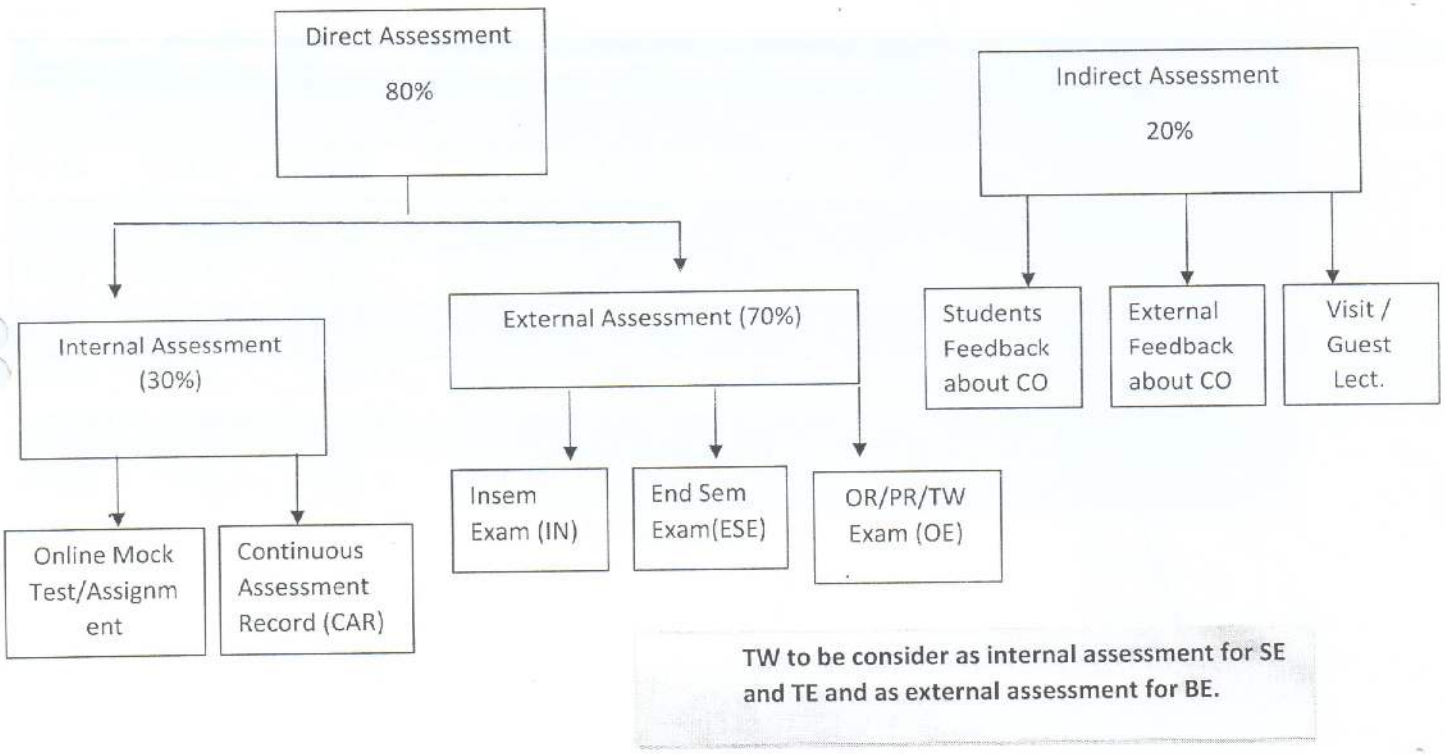
Founder:
Dr. Patangrao Kadam
M.A., L.L.B., Ph.D.

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Minutes of Meeting

1. The review of the previous meeting has been discussed and faculties are informed to submit inferences of all teaching subject of previous result.
2. Internship for Third Year mechanical engineering students is started as per SPPU curriculum.
3. All BE SEM- II faculties to attend syllabus implementation workshop of their respective subjects.
4. Course coordinator appointment for A.Yr. 2022-23 SEM-II is as below
5. As per discussion in PAC meeting for calculation of CO attainment and PO attainment below points to noted
    I. For CO attainment both direct and in direct parameters should be considered with weightage of 80% for Direct and 20% for indirect. For direct both internal and external assessment to be used and for indirect students feedback on CO's and external examiner feedback on CO's for respective subject to be used.

CO Assessment Methodology



TW to be consider as internal assessment for SE and TE and as external assessment for BE.

II. Unit test exam/Assignment to be taken online.

III. Consider Blooms Taxonomy preparing unit test paper.

IV. Feedback of students to be taken online with proper questionnaire. Name of students should be mandatory for CO feedback. Sample feedback form shared with all faculties by PAC

V. External feedback should be taken Offline during the OR/PR/TW exam. Sample feedback form shared with all faculties by PAC

VI. Feedback of more than 60% of students should be taken in the scale of 1 to 3 where 1 to consider as minimum and 3 to maximum.

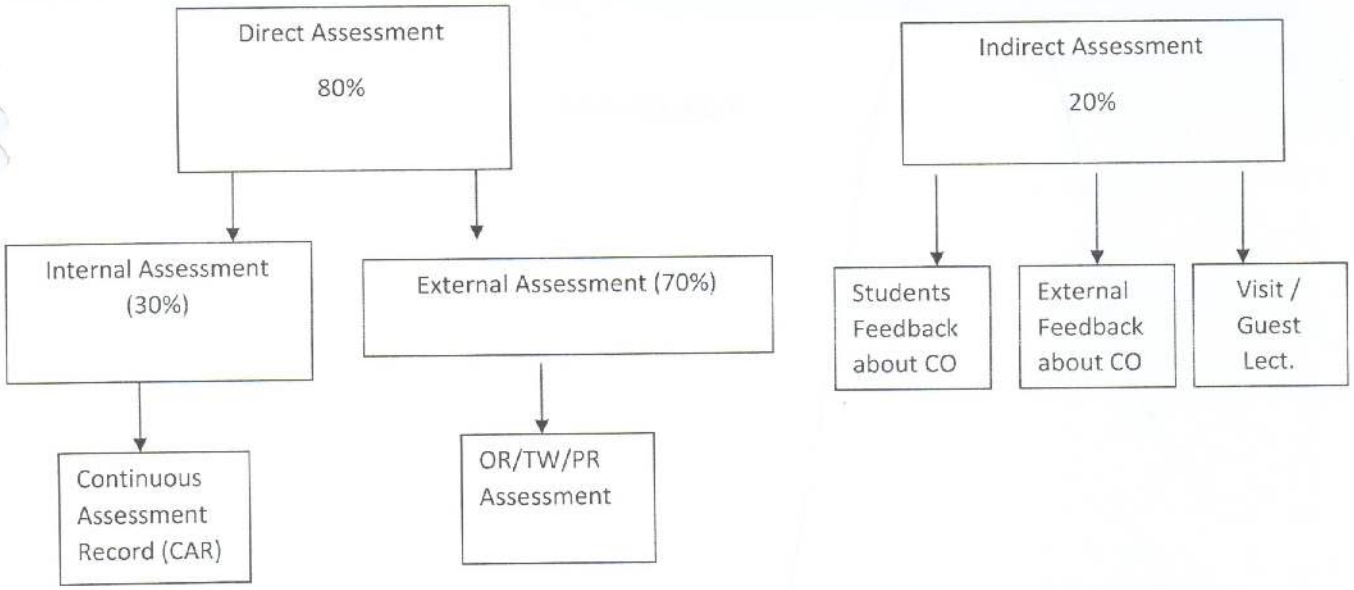
VII. All course coordinator to decide the targeted CO attainment values and submit it to PAC.

VIII. For PO attainment CO-PO mapping both direct and indirect attainment should be used.

IX. Calculation for Direct PO Attainment is done by calculating PO attainment of individual subjects for Mechanical Engineering from admission of the batch to passing out year of batch. Weightage given for calculation is 70%.

X. Calculation of indirect attainment is done by taking feedback from Alumni, Parents, and employers for the batch. Weightage given for calculation is 10% for each feedback.

CO Assessment Methodology for Only Laboratory base subjects



Criteria for Direct CO Attainment

Assessment Parameters	Target	Criteria
Internal Assessment and External Assessment	0	Number of students scoring less than 40% marks
	1	Number of students scoring more than 40% marks but less than 50% marks or Level to be decided as per difficulty level of subject by course coordinator.
	2	Number of students scoring more than 50% marks but less than 60% Marks or Level to be decided as per difficulty level of subject by course coordinator
	3	Number of students scoring more than 60% marks or Level to be decided as per difficulty level of subject by course coordinator

Criteria for Indirect CO Attainment

Assessment Parameters	Target	Criteria
Student /External Feedback	Average(1)	Students Responded to the feedback divided by Number of students participated in feedback
	Good (2)	
	Excellent (3)	

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

Formula to calculate Co Attainment

Formula for Direct CO Attainment of individual student in %

$$CO\ No. = \frac{\textbf{Marks in obtened in (IN + TH + CAR + OME + OR)}}{\textbf{Sum of Maximum Marks for each parameter}} \times 100$$

Formula for indirect CO Attainment of individual student in %

$$CO\ No. = \frac{\textbf{Students Responce to feedback (NoS×Poor+ NoS×Good+ NoS×Excellent)}}{\textbf{Tota No.of Students}}$$

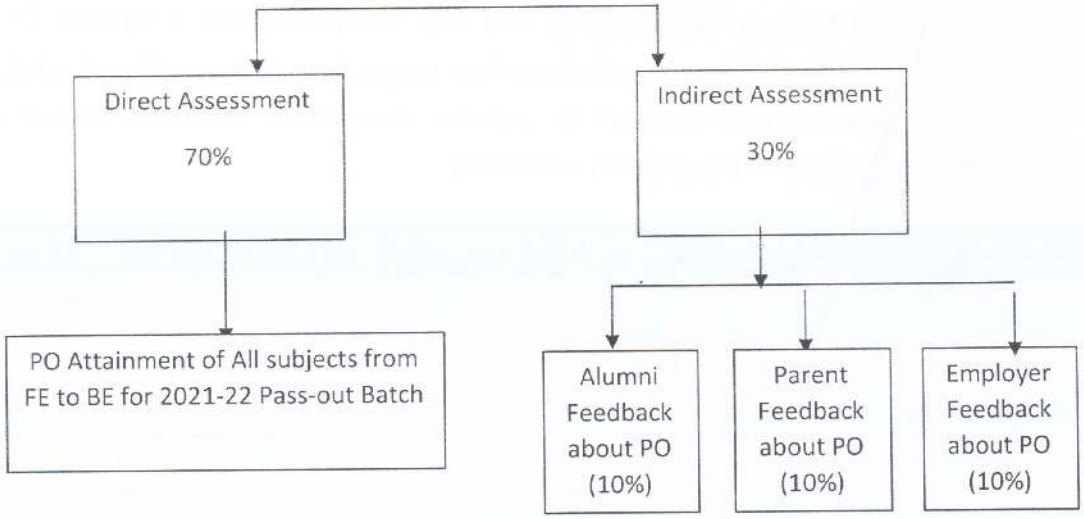
Formula to Calculate Overall Direct CO Attainment:-

$$CO\ No. = \frac{(0 \times NoS < 40\%) + (1 \times NoS > 40\%\ but < 50\%) + (2 \times NoS > 50\%\ but < 60\%) + (3 \times NoS > 60\%)}{Total\ Number\ of\ students}$$

Where NoS=Number of students

$$CO = 0.8 \times Direct + 0.2 \times Indirect$$

PO Assessment Methodology



Formula to Calculate Overall PO Attainment:-

$$PO = 0.7 \times Direct + 0.3 \times Indirect$$

$$PO = \frac{(0.7 \times Avg\ PO\ Attainment) + (0.1 \times student\ feedback) + (0.1 \times parent\ feedback) + (0.1 \times Alumni\ feedback)}{Total\ Number\ of\ PO's(12)}$$

Engineering
College Of Engineering, Lavale, Pune

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING

LAVALE, PUNE-412115

Department of Mechanical Engineering

Class:- SE(Mechanical) 2019 Pattern
Course Name: **-Solid Mechanics**
Course Code- **(202041)**
Course coordinator 2020-21- **Prof. Nilesh N. Raut**
Course coordinator 2021-22- **Prof.Nilesh N.Raut**

Inputs	Planning 21-22	Approved
CO attainments:- CO1- CO2- CO3- CO4- CO5- CO6-	-Planned to give link or reference materials which will cover the concepts before the start of the respective topic and ask students about doubts and start the numerical which will help to utilise maximum time for Numerical segment . -Planed to conduct MCQ type test after completion of each unit on Edhitch Portal - Assignment on Each Units with real life examples which will support higher level blooms taxonomy and Cognitive level - One Expert lecture To understand importance of Solid mechanics on Design validation on FEA -Remedial classes -Suggested MOOCs 1) Solid Mechanics -Indian Institute of Technology Delhi and NPTEL via Swayam (Prof.Ajit Kumar IIT Delhi) 2) Mechanics of Materials I: Fundamentals of Stress & Strain and Axial Loading-https://www.coursera.org/learn/mechanics-1 3)Strength of Materials by Prof.Sriman Kumar Bhattacharyya NPTEL	-Flipped class room during Revision of the Unit Unitwise MCQ Based Test -Assignment Unit wise with blooms taxonomy and Cognitive level -Expert Lecture -Remedial Classes - MOOC Courses
Other:- Assignment on perquisite topics before the start of Units		

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Mechanical Engineering
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BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING

LAVALE, PUNE-412115

Department of Mechanical Engineering

Class:-**SE(Mechanical)**

Course Name: - **Engineering Thermodynamics Course**

Course Code- **(202043)**

Course coordinator 2020-21- **Prof. A. A. Datarkar**

Course coordinator 2021-22- **Prof. A. A. Datarkar**

Inputs	Planning 21-22	Approved
CO attainments:- CO1- CO2- CO3- CO4- CO5- CO6- Other:-	1. Planned to conduct MCQ test on each unit after completion of the unit Want to enhance the 2. learning experience of students giving innovative assignment and more numerical based on the subject. 3. Student is not understood the Mollier chart and steam table. I planned to take extra lecture and numerical based on the charts. 4. Planned to conduct some Virtual experiments based on the topic boiler, Heat exchanger, Steam turbines 5. Need the industrial visit on different types of boiler 6. Suggested some MOOCS courses and link is given below 1. Concepts of Thermodynamics https://nptel.ac.in/courses/112/105/112105266/ 2. Basics of thermodynamics https://nptel.ac.in/courses/112/105/112105123/	Industry visit approved

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College Of Engineering, Lavale Pune

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING

LAVALE, PUNE-412115

Department of Mechanical Engineering

Class:- TE(Mechanical) 2015pat
Course Name: - Skill Development
Course Code- 302046
Course coordinator 2020-21- **Prof. S. R Patil**
Course coordinator 2021-22- **Prof. S. R Patil** TE(Mech 2019pat) Yet to finalise Syllabus by SPPU

Inputs	Planning 21-22	Approved
CO attainments:- CO1- CO2- CO3- CO4- CO5- CO6- Other:- 1. More hands on sessions for practice 2. Required Garage/show room workshop visits.	- - After completion of each practical students should write down steps of dismantling and assembly process by own --Planned to conduct short viva after each practical -- Actual or animated videos of Practical for understanding construction and working of machines and mechanisms - CO1, CO2, CO3, CO4 are based on actual practice of assembly and dismantling of machine so planned to conduct a visit of shop floor or garage workshop visit	1. At least one Industrial Visit: Garage or Show room workshop Shop Floor Visit

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Mechanical Engineering
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College Of Engineering, Lavale Pune-

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING

LAVALE, PUNE-412115

Department of Mechanical Engineering

Class:-**BE(Mechanical)**

Course Name: - **Hydraulics and Pneumatics**

Course Code- 402041

Course coordinator 2020-21- **Prof. A. A. Datarkar**

Course coordinator 2021-22- **Prof. S. Y. Nagwase**

Inputs	Planning 21-22	Approved
CO attainments:- CO1- CO2- CO3- CO4- CO5- CO6- Other:-	1. Planned to conduct MCQ test on each unit 2. Plan to arrange industrial visit in automation industry for more understanding different circuit of hydraulics and pneumatics 3. Assignment on each unit 4. Hydraulic system and pneumatic System are widely used in industry so different type of circuit used in industry assignment, practice of all symbols use in hydraulics system and diagram of all components 5. Plan to arrange expert lecture on 6. Some courses related to subject on MOOCs 1.Fluid Power system https://nptel.ac.in/courses/112/106/112106175/	Industry visit approved

H.O.D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Minutes of the Meeting

1) NPTEL Courses Registration :-
Swayam - NPTEL online Courses Enrolment for Jan - April 2020 link will be open till 3rd Feb 2020. Students enroll for at least one courses of their interest and Give Exam for same.

2) Status of 1st meeting Conducted in the month of January. (CFM)
Discussion along with Student Regarding CFM. interaction and their Problems.

3) Time - Table for Sem - II
Academic Session for 2019-20 is Sheduled to start in 7th January to 9th May 20. between this slot How many examination, discussion about Academic Comittee Calender. Industrial visit, and Extra - Co-curricular Activities.

4) Academic Comittee :
on the basis of Academic Comittee Report, Every month Defaulter list will display.

5) Team Work Mark Scheme -
TW is very important for the Academic Progress of the Student. distribution of TW Marks - 25
4 - Timely Submission
6 - Presentation
15 - understanding.

6) Regarding Project Based learning.
discussion about Assesment of PBL. Score
Subject and how Student get Move Marks. in this Subject.

7) Examination Pattern of Theory Examination on the basis of SPPU Syllabus Unit - 3 to Unit - 6 Carry 70 Marks and Assesment of CA Pattern as,

Head
Department of Computer Science & Engineering
Bharati Vidyapeeth's College of Engineering
Lavale Pune-412115

FE (B) Day - Tuesday Date 28/01/2019

Meeting No. 2 Students HOD/ Students GFM Meeting

ATTENDANCE AT THE MEETING

No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature
1				31			
2	2.	Aayush Chavan	Aayush	32			
3				33			
4	4	Abhimanyu Prakash Abhimanyu		34	34	Onkar Katule	
5	5	Abhishek Khot	Khot	35			
6				36	36	Pranshu Verma	Pranshu
7				37			
8				38			
9	9	Alan M Panicker	Alan	39	39	Rushikesh D Barvekar	Rushikesh
10	10	Aliasgar Y. Taksali	Taksali	40	40	Rutuja S Amne	R.S.A
11	11	Anjan V. Nair	Anjan	41	41	Samrat Patel	Samrat
12				42			
13				43	43	Paimode Sanyogita	Paimode
14	14	Borude Damini	dborude	44	44	Shashank Gupta	
15	15	Darshan Annigeri	Darshan	45			
16	16	Divya Raut	Raut	46	46	shirole shraddha	Shirole
17	17	Arfil Goplani	Arfil	47	47	Shrishti Nandanwar	Shrishti
18	18	Hasan Khan	Hasan	48	48	Shubham A. Bhosle	S. Bhosle
19	19	Hrishikesh D. Katbawade	Hrishikesh	49	49	Shubham B Songire	Songire
20	20	Hrithik Kant	Hrithik	50	50	Shubit Matteo	Shubit
21	21	Janhavi Raut	Janhavi	51			
22	22	Jayesh D. Patil	JPatil	52	52	Kanade Siddhaths	Kanade
23	23	Karan Ransing	Karan	53	53	Sani Siddhi	Sani
24	24	Kaushal L Apastambh	KLa	54	54	Sohan Chaudhari	Sohan
25				55			
26				56	56	Sushma Pharate	Pharate
27	27	Krushna P Zamwar	Krushna	57	57	Toge Tanmay	Tanmay
28				58			
29	29	Kunal V. Patil	KPatil	59	59	Vaishnavi Mandhalkar	Vaishnavi
30	30	Mirza Wasim Baig	MBaig	60	60	Shinde Vishakha	Vishakha

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : PAC 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : 11/6/2021, Friday.
5. Leave of absence granted to : NIL
6. Meeting No. 5 7. Venue : BVCOEL, Pune

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	Prof. A. B. Wani. In Chair	Pune		
2.	Prof. Lalita K. Wani	Pune		
3.	Prof. Swati G. Gawhale	Pune		
4.	Prof. M. H. Molawade	Pune		
5.	Prof. P A Yadav.	Pune		
6.	Prof. L. B. Chaudhari	Pune		
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Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

Minutes of the Meeting

(SE)

1) PAC meeting with the committ members of the department was c for planning of the coming semeste of A.Y. 2021-22. for SE.

2) GFM was assigned fo the class SE (ELTC)

3) Course co-ordinators were ass

4) Had discussion on any refinement in the course outcomes or updation or any modifications.

5) Had discussion on what act are to be carried for the PO's whi are not mapped or having low gap with the subjects.

6) Considering the attainment of previous semester, challenges, gap for and activities to be carried are identified. Course file was verified by

7) It was observed in most the SE subjects that few PO's like PO7 and PO8 are not mapped any subject.

8) To overcome this gap of PO's, few activities are planned for the upcoming semester like

- Human behaviour lecture to be arranged.
- Life long learning lecture.
- NPTEL, moocs, Coursera, SWAYAM courses which are applicable for bridging the gap.
- Improvement in the teaching plan

Common suggestions:-

1) Conduction of test on edkhitch.
2) Conduction of assignment per unit.
3) Few courses offering to students related with common deficiency.
4) Conduction of Quiz's per unit.
5) Innovative and tricky question based test on edkhitch platform.

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's College of Engineering,
Lavale, Pune - 412 115.

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : PAC 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : 17/6/2021, T
5. Leave of absence granted to : MHM, PAY.
6. Meeting No. 6. 7. Venue : BVCOEL, Pune

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	Prof. A. B. Wani In Chair	Pune		
2.	Prof- Lalita K. Wani	Pune		
3.	Prof. Swati G. Gawhale	Pune		
4.	Prof L.B. Chaudhari	Pune		
5.	Ms. Chate P.J.	Pune		
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Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Minutes of the Meeting

(BE)

1) PAC meeting was called for planning of Semester-I of class BE for A.Y. 2021-22.

2) Course co-ordinators and GFM's were assigned.

3) Had discussion on any refinement in the course outcomes of subjects of BE (E&T) are any updations or modifications.

4) Discussed with faculties subjectwise regarding which COs are mapped and which are not mapped with the departmental POs.

5) Gaps were identified by every subject teacher and following are the suggestions by that particular subject teacher. Course file was verified by HOD.

CN → As POs, 9 & 10 are not mapped, Prof. P.J. Chate who is incharge of the subject suggested ~~that~~ to conduct workshop of 2-3 days / FDPs & Webinars.

EPD → Subject incharge Prof. A.B. Wani suggested MOOCs courses like Product design development, EMI EMC design and Environmental Science Engineering.

P.T.O.

VLSI :- Subject incharge Prof. L.K. Wani will try for conducting seminar for life long learning.

Es & RTOS :- Subject incharge Prof. L.B. Chaudhari would be motivating students to undergo Embedded Systems related training like ~~Emb~~ NPTELs free online course of Embedded system design and Real time Operating system & Operating System Fundamentals.

The committee dispersed on this note.

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's College of Engineering, Lavale, Pune - 412 115.

No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : PAC. 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : Thursday 10/2/22
5. Leave of absence granted to : .....
6. Meeting No. 7 7. Venue : .....

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	Prof. A. B. Wani In Chair	Pune	A Bwani	
2.	Prof. L. K. Wani	Pune	LKwani	
3.	Prof. S. G. Ganthale	-11-	SGanthale	
4.	Prof. L. B. Chaudhari	-11-	LBC.	
5.	Prof. A. S. Pathak	Pune	Apathak	
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BHARATI VIDYAPEETH'S

GROUP OF INSTITUTES, TECHNICAL CAMPUS,

COLLEGE OF ENGINEERING, LAVALE, PUNE

Tal. Mulshi , Dist., Pune - 412 115

Minutes of the Meeting

1) PAC meeting was called for planning of Sem-II subjects.

2) Course co-ordinators and GFM's were assigned to all the subjects of SE/TE/B

3) Mapping with programme outcomes was the point of discussion in departmental POs.

4) Subject CO-PO mapping and formula were decided and submitted by all faculties and course file was verified by

5) Gaps were identified by every subject teacher and planned for innovative assignments in the upcoming semester.

6) GFM's were assigned to all th classes.

7) Audit Course selection should be done on which the particular programme outcome is related.

) Honor course selection is done for class TE and BE.

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

(PAC) No.

BHARATI VIDYAPEETH'S
GROUP OF INSTITUTES, TECHNICAL CAMPUS,
COLLEGE OF ENGINEERING, LAVALE, PUNE
Tal. Mulshi, Dist., Pune - 412 115.

1. Name of Authority / Committee : PAC - SE Civil 2. Section / Unit : .....
3. Ref. No : ..... 4. Day and Date of meeting : Saturday, 3/12/22
5. Leave of absence granted to : Swati Shegane
6. Meeting No. 01 7. Venue : Department Office

ATTENDANCE AT THE MEETING :

Sr. No.	Name	Place	Signature	Remarks
1.	Dr. V. S. Patil In Chair	Pune		
2.	Prof. D. K. Mokashi	—"—		
3.	Prof. S. C. Patil			
4.	Prof. N. A. Gangurde			
5.	Prof. A. S. Hasabe			
6.	Prof. S. A. Kale			
7.	Prof. S. C. Mane			
8.	Prof. S. A. Shegane		— AB —	
9.	Prof. S. R. Sutar			
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BHARATI VIDYAPEETH'S

GROUP OF INSTITUTES, TECHNICAL CAMPUS,

COLLEGE OF ENGINEERING, LAVALE, PUNE

Tal. Mulshi , Dist., Pune - 412 115

Minutes of the Meeting

PAC- meeting - SE-civil - second sem - AY 2022-23

following points are discussed.

① Subject Allotment

Dr. V.S. Patil, announce the allotted subject to individual faculty as per the choices of faculty.

In consult with time table co-ordinator & all course co-ordinator Dr. V.S. Patil suggest suitable changes in load calculation

② PAC documents

Dr. Dr. V.S. Patil, requested to produce PAC docs to respective course co-ordinator to submit

And held a discussion on newly allotted subject.

② Discussion on Input by course co-ordinator.

Discussion was conducted on inputs provided by each coordinator and Dr. V.S. Patil suggest to make necessary changes as below -

For SA - Subject - Ask to require pre requisite session.

Survey - Ask to take guest session for last 2 unit

GITE - required additional lecture to complete the

above all changes are suggested in consultation with individual course coordinator.

③ Discussion on CO-PO mapping

Dr. V.S. Patil, Prof S.C. mane, Prof D K Mokashi helps to and guided on CO-PO mapping.

All are convience to share inputs of individual subject to course co-ordinator.

Along with PAC related documents, below points are also discussed in meeting.

1. CO-PO attainment of allotted ~~subject~~ subject.
2. B.C Patil requested to ~~add~~ produce experiential learning activity reports as and when require.
3. Dr. V.S Patil shortly ask to monitor attendance of students
4. Dr. V.S Patil & Prof. S.C.Mane suggest to check Result analysis and prepare attainment.

H.O.D.
Dept. of Civil Engineering
Bharati Vidyapeeth's
College of Engineering Lavale, Pune

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
Department of Electronics and Telecommunication Engineering

Date:-14/6/2021

PAC Minutes of Meeting of Class B.E.(2021-22) before commencement of semester.

1. PAC meeting was called for planning of Sem-I of class BE for A.Y. 2021-22.
2. Course co-ordinators and GFM's were assigned.
3. Had discussion on any refinement in the course outcomes of Subjects of BE(ENTC) or any updations or modifications.
4. Discussed with faculties subject wise regarding which CO's are mapped and which are not mapped with the departmental PO's.
5. Course File contents were finalized as follows:-
   - Syllabus structure
   - Individual Timetable
   - Teaching plan
   - Attendance record
   - Question bank
   - University paper of last 3 years
   - Unit test question paper with solutions and sample answer sheets
   - Tutorial and assignment record
   - Course material
6. Gaps were identified by every subject teacher and following were the suggestions by that particular subject teacher.

   CN:- As PO8, PO9 and PO10 are not mapped, Prof. P.J.Chate who is incharge of the subject suggested for conducting workshop of 2-3 days/IV's and webinar.

   EPD:- Subject incharge Prof.A.B.Wani suggested MOOC's courses like Product design development, EMI EMC design and environmental science engineering.

   VLSI:- Subject incharge Prof.L.K.Wani will try for conducting seminar for life long learning.

   ESRTOS:- Subject incharge Prof.L.B.Chaudhari would be motivating students to undergo embedded systems related training like NPTEL's free online course like Embedded system design and Real time operating system and operating system fundamentals.

Prof.L.B.Chaudhari
(PAC Incharge)

Prof.A.B.Wani
H.O.D (PAC Chairman)

Faculty Attendance

Sr.No	Name of faculty	City	Signature
01.	Prof. A. P. Wani	Pune	
02	Prof L P Chavdhari	Pune	
03	Prof. M. H. Molawade	Pune	
04.	Prof. S. G. Gawhale	pune	
05	Prof. L. K. Wani	Pune	

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
Department of Electronics and Telecommunication Engineering

Date:-11/6/2021

PAC Minutes of Meeting of Class S.E.(2021-22) before commencement of semester.

1. PAC meeting with the committee members of department was called for planning of Sem-I of class SE for A.Y. 2021-22.
2. GFM's were assigned for the class SE (E&TC).
3. Course co-ordinators were assigned.
4. Had discussion on any refinement in the course outcomes or updating or any modifications.
5. Course File contents were finalized as follows:-
    - Syllabus structure
    - Individual Timetable
    - Teaching plan
    - Attendance record
    - Question bank
    - University paper of last 3 years
    - Unit test question paper with solutions and sample answer sheets
    - Tutorial and assignment record
    - Course material
6. Had discussion on what activities are to be carried for the PO's which are not mapped or having bridge gap with the subjects.
7. Considering the attainment of the previous semester, challenges, gap bridging and activities to be carried are identified.
8. It was observed in most of the SE subjects that few PO's like PO6, PO& and PO8 are note mapped with most of the subjects.
9. To overcome this gap of PO's few activities were planned for the upcoming semester like..
    - Life long learning sessions.
    - NPTEL, MOOCS, Coursera, SWAYAM courses which are applicable for bridging.
    - Improvement in the teaching plan.

Common Suggestions

- Conduction of test on Edhitch
- Giving assignments per unit
- Free courses offering to students related with common deficiency
- Conduction of Oral's or Viva's per unit
- Innovative and tricky questions based test on Edhitch platform

Prof. L.B Chaudhari

(PAC Incharge)

Prof A.B Wani

H.O.D (PAC Chairman)

Faculty Attendance

Sr.No	Name of faculty	City	Signature
1	Prof. A.B. Wani	Pune	
2	Prof L.B. Chaudhari	Pune	
3	Prof. M.H. Molawade	Pune	
4	Prof. L.K. Wani	Pune	
5	Prof S.G. Gawhale	Pune	

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics & Telecommunication Engineering
PAC MOM

PAC meeting 1 before commencement of Sem I for Class SE (E&TC) A.Y. 2021-22

Sr. No	Subject Name and Code	Inputs from Previous Course Co-ordinator of the subject (CO wise)	Planning (Academic planning, Unit test, IV's Guest/Expert Lectures/ Paper Publish)	Solutions for Bridging gaps	Assessment System (Result analysis of Unit test, Insem and Endsem	Approved (CO Calculations, Feedback , IV, Guest/Expert Lecture)	Action taken or Review
1	Data Structures (204184)	CO are mapped with PO, PEO and PSO. Recent Programming Platforms also where real time programming problems should be added in the curriculum so that students will bridge gap between the evolving technology. 3 Given assignments and conducted test for every Unit	Assignments and conduction of test for every Unit so that concepts will be tested related to the subject and gaps will be identified. NPTEL Courses recommended: 1. NPTEL Course "Computer Sc- Data Structure & Algorithms" 2. Udemy Course on "C Programming from Scratch-Master C Programming" Designed & Developed by me.	I have Created a Complete Online Course on "C Programming from scratch Master C Programming" in which I have Uploaded many real time Programming challenges along with its demonstration, also the course consists of lots of Quizes which will be helpful for students to understand every small concept better.	Result Analysis, Unit Test, Insem, Endsem,, Feedback form	CO are mapped with PO, PEO and PSO. Supplementary document is provided. Planned Industrial expert lecture or Guest Lecture on the topic "Linked list-Implementation"	
2	Electronic Circuits (204181)	1) All 6 COs maps with respective 6 Units 2)Assignments are given on every CO 3)Unit test are conducted on every unit 4) PO6 to PO10 are not mapped with any CO 5)Case study to be added in the curriculum.	1) Test-unit, assignment per unit with respect to CO 2) NPTEL Courses recommended as NPTEL Course "Analog Electronic Circuits" and NPTEL Course on "Analog Circuits"	The NPTEL Lectures will be recommended, and more practical sessions will be taken so that concepts are cleared.	Result Analysis, Unit Test, Insem, Endsem, Feedback form	1)CO-Calculation Methodology 2)Feedback form - Student, Faculty and peer 3) Planned for Expert lecture on Recent trends in Automotive.	
3	Electronic Skill Development (204189)	Project based Teaching approach	Will be giving assignments and conduct test for every Unit so that concepts will be tested related to the subject and gaps will be identified.	Will arrange Industry Expert lectures	Result Analysis, Unit Test, Insem, Endsem,, Feedback form	1)CO-Calculation Methodology 2)Feedback form - Student, Faculty and peer	
4	Engineering Mathematics III, 207005	1. Conducted lectures 2. Completed assignments 3. Completed Test	1. More Practice of Numerical problems 2. Discussion with students 3. Unit wise Test 4. Organize Exert Lectures 5. Unit wise Quiz. 6. Identify NPTEL lectures 7. Identify MOOC Courses	At revision level - Basic things eg. Derivatives should be add in syllabus or conduct extra lectures for DSE students.	Waiting for results	Planned for Expert Lecture by Prof. Balasaheb Bappaji Gadekar of JSPM Rajarshi Shahu College of Engineering, Pune	
5	Digital Circuits 204182	1. PO5 and PO8 are not mapped with any CO. 2 Given assignments and conducted test for every Unit	1. Test to be conducted after completion of every Unit 2. Two assignments to be given after completion of every Unit 3. Adopt practical based teaching approach.	Implementation of Case Studies related to critical topics. Use of Innovative Videos for better understanding of topics. Certification of NPTEL Courses, Moocs etc related to Subject. Give real time Problem statements for practicing. Introduce with latest technological advancements.	Result Analysis, Unit Test, Insem, Endsem,, Feedback form	CO are mapped with PO, PEO and PSO. Supplementary document is provided.	

Class - BE Day - Wednesday Date 25/10/23

Meeting No. 75 Students HOD/ Students GFM Meeting

ATTENDANCE AT THE MEETING

Sr. No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature
1	52	Namrata Chaudhari	Namrata	31			
2	30	Sivarackiyavat G		32			
3	54	Khedkar Mayuri	Mayuri	33	33	Shweta D Doke	Doke
4	60	Prathamesh Mane	Pmane	34			
5	01	Bhosale Aniket K	Amane	35	35	Vyenkatesh K	Vyenkatesh
6	49	Prathmesh Jansa	Pjadhav	36			
7				37			
8				38			
9				39			
10				40			
11				41			
12				42			
13	13	Abhishek Haibatpure	Abhaipure	43			
14	14	Pranali Jagtap	Pagtap.	44			
15				45			
16				46			
17	17	NIKHIL R. AMBHORE	NRambhore	47			
18	18	Radhika S. Chaudhari	Rchaudhari	48			
19				49			
20				50			
21	21	Shreyash Rachhawar	Rachhawar	51			
22				52	52		
23				53			
24	24	Sangeeta Mangrol	Mangrol	54			
25				55			
26				56			
27				57			
28	28	Tushar Waghmare	Tushar	58			
29	29	SHUBH SHARMA	Shubh	59			
30				60	60	Prof	

(1) Syllabus Coverage

RMT		VLSI		ESRTOS		CC		CPD
TH	PR	TH	PR	TH	PR	TH	PR	TH
06		06	05	06	06	05	05	05

(2) SPPU Exam PRIOR Examination oct/NOV 2023 is scheduled between 06 Nov to 22nd Nov. 2023. Backlog papers/Exam Arranged on 06 to 09 Nov 2023 & All regular PR Exam is scheduled from 16 NOV to 22 NOV 2023

(03) Discussed about project status. Synopsis is submitted by each group. only backlog students were remaining

(04) Student Attendance is 75% for theory session & 100% for practical session for appearing final SPPU Examination.

GFM / H.O.D

Name ..... Prof. A.B. Kan

Department of ComputerEngineering,
BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.
Affiliated to Savitribai Phule Pune University.

Founder:
Dr. PatangraoKadam
M.A., LL.B., Ph.D.

Ref. No.BV/COEL/Comp/[illegible]/21

Date: [illegible]/2021

Notice

The Program Assessment Committee (PAC) Meeting for Academic year 2021-22 is planned on **14/06/21** at **1.30 pm** in HOD cabin. All PAC members are invited to attend the meeting. The agenda of meeting is listed below.

Agenda-

- Syllabus Structure.
- Teaching & Execution.
- Subject Gap Analysis Discussion.
- Planning for the current Subject.
- Discussion of the Assessment method for each subject.

HOD

Head
Dept. of Computer Engineering.
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Department of ComputerEngineering,
BHARATI VIDYAPEETH'S
OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.

Founder:
Dr. PatangraoKadam*Affiliated to Savitribai Phule Pune University.*
M.A., L.L.B., Ph.D.

Ref. No.BV/COEL/Comp/ /21

Date: 14/06/2021

Meeting of Program Assessment Committee Members

In the meeting held on 14th June 2021, following committee members of program assessment committee (PAC) were present for Meeting.

Sr.No	Name Of Staff	Post	Sign
1	Prof D.C. Patkar	Chairman	
2	Prof P.D. Jaiswal	Staff Representative	
3	Prof S.M. Jagade	Staff Representative	
4	Prof. Urmila Pilare	Staff Representative	
5	Prof A.R. Patil	Staff Representative	
6	Prof. V. V. Kadam	Staff Representative	
7	Prof S.S. Patil	Staff Representative	
8	Prof P.P. Sadhale	Staff Representative	
9	Prof M. V. Patil	Staff Representative	
10	Prof P.M. Kadam	Staff Representative	
11	Prof P.D. Pawar	Staff Representative	

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Founder:
Dr. PatangraoKadam
M.A., LL.B., Ph.D.

Minutes of the meeting

The following Points were discussed in the Meeting held on 14th June 2021.

1. **Discussion on New Syllabus and Subjects**
   A Discussion on New Syllabus and Subjects and Planning discussed. Other Committee members also gave input for same.

2. **Subject Gap Analysis:**
   A Subject Gap for each subject has been identified by Subject coordinator from the inputs from previous Co-coordinators as well as other committee members.

3. **Planning to overcome Identified Gap**
   All Subject coordinators for AY 2021-22 shared planning for their respective Subject in order to overcome Gaps identified and to make subject's better Teaching Learning Practice. Also they identified assessment method for same. Other Committee members also gave input for planning.

4. **Result Analysis:**
   A Result Analysis has not done due to the unavailability of Result for SEM-1 of AY 2020-21.

5. **Course File:**

   Following documents are required in the course file by each Subject Coordinator

Sr. No	Content
1	Syllabus Structure
2	Individual Time Table
3	Teaching and Execution plan
4	Attendance Record
5	Question Bank
6	Sample Question Papers
7	Assignments
8	Course Material

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEERING, LAVALE, PUNE-15
DEPARTMENT OF COMPUTER ENGINEERING
TOTAL LOAD DISTRIBUTION SHEET

Academic Year:-2021-22 Sem-I

SR. NO.	NAME OF FACULTY	CLASS	NAME OF THE SUBJECT	L	P	T	Project	Total Load
1.	Prof.Patkar U.C	BE- COMP	AIR	03	---	---	02	09
		BE- COMP	LP-I	---	04	---		
2.	Prof.Chate P.J	TE-COMP	CNS	03	---	---	---	13
		TE-COMP	CNSL	---	04	---		
		TE-E&TC	CN	04	---	---		
		TE-E&TC	CNL	---	02	---		
3.	Prof.Ingole A.M	TE-COMP	HONOUR COURSE	02	02	---	---	08
		BE- COMP	HPC	04	---	---		
4.	Prof.Kumkum Bala	TE- COMP	TOC	03	---	---	---	08
		TE- COMP	E-I	03	---	---		
		TE- COMP	LP-I	---	02	---		
5.	Prof.Patil A.R	BE- COMP	E-I	03	---	---	---	11
		BE- COMP	HONOUR COURSE	02	02	---		
		BE- COMP	LP-II	---	04	---		
6.	Prof.Kadam Y.V	TE- COMP	DMS	03	---	---	---	06
		BE COMP	DA	03	---	---		
7.	Prof.Pawar S.S	SE- COMP	CG	03	---	---	---	11
		SE- COMP	CGL	---	04	---		
		TE- COMP	DMSL	---	04	---		
8.	Prof.Salunkhe P.P	TE- COMP	SPOS	03	---	---	---	07
		TE- COMP	HONOUR COURSE	02	02	---		
9.	Prof.Patil M.A	SE- COMP	EDS	03	---	---	---	11
		SE- COMP	DSL	---	04	---		
		BE- COMP	HONOUR COURSE	02	02	---		
10.	Prof.Kadam P.M	SE- COMP	DM	03	---	---	---	09
		SE- COMP	BCS	---	02	---		
		SE- COMP	HSS	---	---	01		
11.	Prof.Pawar P.D	BE-COMP	E-II	03	---	---	---	09
		FE	PPS	03	02	---		
		SE- COMP	OOP	03	---	---		
12.	Prof.Anuradha Thorat	TE- COMP	STC	---	04	---	---	05
		SE- COMP	DELD	03	---	---		
		SE- COMP	DEL	---	02	---		

H.O.D

Head
Dept. of Computer Engineering,
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Lavale, Pune - 412 115.

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Lavale, Pune - 412 115

Bharati Vidyapeeth's College of Engineering,Lavale,Pune-412115

Department of Computer Engineering

COURSE CO-ORDINATOR LIST (SEM I 2021-2022)

The Appointment of the following faculty members as Course Coordinator for the subjects in Academic Year 2021-22 Sem I are as follows. The roles and responsibilities of Subject Coordinator are

1) Calculation of Attainment for the year 2021-2022 Sem I.
2) Conduction Of Meeting with the subjects teachers and improve the attainment of the subject.
3) To take Continuous Follow Up of Students Progress.

Sr No.	Subject Name	CLASS	COURSE CO-ORDINATOR	Sign
1.	Discrete Mathematics	SE COMP	Mrs.Pratima Kadam	
2.	Fundamentals of Data Structures	SE COMP	Mrs.Megha Patil	
3.	Computer Graphics	SE COMP	Mr.Sanket Pawar	
4.	Digital Electronics & Logic Design	SE COMP	Mrs.Minakshi Molavade	
5.	Object Oriented Programming	SE COMP	Mrs.Prajakta Pawar	
6.	Data Structures Laboratory	SE COMP	Mrs.Megha Patil	
7.	OOP & CGL	SE COMP	Mrs.Prajakta Pawar	
8.	Digital Electronics Laboratory	SE COMP	Mrs.Minakshi Molavade	
9.	Business Communication Skill	SE COMP	Mrs.Pratima Kadam	
10.	Humanity & Social Science	SE COMP	Mrs.Pratima Kadam	
11.	Audit Course I	SE COMP	Mrs.Megha Patil	
12.	Database Management Systems	TE COMP	Mr.Yogesh Kadam	
13.	Theory of Computation	TE COMP	Mrs.Kumkum Bala	
14.	System programming & Operating System	TE COMP	Mr.Pramod Salunkhe	
15.	Computer Networks & Security	TE COMP	Mrs.Parinita Chate	
16.	Elective I	TE COMP	Mrs.Kumkum Bala	
17.	Database Management Systems Laboratory	TE COMP	Mr.Sanket Pawar	
18.	Computer Networks & Security Laboratory	TE COMP	Mrs.Parinita Chate	
19.	Laboratory Practice I	TE COMP	Mrs.Kumkum Bala	
20.	Seminar & Technical Communication	TE COMP	Mrs.Prajakta Pawar	

21.	Audit Course 3	IE COMP	Mrs.Parmita Chate
22.	Honour Course 1	IE COMP	Mr.Avinash Ingole
23.	Honour Course 2	IE COMP	Mr.Pramod Salunkhe
24.	High Performance Computing	BE COMP	Mr.Avinash Ingole
25.	Artificial Intelligence and Robotics	BE COMP	Mr.Uday Patkar
26.	Data Analytics	BE COMP	Mr.Yogesh Kadam
27.	Elective I	BE COMP	Mr.Ajit Patil
28.	Elective II	BE COMP	Mrs.Pratima Kadam
29.	Laboratory Practice I	BE COMP	Mr.Uday Patkar
30.	Laboratory Practice II	BE COMP	Mr.Ajit Patil
31.	Project Stage I	BE COMP	Mr.Uday Patkar
32.	Audit Course 5	BE COMP	Mr.Ajit Patil
33.	Honour Course 1	BE COMP	Mr.Ajit Patil
34.	Honour Course 2	BE COMP	Mrs.Megha Patil

H.O.D
Department Of Computer Engg
BVCOE Lavale, Pune

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

* Name of Authority / Committee :- PAC Commit

* Day & Date of Meeting :- 11/11/2019 (Monday)

* Meeting No:- 05 Venue :- physics lab

Sr. No.	Name of faculty	place	Signature	Rema
1.	Dr. S.A. Bhardwaj	pune		
2.	Prof. Jyoti Dhanke	pune		
3.	prof. Atul Bhangale	-11-		
4.	Archana Kadam	-11-		
5.	prof. Hasarmani T.S.	-11-		
6.	prof. Atar P.P.	-11-		

Head
Dept. of Engineering Sciences,
Bharati Vidyapeeth's
College of Engineering,
Lavale Pune - 412 115.

* Minutes of the meeting *

1. Result Analysis of first semester :-
Analysis & Activity plan :-

Department should prepare & display remedial class time table, co analysis and upskilling activity for the students should be arranged.

2. Guest Lectures :-

Based on the feedback received from the students, it has been decided that department should arrange expert for value addition in learning. Guest lectures by faculty members from other Tier II colleges should not be arranged.

3. All faculty members to review college website on regular basis and should take corrective action to improve the website.

4. On the basis of Result Analysis the plan of action for the subjects having poor result should be submitted by CT m's.

Head
Dept. of Engineering Sciences
Bharati Vidyapeeth's
College of Engineering
Lavale, Pune - 41

Bharati Vidyapeeth's College of Engineering,Lavale, Pune- 412 115, Maharashtra State

Department of Engineering Science

Engineering Physics I (107002) ,FE, 2019-20

CO1 Attainment (CIVIL ENGINEERING),Unit 1(Interference and diffraction)

CO 1	Develop understanding of interference, diffraction and polarization; connect it to few engineering applications

Students Details			Direct method															Indirect Method	Final Attainment = 0.8 * Direct Assessment + 0.2 * Indirect
			Internal Assessment(In)								University Examination Assessment								
SN	PRN	Name of the student	Unit Test-1	Practical	Attendance	Assignment	Prelim (Q. 1)	Total	%	Attainment Level	ISE	ESE	Total(ISE+ ESE)	TW	ISE+ ESE +TW	%	Attainment Level	Direct Assesment = 0.4	CO_1 Student Feedback
			10	25	8	10	5	68	100		30	70	100	25	125	100			3.0
1	72037161K	RESHU SINGH	8	23	3	9	3	46	68	3	24	48	72	23	95	76	3	3	2	2.80
2	72037164D	SAUMYA BHARAT NAGRALE	7	22	4	8	4	45	66	3	48	33	81	20	101	81	3	3	3	3.00
3	72037087G	SHUBHAM SHTRUGHAN BHANUSE	9	20	8	9	4	50	74	3	23	29	52	19	71	57	2	2	3	2.52
4	72037066D	VICKY KUMAR PANDE	0	0	0	0	0	0	0	0			0		0	0	3	2	2	1.84
5	72037183L	VIVEK VIKRAM JADHAV	8	23	4	7	3	45	66	3	15	32	47	20	67	54	2	2	3	2.52
6	72037153J	ABHISHEK ANIL PATURKAR	8	20	1	8	4	41	60	3	12	29	41	20	61	49	2	2	1	2.12
7	72037083D	ABHIJEET KAMAL BALA	7	21	7	9	4	48	71	3	18	39	57	21	78	62	2	2	2	2.32
8	72037073G	ADITYA ANIL KARANDE	8	23	5	9	5	50	74	3	12	30	42	18	60	48	2	2	2	2.32
9		ADITYA NITIN CHAUDHARI	9	23	7	8	4	51	75	0			0		0	0	3	2	3	2.04
10	72037074E	AKSHAT MUKESH AGRAWAL	8	22	4	8	3	45	66	3	19	46	65	22	87	70	3	3	2	2.80
11	72037146F	ANIRUDDHA SUNIL PATIL	7	21	6	9	4	47	69	3	12	31	43	19	62	50	2	2	3	2.52
12	72037131H	ANKIT MISHRA	9	22	7	8	4	50	74	3	12	28	40	20	60	48	2	2	3	2.52
13	72037082F	ASHISH SANJAY BADGE	6	23	8	9	3	49	72	3	8	23	31	17	48	38	1	2	3	2.04
14	72037090G	GARGI GANESH BIJWE	9	23	6	8	4	50	74	3	12	30	42	20	62	50	2	2	3	2.52
15	72037099L	MOHIT RAMHARI CHAVHAN	9	20	2	9	3	43	63	3	8	21	29	18	47	38	1	2	3	2.04
16	72037139C	NIKHIL KUMAR	8	21	7	8	4	48	71	3	24	55	79	24	103	82	3	3	3	3.00
17	72037105J	OMKAR ANANDRAO DOMB	8	23	5	7	4	47	69	3	13	29	42	20	62	50	2	2	3	2.52
18	72037142C	PRATHAM RAJU PANDILWAR	9	23	7	8	3	50	74	3	12	31	43	19	62	50	2	2	3	2.52
									66	3.0						56	2.5			2.75
										% of Passing										

3	Expected Attainment Level of	3
2.9	Internal Level	3
1.6	University Level	2.5
1.9	Attainment Level of CO1	2.7

Assuming 80% weightage to University Examination
CO Attainment Level = 0.8*University Level + 0.2*Internal Level

Attainment Level of CO1 is 2.7

Subject Teacher
Dr.S.Bhardwaj

idyapeeth's College of Engineering,Lavale, Pune- 412 115, Maharashtra State

Department of Engineering Science

Engineering Physics I (107002) ,FE, 2019-20

CO2 Attainment (CIVIL ENGINEERING)

Unit 2

CO2	Learn basics of lasers and optical fibers and their use in some applications.

Students Details			Direct method																Method CO_1 Student Feedback	Final Attainment = 0.8 * Direct Assessment
			Internal Assessment(In)								University Examination Assessment									
SN	PRN	Name of the student	Unit Test-1	Practical	Attendance	Assignment	Prelim (Q.1)	Total	%	Attainment Level	ISE	ESE	Total(ISE+ ESE)	TW	ISE +ESE+ TW	%	Attainment Lev	Direct Assesment = 0.4		
			10	25	16	10	5	76	100		30	70	100	25	125	100			3.0	
1	72037161	RESHU SINGH	8	21	15	9	4	57	75	3	24	48	72	23	95	76	3	3	3	3
2	72037164	SAUMYA BHARAT NAGRALE	7	23	12	8	4	54	71	3	14	33	47	20	67	54	2	2	3	3
3	72037087	SHUBHAM SHTRUGHAN BHA	9	23	15	9	4	60	79	3	12	29	41	19	60	48	3	3	2	3
4	72037066	VICKY KUMAR PANDE	0	0	0	0	0	0	0	0			0		0	0	3	2	0	1
5	72037183	VIVEK VIKRAM JADHAV	8	21	13	9	3	54	71	3	15	32	47	20	67	54	2	2	3	3
6	72037153	ABHISHEK ANIL PATURKAR	8	22	12	8	4	54	71	3	12	29	41	20	61	49	2	2	2	2
7	72037083	ABHIJEET KAMAL BALA	7	23	14	7	4	55	72	3	18	39	57	21	78	62	3	3	3	3
8	72037073	ADITYA ANIL KARANDE	8	23	13	8	5	57	75	3	12	30	42	18	60	48	2	2	3	3
9		ADITYA NITIN CHAUDHARI	0	0	0	0	0	0	0	0			0		0	0	0	0	0	0
10	72037074	AKSHAT MUKESH AGRAWAL	8	21	13	8	3	53	70	3	19	46	65	22	87	70	3	3	3	3
11	72037146	ANIRUDDHA SUNIL PATIL	7	21	12	9	4	53	70	3	12	31	43	19	62	50	2	2	3	3
12	72037131	ANKIT MISHRA	9	22	14	8	4	57	75	3	12	28	40	20	60	48	2	2	3	3
13	72037082	ASHISH SANJAY BADGE	6	23	12	9	3	53	70	3	8	23	31	17	48	38	1	2	3	2
14	72037090	GARGI GANESH BIJWE	9	23	14	8	4	58	76	3	12	30	42	20	62	50	2	2	3	3
15	72037099	MOHIT RAMHARI CHAVHAN	9	20	12	9	3	53	70	3	8	21	29	18	47	38	1	2	3	2
16	72037139	NIKHIL KUMAR	8	21	13	8	4	54	71	3	24	55	79	24	103	82	3	3	3	3
17	72037105	OMKAR ANANDRAO DOMB	8	23	12	7	4	54	71	3	13	29	42	20	62	50	2	2	3	3
18	72037142	PRATHAM RAJU PANDILWAR	9	23	13	8	3	56	74	3	12	31	43	19	62	50	2	2	3	3
19	72037181	PRATHAMESH RAVINDRA UG	8	22	12	8	4	54	71	3	16	41	57	21	78	62	1	2	3	2
									72	3						55	2.3			2.62
								% of Passing												

3	Expected Attainment	3
2.88	Internal Level	3
1.59	University Level	2.3
1.85	Attainment Level of	2.6

Assuming 80% weightage to University Examination
CO Attainment Level = 0.8*University Level + 0.2*Internal Level

Attainment Level of 2.6

than	1
40%	2
than	3

Subject Teacher
Dr.S.Bhardwaj

Bharati Vidyapeeth's College of Engineering,Lavale, Pune- 412 115, Maharashtra State

Department of Engineering Science

Engineering Physics I (107002) ,FE, 2019-20

CO4 Attainment (CIVIL ENGINEERING)

Unit 4

CO 4	Understand theory of semiconductors and their applications in some semiconductor devices.

Students Details			Direct method																	Indirect Method	Final Attainment = 0.8 * Direct Assessment + 0.2 * Indirect Assessment
			Internal Assessment(In)								University Examination Assessment										
SN	PRN	Name of the student	Unit Test-1	Practical	Attendance	Assignment	Prelim (Q.1)	Total	%	Attainment Level	ISE	ESE	Total(ISE+ ESE)	TW	ISE+ ESE+ TW	%	Attainment Level	Direct Assesment = 0.4 * Internal		CO_1 Student Feedback	
			10	25	32	10	5	92	100		30	70	100	25	125	100				3.0	
1	72037161K	RESHU SINGH	9	22	21	8	4	64	70	3	24	48	72	23	95	76	3	3		3	3.0
2	72037164D	SAUMYA BHARAT NAGRALE	6	23	22	8	3	62	67	3	14	33	47	20	67	54	2	2		3	2.5
3	72037087G	SHUBHAM SHTRUGHAN BHANUSE	9	20	22	9	3	63	68	3	12	29	41	19	60	48	2	2		2	2.3
4	72037066D	VICKY KUMAR PANDE	0	0	0	0	0	0	0	0			0		0	0	0	0		0	0.0
5	72037183L	VIVEK VIKRAM JADHAV	8	23	21	7	4	63	68	3	15	32	47	20	67	54	2	2		3	2.5
6	72037153J	ABHISHEK ANIL PATURKAR	8	20	22	8	3	61	66	3	12	29	41	20	61	49	2	1		3	1.4
7	72037083D	ABHIJEET KAMAL BALA	7	21	20	8	4	60	65	3	18	39	57	21	78	62	3	3		2	2.8
8	72037073G	ADITYA ANIL KARANDE	8	23	22	8	3	64	70	3	12	30	42	18	60	48	2	2		3	2.5
9		ADITYA NITIN CHAUDHARI	0	0	0	0	0	0	0	0			0		0	0	0	0		0	0.0
10	72037074E	AKSHAT MUKESH AGRAWAL	8	22	20	8	4	62	67	3	19	46	65	22	87	70	3	3		2	2.8
11	72037146F	ANIRUDDHA SUNIL PATIL	7	19	18	9	4	57	62	3	12	31	43	19	62	50	2	2		3	2.5
12	72037131H	ANKIT MISHRA	9	22	21	8	4	64	70	3	12	28	40	20	60	48	2	2		3	2.5
13	72037082F	ASHISH SANJAY BADGE	6	23	22	8	3	62	67	3	8	23	31	17	48	38	1	2		3	2.0
14	72037090G	GARGI GANESH BUWE	9	23	21	9	4	66	72	3	12	30	42	20	62	50	2	2		3	2.5
15	72037099L	MOHIT RAMHARI CHAVHAN	9	20	22	8	3	62	67	3	8	21	29	18	47	38	1	2		2	1.8
16	72037139C	NIKHIL KUMAR	8	21	20	9	4	62	67	3	24	55	79	24	103	82	3	3		3	3.0
17	72037105J	OMKAR ANANDRAO DOMB	8	23	22	8	4	65	71	3	13	29	42	20	62	50	2	2		3	2.5
18	72037142C	PRATHAM RAJU PANDILWAR	9	23	21	9	3	65	71	3	12	31	43	19	62	50	2	2		3	2.5
19	72037181D	PRATHAMESH RAVINDRA UGHADE	8	22	22	8	4	64	70	3	16	41	57	21	78	62	3	3		2	2.8
									68	3						55	2.2				2.48
									% of Passing												

3	Expected Attainment Level of CO1	3
2.9	Internal Level	3
1.6	University Level	2.2
1.9	Attainment Level of CO4	2.48

Assuming 80% weightage to University Examination
CO Attainment Level = 0.8*University Level + 0.2*Internal Level

Attainment Level of CO4 is 2.48

ss than 40	1
en 40% t	2
re than 6	3

Subject Teacher
Dr.S.Bhardwaj

Bharati Vidyapeeth's College of Engineering,Lavale, Pune- 412 115, Maharashtra State

Department of Engineering Science

Engineering Physics I (107002) ,FE, 2019-20

CO3 Attainment (CIVIL ENGINEERING)

Unit 3

CO 3	Understand concepts and principles in quantum mechanics. Relate them to some applications.

Students Details			Direct method																Indirect Method	Final Attainment = 0.8 * Direct Assessment + 0.2 * Indirect Assessment
			Internal Assessment(In)								University Examination Assessment									
SN	PRN	Name of the student	Unit Test-1	Practical	Attendance	Assignment	Prelim (Q.1)	Total	%	Attainment Level	ISE	ESE	Total(ISE+ ESE)	TW	ISE+ ESE+ TW	%	Attainment Level	Direct Assesment = 0.4 * Internal	CO_1 Student Feedback	
			10	25	24	10	5	84	100		30	70	100	25	125	100			3.0	
1	72037161K	RESHU SINGH	5	21	20	9	5	60	71	3	24	48	72	23	95	76	3	3	3	3.0
2	72037164D	SAUMYA BHARAT NAGRALE	7	22	21	8	4	62	74	3	14	33	47	20	67	54	2	2	3	2.5
3	72037087G	SHUBHAM SHTRUGHAN BHANUSE	9	20	22	9	3	63	75	3	12	29	41	19	60	48	2	2	2	2.3
4	72037066D	VICKY KUMAR PANDE	0	0	0	0	0	0	0	0			0		0	0	3	0	3	0.6
5	72037183L	VIVEK VIKRAM JADHAV	8	23	21	7	4	63	75	3	15	32	47	20	67	54	2	2	3	2.5
6	72037153J	ABHISHEK ANIL PATURKAR	8	20	22	8	3	61	73	3	12	29	41	20	61	49	2	2	3	2.2
7	72037083D	ABHIJEET KAMAL BALA	7	21	20	8	4	60	71	3	18	39	57	21	78	62	2	2	3	2.5
8	72037073G	ADITYA ANIL KARANDE	8	23	22	8	3	64	76	3	12	30	42	18	60	48	2	2	3	2.5
9		ADITYA NITIN CHAUDHARI	0	0	0	0	0	0	0	0			0		0	0	3	0	2	0.4
10	72037074E	AKSHAT MUKESH AGRAWAL	8	22	20	8	4	62	74	3	19	46	65	22	87	70	3	3	3	3.0
11	72037146F	ANIRUDDHA SUNIL PATIL	7	21	21	9	4	62	74	3	12	31	43	19	62	50	2	2	3	2.5
12	72037131H	ANKIT MISHRA	9	22	22	8	4	65	77	3	12	28	40	20	60	48	3	3	3	3.0
13	72037082F	ASHISH SANJAY BADGE	6	23	22	8	3	62	74	3	8	23	31	17	48	38	2	2	3	2.5
14	72037090G	GARGI GANESH BIJWE	9	23	21	9	4	66	79	3	12	30	42	20	62	50	2	2	3	2.5
15	72037099L	MOHIT RAMHARI CHAVHAN	9	20	22	8	3	62	74	3	8	21	29	18	47	38	2	2	2	2.3
16	72037139C	NIKHIL KUMAR	8	21	20	9	4	62	74	3	24	55	79	24	103	82	3	3	3	3.0
17	72037105J	OMKAR ANANDRAO DOMB	8	23	22	8	4	65	77	3	13	29	42	20	62	50	2	2	3	2.5
18	72037142C	PRATHAM RAJU PANDILWAR	9	23	21	9	3	65	77	3	12	31	43	19	62	50	2	2	3	2.5
19	72037181D	PRATHAMESH RAVINDRA UGHADE	8	22	22	8	4	64	76	3	16	41	57	21	78	62	2	2	3	2.5
									75	3.0						55	2.6	3		2.65
									% of Passing											

3	Expected Attainment Level of CO1	3
2.9	Internal Level	3
1.6	University Level	2.6
1.9	Attainment Level of CO3	2.65

Assuming 80% weightage to University Examination

CO Attainment Level = 0.8*University Level + 0.2*Internal Level

Attainment Level of CO2 is 0

ss than 40	1
en 40% to	2
re than 6	3

Subject Teacher

Dr.S.Bhardwaj

Bharati Vidyapeeth's College of Engineering,Lavale, Pune- 412 115, Maharashtra State

Department of Engineering Science

Engineering Physics I (107002) ,FE, 2019-20

CO5 Attainment (CIVIL ENGINEERING)

Unit 5

CO 5	Summarize basics of magnetism and superconductivity. Explore few of their technological applications

Students Details			Direct method																Indirect Method	Final Attainment = 0.8 * Direct Assessment + 0.2 * Indirect Assessment
			Internal Assessment(In)								University Examination Assessment									
SN	PRN	Name of the student	Unit Test-1	Practical	Attendance	Assignment	Prelim (Q. I)	Total	%	Attainment Level	ISE	ESE	Total(ISE+ ESE)	TW	ISE+ ESE+ TW	%	Attainment Level	Direct Assesment = 0.4 * Internal	CO_1 Student Feedback	
			10	25	40	10	5	100	100		30	70	100	25	125	100			3.0	
1	72037161K	RESHU SINGH	6	12	30	7	3	58	58	2	24	48	72	23	95	76	1	1	3	1.7
2	72037164D	SAUMYA BHARAT NAGRALE	6	13	31	5	4	59	59	2	14	33	47	20	67	54	3	3	3	2.7
3	72037087G	SHUBHAM SHTRUGHAN BHANUSE	6	13	32	5	2	58	58	2	12	29	41	19	60	48	3	3	2	2.5
4	72037066D	VICKY KUMAR PANDE	0	0	0	0	0	0	0	0			0		0	0	3	2	0	0.0
5	72037183L	VIVEK VIKRAM JADHAV	8	14	36	7	4	69	69	3	15	32	47	20	67	54	3	3	3	3.0
6	72037153J	ABHISHEK ANIL PATURKAR	8	20	35	8	3	74	74	3	12	29	41	20	61	49	1	1	3	1.4
7	72037083D	ABHIJEET KAMAL BALA	7	21	31	8	4	71	71	3	18	39	57	21	78	62	2	2	3	2.5
8	72037073G	ADITYA ANIL KARANDE	8	23	33	8	3	75	75	3	12	30	42	18	60	48	3	3	3	3.0
9		ADITYA NITIN CHAUDHARI	0	0	0	0	0	0	0	3			0		0	0	3	3	0	0.0
10	72037074E	AKSHAT MUKESH AGRAWAL	8	22	29	8	4	71	71	3	19	46	65	22	87	70	3	3	3	3.0
11	72037146F	ANIRUDDHA SUNIL PATIL	7	19	33	9	4	72	72	3	12	31	43	19	62	50	2	2	3	2.5
12	72037131H	ANKIT MISHRA	9	22	35	8	4	78	78	3	12	28	40	20	60	48	3	3	3	3.0
13	72037082F	ASHISH SANJAY BADGE	6	23	35	8	3	75	75	3	8	23	31	17	48	38	3	2	3	2.2
14	72037090G	GARGI GANESH BIJWE	9	23	36	9	4	81	81	3	12	30	42	20	62	50	3	3	3	3.0
15	72037099L	MOHIT RAMHARI CHAVHAN	9	20	35	8	3	75	75	3	8	21	29	18	47	38	3	2	2	2.0
16	72037139C	NIKHIL KUMAR	8	21	31	9	4	73	73	3	24	55	79	24	103	82	3	3	3	3.0
17	72037105J	OMKAR ANANDRAO DOMB	8	23	33	8	4	76	76	3	13	29	42	20	62	50	3	3	3	3.0
18	72037142C	PRATHAM RAJU PANDILWAR	9	23	28	9	3	72	72	3	12	31	43	19	62	50	3	3	3	3.0
19	72037181D	PRATHAMESH RAVINDRA UGHADE	8	22	29	8	4	71	71	3	16	41	57	21	78	62	3	3	3	3.0
									71	3						55	3.0			2.62
									% of Passing											

3	Expected Attainment Level of CO1	3
2.9	Internal Level	3
1.6	University Level	3
1.9	Attainment Level of CO5	2.62

Assuming 80% weightage to University Examination
CO Attainment Level = 0.8*University Level + 0.2*Internal Level

Attainment Level of CO5 is 2.6

ss than 40	1
en 40% t	2
re than 6	3

Subject Teacher
Dr.S.Bhardwaj

Bharati Vidyapeeth's College of Engineering
Department of E&TC Engineering
Engineering Physics (107002)
Semester even/odd
Corrective Action Plan

CO	FINAL ATTAINMENT	ACTION PLAN
CO1	2.75	•Test for each unit •Assignment for critical topic •Solution for University Question for unit
CO2	2.62	•Test for each unit •Assignment for critical topic •Solution for University Question for unit
CO3	2.65	•Test for each unit •Assignment for critical topic •Solution for University Question for unit
CO4	2.48	•Test for each unit •Assignment for critical topic •Solution for University Question for unit
CO5	2.62	•Test for each unit •Assignment for critical topic •Solution for University Question for unit
CO6	2.68	•Test for each unit •Assignment for critical topic •Solution for University Question for unit

BharatiVidyapeeth's College of Engineering

Lavale, Pune- 412 115, Maharashtra State.
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu

Department of Mechanical Engineering

CO-PO ATTAINMENT (2022-23) Seml:

Year :Second Year SE 2019 Pattern **Subject : Solid Mechanics**

Course Outcomes :

CO1DEFINE various types of stresses and strain developed on determinate and indeterminate members.

CO2. DRAW Shear force and bending moment diagram for various types of transverse loading and support.

CO3. COMPUTE the slope & deflection, bending stresses and shear stresses on a beam.

CO4. CALCULATE torsional shear stress in shaft and buckling on the column.

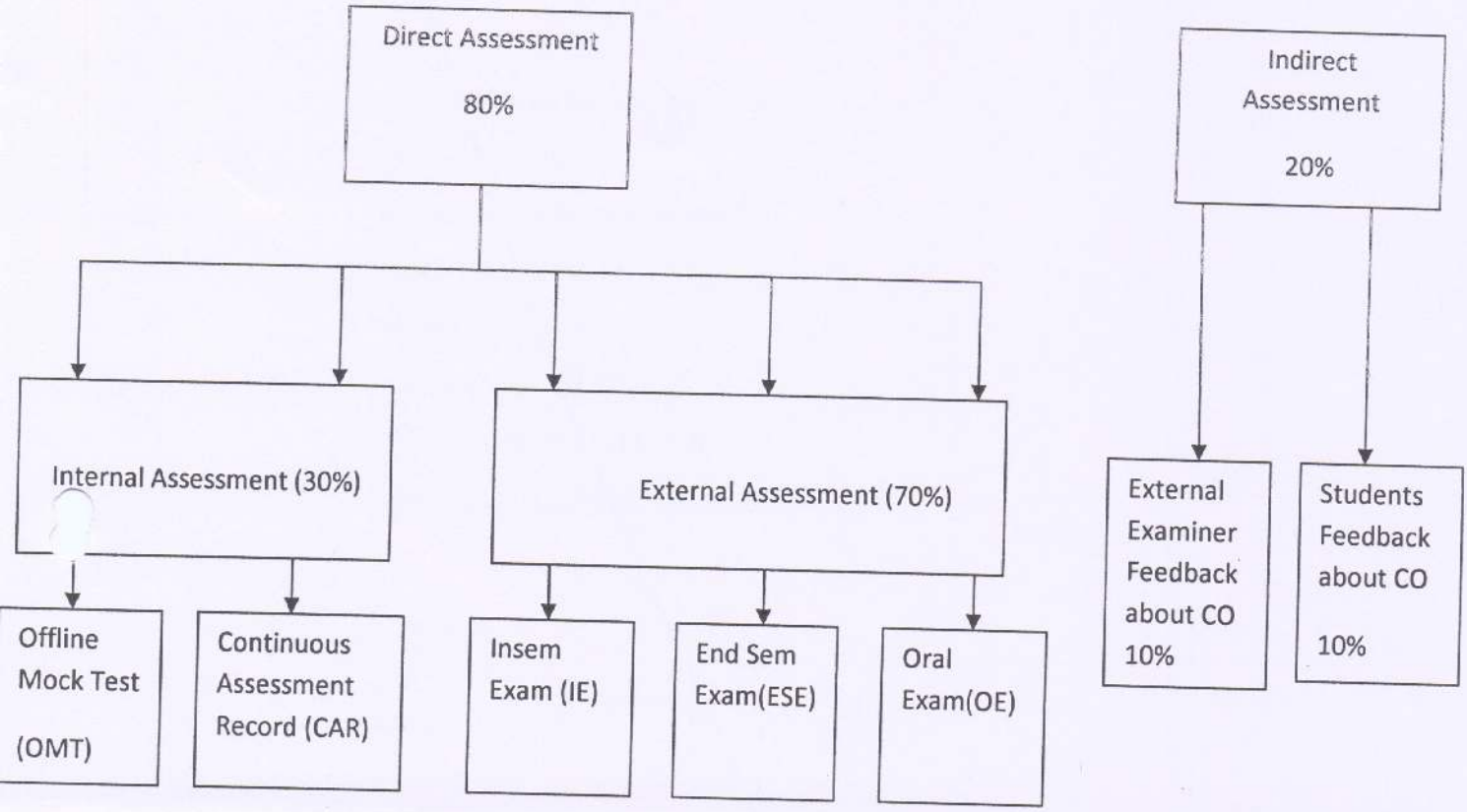
CO5. APPLY the concept of principal stresses and theories of failure to determine stresses on a 2-D element.

CO6. UTILIZE the concepts of SFD & BMD, torsion and principal stresses to solve combined loading application based problems.

Program Outcomes :

1. To train student to apply knowledge of engineering, science and mathematics to problem solving.
2. To analyze engineering problems.
3. To design solution to problems.
4. To train student to be able to carry out methodical investigation.
5. To be able to use modern IT tools.
6. To be able to assess societal, cultural, health, safety and legal issues.
7. To be able to understand effect of solution on environment.
8. To be able to take ethical decisions.
9. To be able to work in multidisciplinary teams as team member or team leader.
10. To be able to communicate orally and in writing. To be able to give presentations.
11. To be able to manage a project.
12. To be able to update knowledge continuously and be lifelong learner.

CO Assessment Methodology



Criteria for Direct CO Attainment

Assessment Parameters	Target	Criteria
Offline Mock Test (OMT) Continuous Assessment Record (CAR) Insem Exam (IE) End Sem Exam(TE) Oral Exam(OE)	0	Numberof students scoring less than 40% marks
	1	Numberof students scoring more than 40% marks but less than 50% marks
	2	Numberof students scoring more than 50% marks but less than 60% Marks
	3	Numberof students scoring more than 60% marks

Criteria for Indirect CO Attainment

Assessment Parameters	Target	Criteria
Student Feedback	Poor (0)	Students Responded to the feedback divided by Number of students participated in feedback
	Average(1)	
	Good (2)	
	Excellent (3)	

Target level for CO is given below

Course outcome	Target Level
CO-1	3
CO-2	3
CO-3	3
CO-4	3
CO-5	3
CO-6	3

CO Actual Attainment

Course outcome	Direct Attainment Level (0.3X IA + 0.7 X EA)	Indirect Attainment Level (0.1*EF+0.1*SF)	Over all Attainment Level (0.8×DA+IA)
CO-1	2.66	0.48	2.61
CO-2	2.33	0.42	2.28
CO-3	1.41	0.48	1.61
CO-4	1.41	0.37	1.50
CO-5	1.41	0.48	1.61
C0-6	1.41	0.38	1.51
Average CO Attainment			**1.85**

CO No.	Course Outcome	Unit No & Expt Applicable	Parameters	Target	Achieved
CO-1	DEFINE various types of stresses and strain developed on determinate and indeterminate members	Unit 1 & Expt. No. 1,2,7	OMT,CAR,IE,ESE, OE	3	2.61
CO-2	DRAW Shear force and bending moment diagram for various types of transverse loading and support.	Unit 2 & Expt. No. 3	OMT,CAR,IE,ESE, OE	3	2.28
CO-3	COMPUTE the slope & deflection, bending stresses and shear stresses on a beam.	Unit 3& Expt. No.4,5	CAR,ESE,OE	3	1.61
CO-4	CALCULATE torsional shear stress in shaft and buckling on the column.	Unit 4& Expt. No. 6	CAR,ESE,OE	3	1.50
CO-5	APPLY the concept of principal stresses and theories of failure to determine stresses on a 2-D element.	Unit 5 & Ext. No.7& 8	CAR,ESE,OE	3	1.61
CO-6	UTILIZE the concepts of SFD & BMD, torsion and principal stresses to solve combined loading application based problems.	Unit 6 & Expt. 7& 8	CAR,ESE,OE	3	1.51

Sr.No	Course Outcome	%Attainment
1	CO1	69
2	CO2	64
3	CO3	58
4	CO4	55
5	CO5	59
6	CO6	56

Correlation between CO-PO Target Values :

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P11	P12
CO1	2	2	2	1	2	-	-	-	-	-	-	-
CO2	2	2	2	-	-	-	-	-	-	-	-	-
CO3	2	1	2	-	-	-	-	-		-	-	-
CO4	2	1	1	2	-	-	-	-	-	-		
CO5	3	2	1	1	2	-	-	-	-	2	-	-
CO6	3	2	3	1	2	-	-	-	-	2	-	-
Avg	2.33	1.67	1.83	1.25	2.00	-	-	-	-	2	-	-

CO-PO Attainment Values :

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	P11	P12
CO1	1.38	1.38	1.38	0.69	1.38	-	-	-	-	-	-	-
CO2	1.28	1.28	1.28	-	-	-	-	-	-	-	-	-
CO3	1.16	0.58	1.16	-	-	-	-	-		-	-	-
CO4	1.1	0.55	0.55	1.1		-	-	-	-	-	-	-
CO5	1.77	1.18	0.59	0.59	1.18	-	-	-	-	1.18	-	-
CO6	1.68	1.12	1.68	0.56	1.12	-	-	-	-	1.12	-	-
Avg	1.40	1.02	1.11	0.74	1.23	-	-	-	-	1.15	-	-

Correlation between CO-PO Target Values :

	PSO1	PSO2	PSO3	PSO4
CO1	2	1	-	-
CO2	2	1	-	-
CO3	2	1	-	-
CO4	2	1	-	-
CO5	3	1	-	-
CO6	2	2	-	-
Avg	2.17	1.17	-	-

CO-PO Attainment Values :

	PSO1	PSO2	PSO3	PSO4
CO1	1.38	0.69	-	-
CO2	1.28	0.64	-	-
CO3	1.16	0.58	-	-
CO4	1.1	0.55	-	-
CO5	1.77	0.59	-	-
CO6	1.12	1.12	-	-
Avg	1.30	0.70	-	-

1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High)

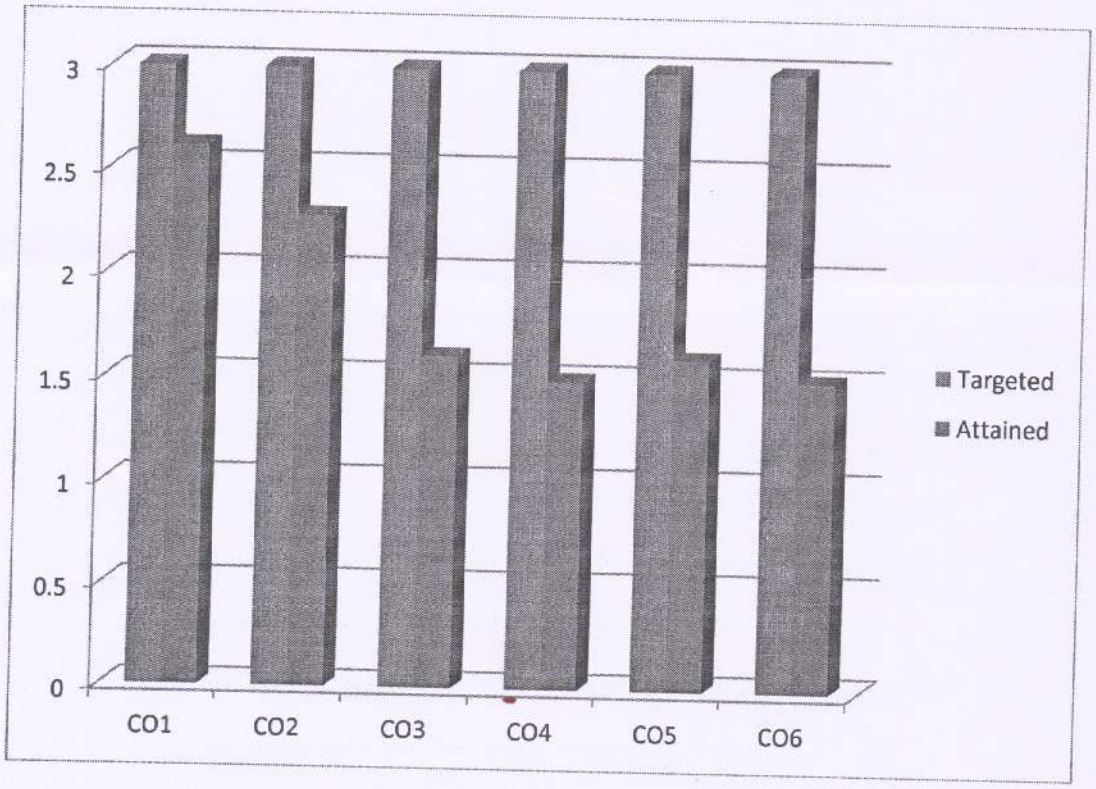
Sample Calculation :

CO1 : PO1 Target 2

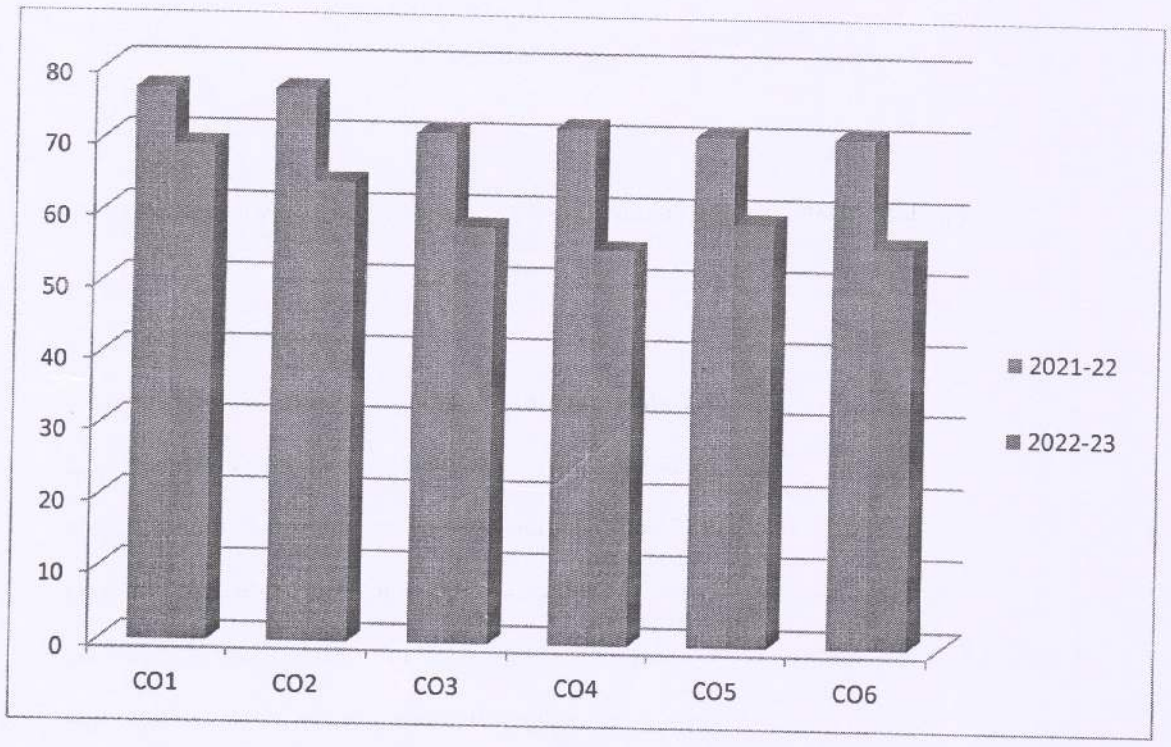
Actual Attainment is 69 %

CO1: PO1 Actual Attainment = 69x 2/100 = 1.38

Attainment Analysis :



Course Outcome Level



Comparison of CO attainment with Previous Year 2021-22

Inference :

1. Results of SM for this academic year is less in University end sem exams.

2. Solving more unsolved numerical from reference books and working in weak areas of individual students helps to improve overall results

3. CO 4 attainment level of the subject is 1.50 which is less than other CO level indicate that students are not confident in understanding the Concept of Slope and Deflection

4.Comparision of CO attinment from 2022-23 with 2021-22 indicates that Co attinment is less due to less marks in University End sem exam results

Action Plan

MOOCs related with this subject is also planned for the next year to clear the concept.

Expert lecture has been planned to understand the Practical based knowledge.

More Sofwatre based Practicals planned in next acdemic year to inculacatye students interest in SM Subject

Formula for Direct CO Attainment of individual student in %

$$CO\ No. = \frac{\textbf{Marks in obtened in (IN + TH + CAR + OME + OR)}}{\textbf{Sum of Maximum Marks for each parameter}} \times 100$$

Formula for indirect CO Attainment of individual student in %

$$CO\ No. = \frac{\text{Students Responce to feedback (NoS×Poor+ NoS×Good+ NoS×Excellent)}}{\text{Tota No.of Students}}$$

Formula to Calculate Overall Direct CO Attainment:-

$$CO\ No. = \frac{(0 \times NoS < 40\%) + (1 \times NoS > 40\%\ but < 50\%) + (2 \times NoS > 50\%\ but < 60\%) + (3 \times NoS > 60\%)}{Total\ Number\ of\ students}$$

Where NoS=Number of stud

$$CO = 0.8 \times Direct + 0.2 \times Indirect$$

ents

Formula to Calculate Overall Direct CO Attainment:-

$$CO\ No. = \frac{(0 \times NoS < 40\%) + (1 \times NoS > 40\%\ but < 50\%) + (2 \times NoS > 50\%\ but < 60\%) + (3 \times NoS > 60\%)}{Total\ Number\ of\ students}$$

Where NoS=Number of students

Sample Calculation of CO-1 is given below

$$CO_1 = \frac{(0 \times 2) + (1 \times 1) + (2 \times 2) + (3 \times 17)}{22} = 2.55\ on\ scale\ of\ 3$$

Indirect Attainment Method and Feedback Analysis :

- Students feedback on course outcome has been taken through Offline format .Total 15 students response has been recorded .Students Responded to the feedback divided by Number of students participated in feedback is used for the calculation of Indirect Attainment.
- External Examiner feedback is also recorded about CO and used for calculation of CO attainment
- Course Outcome Questions is considered for this form and Rated as 0-Poor 1-Avg 2-Good 3-Excellent

Sr.No	COURSE Outcome	Students Feedback	External Feedback	Overall Feedback
1	CO-1	1.8	3	0.48
2	CO-2	2.16	2	0.42
3	CO-3	1.80	3	0.48
4	CO-4	1.69	2	0.37
5	CO-5	1.82	3	0.48
6	CO-6	1.82	2	0.38

Students Feedback Analysis on CO

Sr.No	CO	Avg Response in Values	Avg Response in words	Major Remarks
1	CO1	2	GOOD	More Lectures need to be there for Unit 3 sheets More Practice Numericals for Unit 4
2	CO2	3	Excellent	
3	CO3	2	GOOD	
4	CO4	2	GOOD	
5	CO5	2	GOOD	
6	CO6	2	GOOD	

Course of Action :

1. Remedial classes conducted for Unit 3 and Unit 5
2. More Assignment questions on Unit 4 and Last year University question paper discussed in class.

Bharati Vidyapeeth's College of Engineering, Lavale, Pune.

Department of Computer Engineering

Course Name	Artificial Intelligence and Robotics
Course Code	410242
Semester	VII
Class	B.E. Computer
Batch	2018-19
Total Number of students	71

Year: 2021-22

Course Objectives

Objective 1	To understand the concept of Artificial Intelligence (AI)
Objective 2	To learn various peculiar search strategies for AI
Objective 3	To acquaint with the fundamentals of mobile robotics
Objective 4	To develop a mind to solve real world problems unconventionally with optimality

Course Outcomes

410242.1	Identify and apply suitable Intelligent agents for various AI applications
410242.2	Design smart system using different informed search / uninformed search or heuristic approaches
410242.3	Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.
410242.4	Apply the suitable algorithms to solve AI problems

PSOs

PSO1	**Professional Skills**-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying.
PSO2	**Problem-Solving Skills**- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3	**Successful Career and Entrepreneurship**- The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and a zest for higher studies.

CO - PO/PSO Mapping

Course Outcome	PO.1	PO.2	PO.3	PO.4	PO.5	PO.6	PO.7	PO.8	PO.9	PO.10	PO.11	PO.12	Program Specific Outcome PSO1	PSO2	PSO3
410242.1	2	3	0	2	0	1	0	0	1	0	0	0	1	3	0
410242.2	2	0	2	1	0	0	0	1	1	1	0	0	0	0	0
410242.3	2	2	0	0	0	0	0	0	1	0	0	0	2	0	0
410242.4	0	1	0	0	0	0	0	1	1	0	0	0	0	2	0

PO.1	Engineering Knowledge	To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
PO.2	Problem Analysis	To analyze the problem by finding its domain and applying domain specific skills and engineering sciences.
PO.3	Design/ Development	To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
PO.4	Conduct	To find solutions of complex problems by conducting investigations applying suitable techniques.synthesis of information to provide valid conclusions.
PO.5	Modern Tool Usage	To adapt the usage of modern tools and recent software.
PO.6	The Engineer and Society	To contribute towards the society by understanding the impact of Engineering on global aspect.

PO.7	Environment &	To understand environment issues and design a sustainable system.
PO.8	Ethics	To understand and follow professional ethics.
PO.9	Individual and Team Work	To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
PO.10	Communication	To demonstrate effective communication at various levels.
PO.11	Project Management	To apply the knowledge of Computer Engineering for development of projects, and its finance and management.
PO.12	Life - long Learning	To keep in touch with current technologies and inculcate the practice of lifelong learning.

Sr. No.	PRN	Name of the student	CO1			CO2			CO3			CO4		
			Score Obtained			Score Obtained			Score Obtained			Score Obtained		
			30	70	100	30	70	100	30	70	100	30	70	100
			Insem	End Sem	Total	Insem	End Sem	Total	Insem	End Sem	Total	Insem	End Sem	Total
1	71806263K	BABHALE ONKAR MANOHAR	30	69	99	30	69	99	30	69	99	30	69	99
2	71806439K	RIYA MAKADE	30	70	100	30	70	100	30	70	100	30	70	100
3	71806444F	RUTUJA HIWASE	30	66	96	30	66	96	30	66	96	30	66	96
4	71923038B	ADHAV PRASHANT ASHOK	30	70	100	30	70	100	30	70	100	30	70	100
5	71923040D	AHMAD MOHD SAFFA	30	70	100	30	70	100	30	70	100	30	70	100
6	71923044G	ASMITA ORSE	30	60	90	30	60	90	30	60	90	30	60	90
7	71923045E	AVINASH SHUKLA	30	70	100	30	70	100	30	70	100	30	70	100
8	71923049H	BHAVSAR SHUBHAM C	30	66	96	30	66	96	30	66	96	30	66	96
9	71923056L	CHANDRAMANI PANDEY	30	70	100	30	70	100	30	70	100	30	70	100
10	71923070F	HARSH SHRIVASTAV	30	70	100	30	70	100	30	70	100	30	70	100
11	71923071D	HARSHIT PANSE	30	70	100	30	70	100	30	70	100	30	70	100
12	71923072B	HRITIKA SRIVASTAVA	30	70	100	30	70	100	30	70	100	30	70	100
13	71923073L	HUZAIF UMARSHARIF MUJAWAR	30	70	100	30	70	100	30	70	100	30	70	100
14	71923078M	JAMADAR NIKITA AMOGSIDDH	30	70	100	30	70	100	30	70	100	30	70	100
15	71923086B	KOLEKAR GAURI BABURAO	30	43	93	30	43	93	30	43	93	30	43	93
16	71923088J	CHOUDHARI MANALI S	30	70	100	30	70	100	30	70	100	30	70	100
17	71923090L	MANE ROHIT SURESH	30	70	100	30	70	100	30	70	100	30	70	100
18	71923091J	MARGAJE VAIBHAV SOPAN	28	70	98	28	70	98	28	70	98	28	70	98
19	71923092G	MASKE SANSKAR RAMBHAU	30	70	100	30	70	100	30	70	100	30	70	100
20	71923094C	MENGADE RUSHIKESH G	30	70	100	30	70	100	30	70	100	30	70	100
21	71923098F	MULLA SHAHEEN MEHABOOB	30	67	97	30	67	97	30	67	97	30	67	97
22	71923100M	NAIK MADHURA SUDESH	30	70	100	30	70	100	30	70	100	30	70	100
23	71923109E	PATIL ABHISHEK HANUMANT	30	70	100	30	70	100	30	70	100	30	70	100
24	71923110J	PATIL BHAGYASHRI RAJESH	30	70	100	30	70	100	30	70	100	30	70	100
25	71923114M	PEEYOOSH CHAUHAN	30	52	82	30	52	82	30	52	82	30	52	82
26	71923115K	POINWAR SANKALP RAJENDRA	30	70	100	30	70	100	30	70	100	30	70	100
27	71923116H	PRAFUL KATARE	30	64	94	30	64	94	30	64	94	30	64	94
28	71923117F	PRIYANSHU SINGH	30	70	100	30	70	100	30	70	100	30	70	100
29	71923121D	SADAWARTI GAURAV ISHWAR	30	70	100	30	70	100	30	70	100	30	70	100
30	71923127C	SHRAVANI TONGE	30	70	100	30	70	100	30	70	100	30	70	100
31	71923135D	SURYAWANSHI NIKHIL SATISH	30	70	100	30	70	100	30	70	100	30	70	100
32	71923137L	THOMBARE RUSHIKESH B	30	70	100	30	70	100	30	70	100	30	70	100
33	71923139G	TONPE NIHAL RAJSHEKHAR	30	70	100	30	70	100	30	70	100	30	70	100
34	71923141J	TUSHAR SHARMA	30	70	100	30	70	100	30	70	100	30	70	100
35	71923142G	SHINDE UTKARSH TULSIDAS	30	70	100	30	70	100	30	70	100	30	70	100
36	71923144c	VAIBHAV KAUSHIK	30	69	99	30	69	99	30	69	99	30	69	99
37	72011294L	ATHARVA ASHOK PANDE	24	64	88	24	64	88	24	64	88	24	64	88
38	72011295J	BACHHER JAYESH NARESH	30	69	99	30	69	99	30	69	99	30	69	99
39	72011296G	KAKADE TEJASHREE G	30	70	100	30	70	100	30	70	100	30	70	100
40	72011297E	KALE SAKSHI SHRIHARI	30	70	100	30	70	100	30	70	100	30	70	100
41	72011298C	KALWALE RAJSHRI R	30	70	100	30	70	100	30	70	100	30	70	100
42	72011300J	KUNAL SUNIL BHADANE	30	70	100	30	70	100	30	70	100	30	70	100
43	72011301G	MOGLE PRATIKSHA UTTAMRAO	30	63	93	30	63	93	30	63	93	30	63	93
44	72011302E	NALAWADE KEDAR RANDHEER	30	70	100	30	70	100	30	70	100	30	70	100
45	72011303C	NAVARKAR MAHESH SUNIL	30	70	100	30	70	100	30	70	100	30	70	100
46	72011304M	OMKAR SUNIL SONAWANE	30	70	100	30	70	100	30	70	100	30	70	100
47	72011305K	PATIL ASHWINI AVINASH	30	70	100	30	70	100	30	70	100	30	70	100
48	72011306H	PHALKE SHRADDHA GORAKH	23	69	92	23	69	92	23	69	92	23	69	92
49	72011307F	PISAL SHUBHAM SURESH	30	70	100	30	70	100	30	70	100	30	70	100
50	72011308D	PUJARI OMKAR HALLAPPA	30	70	100	30	70	100	30	70	100	30	70	100
51	72011309B	SANKET PRAKASH UDANSHIV	30	70	100	30	70	100	30	70	100	30	70	100
52	72011310F	SAURABH DHARWADKAR	30	70	100	30	70	100	30	70	100	30	70	100
53	72011311D	SHAH MEHERAN MUSHTAQUE A.	30	66	96	30	66	96	30	66	96	30	66	96
54	72011312B	SHINDE TRUPTI PRAKASH	30	55	85	30	55	85	30	55	85	30	55	85
55	72011313L	SHREYASH MOHAN BAGAL	30	70	100	30	70	100	30	70	100	30	70	100
56	72011314J	SUCHAK YASH DHARMESH	30	70	100	30	70	100	30	70	100	30	70	100
57	72011315G	THORAWASE PRANITA SUDESH	30	39	69	30	39	69	30	39	69	30	39	69
58	72011316E	VAIDYA DEVESH TUSHAR	30	70	100	30	70	100	30	70	100	30	70	100
59	72011317C	VASAIKAR AMISHA SANJAY	30	46	94	30	46	94	30	46	94	30	46	94
60	72011318M	WABALE SUPRIYA YASHAVANT	30	70	100	30	70	100	30	70	100	30	70	100
61	72011319K	YERME OMKAR BALAJI	30	69	99	30	69	99	30	69	99	30	69	99
62	71806261C	AYUSH CHATURVEDI	30	64	94	30	64	94	30	64	94	30	64	94
63	71727555J	BHILARE SANEEKAA JATIIEEN	30	64	94	30	64	94	30	64	94	30	64	94
64	71940634L	CHAVAN YASHWANT NITIN	30	63	93	30	63	93	30	63	93	30	63	93
65	71806299L	DHARAMCHAND PAWAR	30	70	100	30	70	100	30	70	100	30	70	100
66	71727665B	HARSHITA KAUSHIK	30	69	99	30	69	99	30	69	99	30	69	99
67	71806392K	NAIR PREEJA RAVI	30	59	89	30	59	89	30	59	89	30	59	89
68	71806419E	PEM TSHERING	30	56	86	30	56	86	30	56	86	30	56	86
69	71806425K	PRATEEK BAJPAI	30	59	89	30	59	89	30	59	89	30	59	89
70	71940653G	SURYAWANSHI SHUBHAM ANUP	30	64	94	30	64	94	30	64	94	30	64	94
71	71806492F	SWADESH KANTI ROY	30	70	100	30	70	100	30	70	100	30	70	100

Bharati Vidyapeeth's College of Engineering Lavale Pune

Department of Computer Engineering

Direct Method

Course Outcomes	Syllabus						Univeristy Assessment				Internal Assessment							
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Online Exam	Endsem Exam	Practical Exam	TW	Oral Exam				Online Practice Test			
											O1	O2	O3	O4	Test 1	Test 2	Test 3	Test 4
410242.1	1	1					1	1	1	1	1				1			
410242.2			1	1			1	1	1	1		1				1		
410242.3					1		1	1	1	1			1				1	
410242.4						1	1	1	1	1				1				1

Indirect method

Course Outcomes	Course Feedback by Student			
	Q1	Q2	Q3	Q 4
410242.1	1			
410242.2		1		
410242.3			1	
410242.4				1

General Formula

{(University Assessment Score Obtained/Maximum Score)*100}*0.8+{(Internal Assessment Score Obtaied/Maximum Score)*100}*0.2}*0.8+{(Feedback Score Obtained/Maximum Score)*100}*0.2

Formulae Used	
410242.1	{(Online Exam+Endsem Exam+Practical Exam+TW/175)*100}*0.8+{(Oral 1+ Test 1/60)*100}*0.2}*0.8+{(Course Feedback/10)*100}*0.2
410242.2	{(Online Exam+Endsem Exam+Practical Exam+TW/175)*100}*0.8+{(Oral 2+ Test 2/60)*100}*0.2}*0.8+{(Course Feedback/10)*100}*0.2
410242.3	{(Online Exam+Endsem Exam+Practical Exam+TW/175)*100}*0.8+{(Oral 3+ Test 3/60)*100}*0.2}*0.8+{(Course Feedback/10)*100}*0.2
410242.4	{(Online Exam+Endsem Exam+Practical Exam+TW/175)*100}*0.8+{(Oral 4+ Test 4/60)*100}*0.2}*0.8+{(Course Feedback/10)*100}*0.2

Course Outcome is evaluated based on the performance of students in university assessment and internal assessmentsusing various evaluation tools. Internal assessment contributes 20% and university assessment contributes 80%. Finally 80% of Internal+University and 20% is considered from various feedback taken.

Attainment Level: The level is taken on the scale of 3.

Level 3	If students attainment for perrticular CO is equal to or greater than 60 then the level is 3.
Level 2	If students attainment for perrticular CO is equal to 50 and less than 60 then the level is 2.
Level 1	If students attainment for perrticular CO is equal to 40 and less than 50 then the level is 1.
Level 0	If students attainment for perrticular CO is equal or less than 39 then the level is 0.

Proposed Target Level for all COs	2.5

Sr. No.	PRN	Name of the student	CO1 Score Obtained		
			10	50	60
			Oral 1	Online Practice Tests	Total
1	71632402E	BABHALE ONKAR MANOHAR	4	34	38
2	71632402E	RIYA MAKADE	6	26	32
3	71632402E	RUTUJA HIWASE	5	38	43
4	71632402E	ADHAV PRASHANT ASHOK	6	30	36
5	71632402E	AHMAD MOHD SAFFA .	8	22	30
6	71632402E	ASMITA ORSE	6	22	28
7	71632402E	AVINASH SHUKLA	5	35	40
8	71632402E	BHAVSAR SHUBHAM C.	7	39	46
9	71632402E	CHANDRAMANI PANDEY	8	23	31
10	71632402E	HARSH SHRIVASTAV	5	39	44
11	71632402E	HARSHIT PANSE	4	33	37
12	71632402E	HRITIKA SRIVASTAVA	4	37	41
13	71632402E	HUZAIF UMARSHARIF MUJAWAR	7	24	31
14	71632402E	JAMADAR NIKITA AMOGSIDDH	9	32	41
15	71632402E	KOLEKAR GAURI BABURAO	5	23	28
16	71632402E	CHOUDHARI MANALI S.	4	30	34
17	71632402E	MANE ROHIT SURESH	8	28	36
18	71632402E	MARGAJE VAIBHAV SOPAN	6	31	37
19	71632402E	MASKE SANSKAR RAMBHAU	6	37	43
20	71632402E	MENGADE RUSHIKESH G.	7	22	29
21	71632402E	MULLA SHAHEEN MEHABOOB	4	26	30
22	71632402E	NAIK MADHURA SUDESH	6	33	39
23	71632402E	PATIL ABHISHEK HANUMANT	9	35	44
24	71632402E	PATIL BHAGYASHRI RAJESH	9	40	49
25	71632402E	PEEYOOSH CHAUHAN	8	29	37
26	71632402E	POINWAR SANKALP RAJENDRA	4	29	33
27	71632402E	PRAFUL KATARE	4	27	31
28	71632402E	PRIYANSHU SINGH	8	26	34
29	71632402E	SADAWARTI GAURAV ISHWAR	7	36	43
30	71632402E	SHRAVANI TONGE	8	35	43
31	71632402E	SURYAWANSHI NIKHIL SATISH	4	28	32
32	71632402E	THOMBARE RUSHIKESH B.	6	35	41
33	71632402E	TONPE NIHAL RAJSHEKHAR	7	32	39
34	71632402E	TUSHAR SHARMA	6	23	29
35	71632402E	SHINDE UTKARSH TULSIDAS	6	38	44
36	71632402E	VAIBHAV KAUSHIK	9	39	48
37	71632402E	ATHARVA ASHOK PANDE	5	35	40
38	71632402E	BACHHER JAYESH NARESH	5	29	34
39	71632402E	KAKADE TEJASHREE G.	9	25	34
40	71632402E	KALE SAKSHI SHRIHARI	9	31	40
41	71632402E	KALWALE RAJSHRI R.	7	38	45
42	71632402E	KUNAL SUNIL BHADANE	6	22	28
43	71632402E	MOGLE PRATIKSHA UTTAMRAO	6	23	29
44	71632402E	NALAWADE KEDAR RANDHEER	7	27	34
45	71632402E	NAVARKAR MAHESH SUNIL	8	34	42
46	71632402E	OMKAR SUNIL SONAWANE	4	37	41
47	71632402E	PATIL ASHWINI AVINASH	5	29	34
48	71632402E	PHALKE SHRADDHA GORAKH	4	26	30
49	71632402E	PISAL SHUBHAM SURESH	7	27	34
50	71632402E	PUJARI OMKAR HALLAPPA	5	40	45
51	71632402E	SANKET PRAKASH UDANSHIV	5	38	43

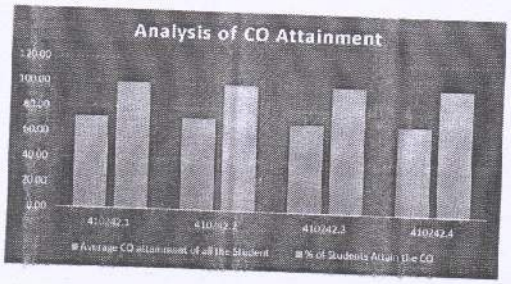
52	71632402E	SAURABH DHARWADKAR	7	30	37
53	71632402E	SHAH MEHERAN MUSHTAQUE A.	9	40	49
54	71632402E	SHINDE TRUPTI PRAKASH	7	26	33
55	71632402E	SHREYASH MOHAN BAGAL	5	23	28
56	71632402E	SUCHAK YASH DHARMESH	6	29	35
57	71632402E	THORAWASE PRANITA SUDESH	7	29	36
58	71632402E	VAIDYA DEVESH TUSHAR	9	28	37
59	71632402E	VASAIKAR AMISHA SANJAY	5	35	40
60	71632402E	WABALE SUPRIYA YASHAVANT	5	37	42
61	71632402E	YERME OMKAR BALAJI	6	25	31
62	71632402E	AYUSH CHATURVEDI	5	32	37
63	71632402E	BHILARE SANEEKAA JATHEEN	5	34	39
64	71632402E	CHAVAN YASHWANT NITIN	5	40	45
65	71632402E	DHARAMCHAND PAWAR	5	24	29
66	71632402E	HARSHITA KAUSHIK	6	39	45
67	71632402E	NAIR PREEJA RAVI	6	38	44
68	71632402E	PEM TSHERING	7	30	37
69	71632402E	PRATEEK BAJPAI	9	40	49
70	71632402E	SURYAWANSHI SHUBHAM ANUP	5	26	31
71	71632402E	SWADESH KANTI ROY	5	23	28

Sr.No.	PRN	Name of the student	Student Feedback			
			Q1	Q2	Q3	Q4
1	71806263K	BABHALE ONKAR MANOHAR	3	2	4	4
2	71806439K	RIYA MAKADE	4	4	4	4
3	71806444F	RUTUJA HIWASE	5	3	4	5
4	71923038B	ADHAV PRASHANT ASHOK	4	4	2	5
5	71923040D	AHMAD MOHD SAFFA .	4	4	4	5
6	71923044G	ASMITA ORSE	4	4	3	3
7	71923045E	AVINASH SHUKLA	5	3	4	3
8	71923049H	BHAVSAR SHUBHAM C.	5	4	3	3
9	71923056L	CHANDRAMANI PANDEY	4	3	2	3
10	71923070F	HARSH SHRIVASTAV	5	2	3	4
11	71923071D	HARSHIT PANSE	4	2	3	5
12	71923072B	HRITIKA SRIVASTAVA	4	2	4	4
13	71923073L	HUZAIF UMARSHARIF MUJAWAR	4	2	4	4
14	71923078M	JAMADAR NIKITA AMOGSIDDH	5	2	4	4
15	71923086B	KOLEKAR GAURI BABURAO	5	3	4	5
16	71923088J	CHOUDHARI MANALI S.	5	4	4	5
17	71923090L	MANE ROHIT SURESH	5	3	3	5
18	71923091J	MARGAJE VAIBHAV SOPAN	5	2	3	3
19	71923092G	MASKE SANSKAR RAMBHAU	5	3	2	3
20	71923094C	MENGADE RUSHIKESH G.	2	2	4	3
21	71923098F	MULLA SHAHEEN MEHABOOB	5	4	4	3
22	71923100M	NAIK MADHURA SUDESH	4	3	2	4
23	71923109E	PATIL ABHISHEK HANUMANT	3	3	4	4
24	71923110J	PATIL BHAGYASHRI RAJESH	2	2	2	2
25	71923114M	PEEYOOSH CHAUHAN	5	4	2	3
26	71923115K	POINWAR SANKALP RAJENDRA	2	3	4	3
27	71923116H	PRAFUL KATARE	5	3	3	3
28	71923117F	PRIYANSHU SINGH	4	2	4	4
29	71923121D	SADAWARTI GAURAV ISHWAR	3	4	2	4
30	71923127C	SHRAVANI TONGE	5	3	2	3
31	71923135D	SURYAWANSHI NIKHIL SATISH	5	3	2	3
32	71923137L	THOMBARE RUSHIKESH B.	2	2	2	3
33	71923139G	TONPE NIHAL RAJSHEKHAR	5	4	4	3
34	71923141J	TUSHAR SHARMA	5	4	4	3
35	71923142G	SHINDE UTKARSH TULSIDAS	2	4	3	3
36	71923144c	VAIBHAV KAUSHIK	5	4	4	3
37	72011294L	ATHARVA ASHOK PANDE	4	3	2	4
38	72011295J	BACHHER JAYESH NARESH	3	2	2	4
39	72011296G	KAKADE TEJASHREE G.	4	2	4	4
40	72011297E	KALE SAKSHI SHRIHARI	5	3	3	3
41	72011298C	KALWALE RAJSHRI R.	2	2	3	3
42	72011300J	KUNAL SUNIL BHADANE	5	3	4	3
43	72011301G	MOGLE PRATIKSHA UTTAMRAO	4	4	4	4
44	72011302E	NALAWADE KEDAR RANDHEER	3	4	4	4
45	72011303C	NAVARKAR MAHESH SUNIL	4	2	3	4
46	72011304M	OMKAR SUNIL SONAWANE	4	2	3	4
47	72011305K	PATIL ASHWINI AVINASH	4	2	2	4
48	72011306H	PHALKE SHRADDHA GORAKH	3	4	4	3
49	72011307F	PISAL SHUBHAM SURESH	3	2	2	3
50	72011308D	PUJARI OMKAR HALLAPPA	4	3	3	4
51	72011309B	SANKET PRAKASH UDANSHIV	4	4	4	4
52	72011310F	SAURABH DHARWADKAR	5	4	3	3

53	72011311D	SHAH MEHERAN MUSHTAQUE A.	4	2	3	3
54	72011312B	SHINDE TRUPTI PRAKASH	5	2	4	4
55	72011313L	SHREYASH MOHAN BAGAL	4	3	2	5
56	72011314J	SUCHAK YASH DHARMESH	4	4	3	4
57	72011315G	THORAWASE PRANITA SUDESH	4	3	3	4
58	72011316E	VAIDYA DEVESH TUSHAR	5	2	4	4
59	72011317C	VASAIKAR AMISHA SANJAY	5	2	3	5
60	72011318M	WABALE SUPRIYA YASHAVANT	5	2	3	5
61	72011319K	YERME OMKAR BALAJI	5	3	2	5
62	71806261C	AYUSH CHATURVEDI	4	2	2	4
63	71727555J	BHILARE SANEEKAA JATIIEEN	3	4	4	3
64	71940634L	CHAVAN YASHWANT NITIN	3	2	2	3
65	71806299L	DHARAMCHAND PAWAR	4	3	3	4
66	71727665B	HARSHITA KAUSHIK	4	4	4	4
67	71806392K	NAIR PREEJA RAVI	5	4	3	3
68	71806419E	PEM TSHERING	4	4	4	3
69	71806425K	PRATEEK BAJPAI	2	3	3	3
70	71940653G	SURYAWANSHI SHUBHAM ANUP	5	2	4	3
71	71806492F	SWADESH KANTI ROY	4	2	2	4

Sr. No.	PRN	Name of the student	Direct Method-University Evaluation				Direct Method-Internal Evaluation				Indirect Method-Feedback				Attainment in Percentage				Target>=50				Attainment Level			
			100	100	100	100	60	60	60	60	10	10	10	10												
			CO 1	CO 2	CO 3	CO 4	CO 1	CO 2	CO 3	CO 4	CO 1	CO 2	CO 3	CO 4	CO 1	CO 2	CO 3	CO 4	CO 1	CO 2	CO 3	CO 4	CO 1	CO 2	CO 3	CO 4
1	71806263K	BABHALE ONKAR MANOHAR	99	99	99	99	38	43	34	21	3	2	4	4	73.55	74.87	72.51	69.04	Y	Y	Y	Y	3	3	3	3
2	71806439K	DIYA MAKADE	100	100	100	100	32	37	25	28	4	4	4	4	72.81	73.95	70.75	71.55	Y	Y	Y	Y	3	3	3	3
3	71806444E	RUTUJA HIWASE	96	96	96	96	43	45	37	31	5	3	4	5	73.01	73.5	71.39	69.81	Y	Y	Y	Y	3	3	3	3
4	71923038B	ADHAV PRASHANT ASHOK	100	100	100	100	36	34	22	25	4	4	2	5	73.68	73.15	69.91	70.77	Y	Y	Y	Y	3	3	3	3
5	71923040D	AHMAD MOHD SAIFA	100	100	100	100	30	41	26	39	4	4	4	5	72.08	75.01	71.01	74.5	Y	Y	Y	Y	3	3	3	3
6	71923044G	ASMITA ORSE	90	90	90	90	28	39	33	27	4	4	3	3	65.15	68.08	65.46	64.86	Y	Y	Y	Y	3	3	3	3
7	71923045F	AVINASH SHUKLA	100	100	100	100	40	36	35	31	5	3	4	3	74.77	73.66	73.41	72.33	Y	Y	Y	Y	3	3	3	3
8	71923049H	BHAVSAR SHUBHAM C	96	96	96	96	46	44	25	25	5	4	3	3	73.81	73.25	68.17	68.17	Y	Y	Y	Y	3	3	3	3
9	71923056E	CHANDRAMANI PANDEY	100	100	100	100	31	39	24	34	4	3	2	3	72.35	74.46	70.44	73.13	Y	Y	Y	Y	3	3	3	3
10	71923070F	HARSH SHRIVASTAV	100	100	100	100	44	41	24	26	5	2	3	4	75.83	74.97	70.46	71.01	Y	Y	Y	Y	3	3	3	3
11	71923071D	HARSHIT PANSE	100	100	100	100	37	36	34	28	4	2	3	5	73.95	73.64	73.13	71.57	Y	Y	Y	Y	3	3	3	3
12	71923072B	HRITIKA SRIVASTAVA	100	100	100	100	41	43	35	27	4	2	4	4	75.01	75.51	73.41	71.28	Y	Y	Y	Y	3	3	3	3
13	71923073L	HUZAIF UMARSHARIF MUJAWAR	100	100	100	100	31	41	18	28	4	2	4	4	72.35	74.97	68.88	71.55	Y	Y	Y	Y	3	3	3	3
14	71923078M	JAMADAR NIKITA AMOGSIDDH	100	100	100	100	41	33	22	27	5	2	4	4	75.03	72.84	69.95	71.28	Y	Y	Y	Y	3	3	3	3
15	71923086B	KOLEKAR GAURI BABURAO	93	93	93	93	28	38	33	25	5	3	4	5	67.09	69.71	68.4	66.29	Y	Y	Y	Y	3	3	3	3
16	71923088J	CHOUDHARI MANALI S.	100	100	100	100	34	36	28	37	5	4	4	5	73.17	73.68	71.55	73.97	Y	Y	Y	Y	3	3	3	3
17	71923090L	MANE ROHIT SURESH	100	100	100	100	36	37	20	29	5	3	3	5	73.7	73.93	69.39	71.83	Y	Y	Y	Y	3	3	3	3
18	71923091J	MARGAJE VAIBHAV SOPAN	98	98	98	98	37	37	29	34	5	2	3	3	72.69	72.63	70.51	71.85	Y	Y	Y	Y	3	3	3	3
19	71923092G	MASKE SANSKAR RAMBHAU	100	100	100	100	43	44	20	33	5	3	2	3	75.57	75.79	69.37	72.86	Y	Y	Y	Y	3	3	3	3
20	71923094C	MENGADE RUSHIKESH G.	100	100	100	100	29	39	37	31	2	2	4	3	71.77	74.44	73.95	72.33	Y	Y	Y	Y	3	3	3	3
21	71923098F	MULLA SHAHEEN MEHABOOB	97	97	97	97	30	39	22	23	5	4	4	3	70.18	72.56	68.08	68.27	Y	Y	Y	Y	3	3	3	3
22	71923100M	NAIK MADHURA SUDESH	100	100	100	100	39	42	24	24	4	3	2	4	74.48	75.26	70.44	70.48	Y	Y	Y	Y	3	3	3	3
23	71923109F	PATIL ABHISHEK HANUMANT	100	100	100	100	44	41	23	23	3	3	4	4	75.79	74.99	70.21	70.21	Y	Y	Y	Y	3	3	3	3
24	71923110J	PATIL BHAGYASHRI RAJESH	100	100	100	100	49	34	24	29	2	2	2	2	77.11	73.11	70.44	71.77	Y	Y	Y	Y	3	3	3	3
25	71923114M	PREYOOSH CHAUHAN	82	82	82	82	37	45	33	32	5	4	2	3	62.45	64.56	61.32	61.07	Y	Y	Y	Y	3	3	3	3
26	71923115K	POONWAR SANKALP RAJENDRA	100	100	100	100	33	35	17	25	2	3	4	3	72.84	73.39	68.61	70.73	Y	Y	Y	Y	3	3	3	3
27	71923116H	PRAFUL KATARE	94	94	94	94	31	36	30	33	5	3	3	3	68.53	69.82	68.22	69.02	Y	Y	Y	Y	3	3	3	3
28	71923117F	PRIYANSHU SINGH	100	100	100	100	34	40	40	22	4	2	4	4	73.15	74.71	74.75	69.95	Y	Y	Y	Y	3	3	3	3
29	71923121D	SAIDAWARTI GAURAV ISHWAR	100	100	100	100	43	41	31	36	3	4	2	4	75.53	75.01	72.31	73.68	Y	Y	Y	Y	3	3	3	3
30	71923127C	SHRAVANI TONGE	100	100	100	100	43	40	30	32	5	3	2	3	75.57	74.73	72.04	72.59	Y	Y	Y	Y	3	3	3	3
31	71923135D	SURYAWANSHI NIKHIL SATISH	100	100	100	100	32	44	30	31	5	3	2	3	72.63	75.79	72.04	72.33	Y	Y	Y	Y	3	3	3	3
32	71923137L	THOMBARE RUSHIKESH B.	100	100	100	100	41	36	37	29	2	2	2	3	74.97	73.64	73.91	71.79	Y	Y	Y	Y	3	3	3	3
33	71923139G	TONPE NIHAL RAJSHEKHAR	100	100	100	100	39	37	25	33	5	4	4	3	74.5	73.95	70.75	72.86	Y	Y	Y	Y	3	3	3	3
34	71923141J	TUSHAR SHARMA	100	100	100	100	29	43	32	28	5	4	4	3	71.83	75.55	72.61	71.53	Y	Y	Y	Y	3	3	3	3
35	71923142G	SHINDE UTKARSH TULSIDAS	100	100	100	100	44	38	38	29	2	4	3	3	75.77	74.21	74.19	71.79	Y	Y	Y	Y	3	3	3	3
36	71923144C	VAIBHAV KAUSHIK	99	99	99	99	48	45	32	35	5	4	4	3	76.26	75.44	71.97	72.75	Y	Y	Y	Y	3	3	3	3
37	72011294L	ATHARVA ASHOK PANDE	88	88	88	88	40	40	14	30	4	3	2	4	67.07	67.05	60.09	64.4	Y	Y	Y	Y	3	3	3	3
38	72011295J	BACHHER JAYESH NARESH	99	99	99	99	34	44	30	37	3	2	2	4	72.49	75.13	71.4	73.31	Y	Y	Y	Y	3	3	3	3
39	72011296G	KAKADE TEJASHREE G	100	100	100	100	34	39	17	30	4	2	4	4	73.15	74.44	68.61	72.08	Y	Y	Y	Y	3	3	3	3
40	72011297E	KALE SAKSHI SHRIHARI	100	100	100	100	40	44	20	28	5	3	3	3	74.77	75.79	69.39	71.53	Y	Y	Y	Y	3	3	3	3
41	72011298C	KALWALE RAJSHRI R	100	100	100	100	45	37	39	38	2	2	3	3	76.04	73.91	74.46	74.19	Y	Y	Y	Y	3	3	3	3
42	72011300J	KUNAL SUNIL BHADANE	100	100	100	100	28	41	36	27	5	3	4	3	71.57	74.99	73.68	71.26	Y	Y	Y	Y	3	3	3	3
43	72011301G	MOGLE PRATIKSHA UTTAMRAO	93	93	93	93	29	36	30	36	4	4	4	4	67.33	69.2	67.6	69.2	Y	Y	Y	Y	3	3	3	3
44	72011302E	NALAWADE KEDAR RANDHEER	100	100	100	100	34	41	33	38	3	4	4	4	73.13	75.01	72.88	74.21	Y	Y	Y	Y	3	3	3	3
45	72011303C	NAVARKAR MAHESH SUNIL	100	100	100	100	42	38	28	30	4	2	3	4	75.28	74.17	71.53	72.08	Y	Y	Y	Y	3	3	3	3
46	72011304M	OMKAR SUNIL SONAWANE	100	100	100	100	41	45	18	39	4	2	3	4	75.01	76.04	68.86	74.48	Y	Y	Y	Y	3	3	3	3
47	72011305K	PATIL ASHWINI AVINASH	100	100	100	100	34	37	31	25	4	2	2	4	73.15	73.91	72.31	70.75	Y	Y	Y	Y	3	3	3	3
48	72011306H	PHALKE SHRADDHA GORAKH	92	92	92	92	30	33	21	35	3	4	4	3	66.94	67.76	64.56	68.27	Y	Y	Y	Y	3	3	3	3
49	72011307F	PISAL SHUBHAM SURESH	100	100	100	100	34	37	35	24	3	2	2	3	73.13	73.91	73.37	70.46	Y	Y	Y	Y	3	3	3	3
50	72011308D	PUJARI OMKAR HALLAPPA	100	100	100	100	45	34	32	26	4	3	3	4	76.08	73.13	72.59	71.01	Y	Y	Y	Y	3	3	3	3
51	72011309B	SANKET PRAKASH UDANSHIV	100	100	100	100	43	44	19	24	4	4	4	4	75.55	75.81	69.15	70.48	Y	Y	Y	Y	3	3	3	3
52	72011310E	SAURABH DHARWADKAR	100	100	100	100	37	41	24	36	5	4	3	3	73.97	75.01	70.46	73.66	Y	Y	Y	Y	3	3	3	3
53	72011311D	SHAH MEHERAN MUSHTAQUE A	96	96	96	96	48	36	29	28	4	2	3	3	74.59	71.08	69.23	68.97	Y	Y	Y	Y	3	3	3	3
54	72011312B	SHINDE TRUPTI PRAKASH	85	85	85	85	33	44	38	31	5	2	4	4	63.3	66.17	64.61	62.75	Y	Y	Y	Y	3	3	3	3
55	72011313J	SHREYASH MOHAN BAGAL	100	100	100	100	28	42	37	37	4	3	2	5	71.55	75.26	73.91	73.97	Y	Y	Y	Y	3	3	3	3
56	72011314J	SUCHAK YASH DHARMESH	100	100	100	100	35	42	24	34	4	4	3	4	73.41	75.28	70.46	73.15	Y	Y	Y	Y	3	3	3	3
57	72011315G	THORAWASE PRANITA SUDESH	69	69	69	69	36	39	28	39	4	3	3	4	53.84	54.62	51.69	54.64	Y	Y	Y	Y	1	1	1	1
58	72011316E	VAIDYA DEVESH TUSHAR	100	100	100	100	37	38	19	28	5	2	4	4	73.97	74.17	69.15	71.55	Y	Y	Y	Y	3	3	3	3
59	72011317C	VASAIKAR AMISHA SANJAY	94	94	94	94	40	42	35	32	5	2	3	5	70.93	71.4	69.55	68.79	Y	Y	Y	Y	3	3	3	3
60	72011318M	WAIBALE SUPRIYA YASHAVANT	100	100	100	100	42	42	39	37	5	2	3	5	75.3	75.24	74.46	73.97	Y	Y	Y	Y	3	3	3	3
61	72011319K	YERME OMKAR BALAJI	99	99	99	99	31	42	29	31	5	3	2	5	71.73	74.62	71.13	71.73	Y	Y	Y	Y	3	3	3	3
62	71806261C	AYUSH CHATURVEDI	94	94	94	94	37	41	27	24	4	2	2	4	70.11	71.13	67.4	66.64	Y	Y	Y	Y	3	3	3	3
63	71727555J	BHILARE SANEEKAA JATIIEEN	94	94	94	94	39	37	21	28	3	4	4	3	70.62	70.11	65.84	67.69	Y	Y	Y	Y	3	3	3	3
64	71940634L	CHAVAN YASHWANT NITIN	93	93	93	93	45	40	26	31	3	2	2	3	71.58	70.23	66.49	67.85	Y	Y	Y	Y	3	3	3	3
65	71806299L	DHARAMCHAND PAWAR	100	100	100	100	29	38	35	28	4	3	3	4	71.81	74.19	73.39	71.55	Y	Y	Y	Y	3	3	3	3
66	71727665H	HARSHITA KAUSHIK	99	99	99	99	45	39	29	24	4	4	4	4	75.44	73.84	71.17	69.84	Y	Y	Y	Y	3	3	3	3
67	71806392K	NAIR PREEJA RAVI	89	89	89	89	44	35	32	24	5	4	3	3	68.79	66.37	65.55	63.42	Y	Y	Y	Y	3	3	3	3
68	71806419F	PEM TSHERING	86	86	86	86	37	38	37	28	4	4	4	3	64.99	65.52	64.99	62.57	Y	Y	Y	Y	3	3	3	3
69	71806425K	PRATEEK BAJPAI	89	89	89	89	49	29	31	19	2	3	3	3	70.07	64.75	65.29	62.09	Y	Y	Y	Y	3	3	3	3
70	71940653G	SURYAWANSHI SHUBHAM ANUP	94	94	94	94	31	27	24	35	5	2	4	3	68.53	67.4	66.64	69.55	Y	Y	Y	Y	3	3	3	3
71	71806492F	SWADESH KANTI ROY	100	100	100	100	28	21	28	39	4	2	2	4	71.55	69.64	71.51	74.48	Y	Y	Y	Y	3	3	3	3
															72.2	72.6	69.8	70.2	71	71	71	71	2.97	2.97	2.97	2.97

Analysis for Class					
Bharati Vidyapeeth's College of Engineering Lavale Pune					
Department of Computer Engineering					
Course Name	Artificial Intelligence and Robotics				
Course Code	410242				
Semester	VII				
Class	B.E. Computer				
Batch	2018-19				
Total Students	71				
Course Outcomes	Average CO attainment of all the Student	No of Student Achieve Target	% of Students Attain the CO	Average CO attainment of all	Attained or Not
410242.1	72.19	71	100	2.97	Y
410242.2	72.61	71	100	2.97	Y
410242.3	69.84	71	100	2.97	Y
410242.4	70.24	71	100	2.97	Y



BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: OMKAR BABHALE

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications			✓		
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches				✓	
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems		✓			

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Riya Mahade

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches		✓			
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems		✓			

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Rutuja Hiwse

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications	✓				
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches			✓		
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems	✓				

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Prashant Adhav

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches		✓		✓	
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.				✓	
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems	✓				

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Safa Ahemad

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches		✓			
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems	✓				

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Asmita Orse

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches		✓			
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.			✓		
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems			✓		

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Avinash Shukla

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications	✓				
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches			✓		
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems			✓		

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Shubham bhausar

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications	✓				
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches		✓			
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.			✓		
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems			✓		

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Chandramani Pandey

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches			✓		
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.				✓	
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems			✓		

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Harsh Shivastav

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications	✓				
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches				✓	
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.			✓		
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems		✓			

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: HUSAIF MUJAWAR

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High, 1;Low)				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications		✓			
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches				✓	
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems		✓			

BHARATI VIDYAPEETH COLLEGE OF ENGINEERING, LAVALE, PUNE - 412-115

DEPARTMENT OF COMPUTER ENGINEERING

Student Feedback Form for Artificial Intelligence and Robotics

Name of the Student: Nikita Jamadar

Passing Academic Year: 2021-22

Sr. No	Question	Answer (Rate 5 to1 5:High,				
		5	4	3	2	1
1	Rate youself based on ability to Identify and apply suitable Intelligent agents for various AI applications	✓				
2	Rate youself based on ability to Design smart system using different informed search / uninformed search or heuristic approaches				✓	
3	Rate youself based on ability to Identify knowledge associated and represent it by ontological engineering to plan a strategy to solve given problem.		✓			
4	Rate youself based on ability to Apply the suitable algorithms to solve AI problems		✓			

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics & Telecommunication Engineering

NAME OF SUBJECT	:	Microcontrollers
BATCH (IN) ACADEMIC YEAR	:	2019-20
BATCH (OUT) ACADEMIC YEAR	:	2022-23
BATCH CURRENT ACADEMIC YEAR	:	2021-22
COURSE CODE	:	304192
CLASS	:	TE
SEMISTER	:	I
COURSE CO-ORDINATER	:	Prof. Swati Gawhale
Name of Student	:	Pushkraj Velnekar

Program Outcomes (PO):

PO	Statement
PO-01	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and engg. specialization to the solution of complex engineering problems.
PO-02	**Problem analysis:** Identify, formulate, research literature, and analyze engineering problems to arrive at substantiated conclusions using first principles of mathematics, natural, and engineering sciences.
PO-03	**Design/development of solutions:** Design solutions for complex engineering problems and design system components, processes to meet the specifications with consideration for the public health and safety, and the cultural, societal, and environmental considerations.
PO-04	**Conduct investigations of complex problems:** Use research-based knowledge including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO-05	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations
PO-06	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO-07	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development
PO-08	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO-09	**Individual and team work:** Function effectively as an individual, and as a member or leader in teams, and in multidisc
PO-10	**Communication:** Communicate effectively with the engineering community and with society at large. Be able to comprehend and write effective reports documentation. Make effective presentations, and give and receive clear instructions.
PO-11	**Project management and finance:** Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team. Manage projects in multidisciplinary environments
PO-12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics & Telecommunication Engineering

NAME OF SUBJECT	:	Microcontrollers
BATCH (IN) ACADEMIC YEAR	:	2019-20
BATCH (OUT) ACADEMIC YEAR	:	2022-23
BATCH CURRENT ACADEMIC YEAR	:	2021-22
COURSE CODE	:	304192
CLASS	:	TE
SEMISTER	:	I
COURSE CO-ORDINATER	:	Prof. Swati Gawhale

Program Education Objectives (PEO):

PEO	Statement
PEO-01	Use Technical, Teamwork, Communication skills along with leadership principals to pursue Electronics & Telecommunication Engineering Courses.
PEO-02	Our Engineering Graduates will be able to apply new knowledge as needed using appropriate learning strategy in Electronics & Telecommunication Engineering
PEO-03	To serve community by providing Employment through Entrepreneurship.
PEO-04	Ethical and Professional responsibilities in Engineering situations with social, Environment, Safety and Economic factors.

Program Specific Outcomes (PSO):

PSO	Statement
PSO-01	Apply the fundamentals of mathematics, science and engineering knowledge to identify, formulate, design and investigate complex engineering problems of electric circuits, analog and digital electronic circuits, electrical machines
PSO-02	Apply appropriate techniques and modern Engineering hardware and software tools in power systems to engage in life-long learning and to successfully adapt in multi-disciplinary environments.
PSO-03	Understand the impact of Professional Engineering solutions in societal and environmental context, commit to professional ethics and communicate effectively.

Course Outcomes:

CO	Statement
CO-01	Understand the fundamentals of microcontroller and programming.
CO-02	Interface various electronic components with microcontrollers.
CO-03	Analyze the features of PIC 18F XXXX.
CO-04	Describe the programming details in peripheral support.
CO-05	Develop interfacing models according to applications.
CO-06	Evaluate the serial communication details and interfaces

Bharati Vidyapeeth's College of Engineering Lavale.

Department of Electronics &Telecommunication Engineering

CO-PO, PSO CORRELATION MATRIX

NAME OF SUBJECT : Microcontrollers

ACADEMIC YEAR : 2020-21

SUBJECT CODE : 304184

CLASS : TE

SEMISTER : I

COURSE CO-ORDINATER : Prof. Swati Gawhale

MAPPING CORELATION			Target Attainment	2.4
HIGH	3	100%		
MEDIUM	2	70%	Target Achieved	2.74
LOW	1	50%		

CO	CO ATTAINMENT		MAPPING OF PROGRAM OUTCOMES													
	Level	Y/N	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	2.82	Y	2		2	1	1		1				1	1	3	2	
2	2.86	Y	2		2	1	2	1			1	1			1	2	1
3	2.82	Y		1	2							1			1	1	
4	2.67	Y	1				1									1	
5	2.64	Y		1		2							1		1	2	1
6	2.62	Y	2		2		2	2				1		1	1		2
AVG	2.74	######	1.75	1.00	2.00	1.33	1.50	1.50	1.00		1.00	1.00	1.00	1.00	1.40	1.60	1.33

CO	CO ATTAINMENT		MAPPING OF PROGRAM OUTCOMES														
	%	Y/N	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	81.60	Y	1.63		1.63	0.82	0.82		0.82				0.82	0.82	2.45	1.63	
2	86.02	Y	1.72		1.72	0.86	1.72	0.86			0.86	0.86			0.86	1.72	0.86
3	85.41	Y			1.71							0.85			0.85	0.85	
4	79.70	Y	0.8				0.8									0.8	
5	80.16	Y		0.8		1.6							0.8		0.80	1.6	0.8
6	79.07	Y	1.58		1.58		1.58	1.58				0.79		0.79	0.79		1.58
AVG	81.99		1.43	0.80	1.66	1.09	1.23	1.22	0.82		0.86	0.83	0.81	0.80	1.15	1.32	1.08

Bharati Vidyapeeth's College of Engineering Lavale.

Department of Electronics &Telecommunication Engineering

CO-PO, PSO CORRELATION MATRIX

NAME OF SUBJECT : Microcontrollers

ACADEMIC YEAR : 2020-21

SUBJECT CODE : 304184

CLASS : TE

SEMISTER : I

COURSE CO-ORDINATER : Prof. Swati Gawhale

MAPPING CORELATION			Target Attainment	2.4
HIGH	3	100%		
MEDIUM	2	70%	Target Achieved	2.74
LOW	1	50%		

MAPPING OF COURSE OUTCOMES

Sr.No.	CO	UNIT-01	UNIT-02	UNIT-03	UNIT-04	UNIT-05	UNIT-06
1	CO-01	1					
2	CO-02		1				
3	CO-03			1			
4	CO-04				1		
5	CO-05					1	
6	CO-06						1

CO MAPPING WITH CURRICULUM

CO ATTAINMENT		Direct Attainment (70%)													Indirect Feedback		
		University Assessment (80%)						Internal Assessment(20%)									
Sr.No.	CO	In Semister	End Semister	Term Work	Oral	Practical		UNIT Test	Theory Assignment	Continuous Assessment	Quiz Test	Multiple Choices Questions	Oral	Practical Assignment	Student Feedback	Parent Feedback	Peer Feedback
1	CO-01	1							1				1		1	1	1
2	CO-02	1							1				1		1	1	1
3	CO-03		1						1				1		1	1	1
4	CO-04		1						1				1		1	1	1
5	CO-05		1						1				1		1	1	1
6	CO-06		1						1				1		1	1	1

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics &Telecommunication Engineering

NAME OF SUBJECT: Microcontrollers

ACADEMIC YEAR:2021-22

Name of Student: Pushkraj Velnekar

CLASS: TE

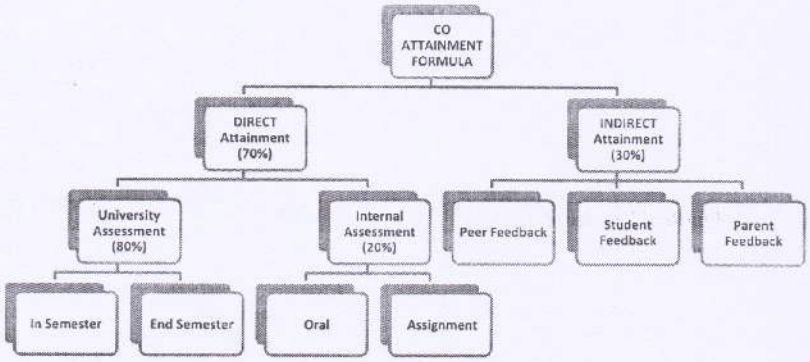
SEMISTER: I

COURSE CO-ORDINATER :Prof. Swati G. Gawhale

FORMULA

DIRECT Attainment		
Attainment (WEIGHTS) 70%		
Sr. No.	Method	WEIGHTS
	University Assessment (80%)	
1	In Semester	30
2	End Semester	70
	Internal Assessment (20%)	
1	Assignment	10
2	Oral	10
	Total	120
	Average Direct Feedback100%	100
	Converdted Direct Feedback in 70%	70.00
		100.00

INDIRECT Attainment		
Attainment (WEIGHTS) 30%		
Sr. No.	Method	WEIGHTS
1	Peer Feedback	10
2	Student Feedback	10
3	Parents Feedback	10
	Total	30
	Average Indirect Feedback100%	100
	Converdted indirect Feedback in 30%	30.00



Students Feedback On COS

Timestamp	Email*	Name of Student	Academic Year	Do you Understand the fundamentals of microcontroller and programming?	Introduction to Microcontroller Architecture?	CO1	Scale of understanding of Interface various electronic components with microcontrollers?	Scale of understanding of I/O Port Interfacing with programming in Embedded C"?	CO2	Analyze the features of PIC 18F XXXX?	Scale of understanding of PIC 18F XXXX Microcontroller Architecture?	CO3	Do you understand the programming details in peripheral support?	Scale of understanding of Practical and theoretical Peripheral Support in PIC 18FXXXX ?	CO4	Are you able to Develop interfacing models according to applications?	Real Word Interfacing With 18FXXXX?	CO5	Demonstrate real life applications using PIC 18.?	Serial Port Programming interfacing with 18FXXXX?	CO6	Has the Teacher covered entire syllabus as prescribed by University	Scale of understanding of the subject taught by Teacher?
2021/12/20 1:3	swa	Swati Dilip Amrutka	2021	5	5	5	4	4	4	5	5	5	4	5	4.5	4	5	4.5	5	4	4.5	5	5
2021/12/20 1:3	swa	Swati Dilip Amrutka	2021	5	5	5	4	5	4.5	4	4	4	5	4	4.5	5	4	4.5	5	5	5	4	5
2021/12/20 1:4	jadh	AMRUT BALAJI JAD	T.E.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2021/12/20 2:1	anin	Animesh more	3	3	3	3	4	3	3.5	4	3	3.5	4	3	3.5	4	3	3.5	4	3	3.5	3	4
2021/12/20 3:2	vedi	Vedika Sonparote	2020-21	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3
2021/12/20 3:2	Kara	Karan	2021-22	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2021/12/24 11	vedi	Vedika Sonparote	2021-22	3	3	3	3	3	3	3	3	3	4	2	3	3	3	3	4	3	3.5	3	3
2021/12/26 9:3	bha	Bhavana santosh p	Third year	4	4	4	4	4	4	4	4	4	4	3	3.5	3	4	3.5	3	3	3	3	4
2021/12/27 9:2	push	Pushkaraj Verneka	TE	4	4	4	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	5	5
2021/12/27 11	rajd	Rajdeep korpe	2019-20	4	5	4.5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2022/01/01 2:3	rupa	Rupali prabhakar s	2020_202	1	1	1	1	2	1.5	3	3	3	1	1	1	1	2	1.5	3	1	2	1	1
2022/01/01 9:4	akar	Akarsh Poddar	2019-2023	4	4	4	4	5	4.5	4	4	4	4	4	4	4	4	4	4	4	4	5	5
2022/01/01 1:4	guda	Janhavi Yuvraj Gud	2021-2022	4	5	4.5	4	4	4	3	4	3.5	3	3	2.5	3	2	3	2.5	3	4	3.5	5	5
					Avg.	4		Avg.	3.8		Avg.	3.8		Avg.	3.7		Avg.	3.6		Avg.	3.8		

Parents Feedback Responces on Microcontrollers

Timestamp	Email	Name of Parents	Name of Student	Class	Teaching	Discipline	Interaction with staff	Overall Academic progress of your ward in this Institute	AVG
2021/12/20 1:04:32 P	prashant85	PRASHANT GAUPAL	Aryan GAUPAL	TE	4	4	4	4	4
2021/12/20 1:29:27 P	swati.amru	Dilip champat Amrutkar	Swati Dilip Amrutkar	TE	5	5	5	5	5
2021/12/20 1:47:34 P	jadhavamr	BALAJI SHIVAJIRAO JADH	AMRUT BALAJI JADH	T.E.	5	5	5	5	5
2021/12/20 2:16:55 P	animeshm	Sushma more	Animesh more	3	4	4	4	3	3.75
2021/12/20 3:26:32 P	vedikasma	Umesh Sonparote	Vedika Sonparote	T.E Entc	3	3	3	3	3
2021/12/20 3:27:01 P	Karansanja	Karan	Karan	TE Entc	5	5	5	3	4.5
2021/12/21 1:53:30 P	akashkamb	Laxmi Devi kamble	Akash kamble	T.Y. ENTC	4	5	4	4	4.25
2021/12/21 2:00:25 P	gaikwadpra	Pradip Gaikwad	Prajakta Gaikwad	TE	5	4	5	4	4.5
2021/12/24 11:43:10	vedikasma	Umesh Sonparote	Vedika Sonparote	TE ENTC	3	3	2	3	2.75
2021/12/26 9:43:55 P	bhavanapa	Bhagyashree santosh pav	Bhavana santosh pav	Third year	4	3	3	3	3.25
2021/12/27 11:27:39	rajdeepkor	Sandip korpe	Rajdeep korpe	TE	5	5	5	4	4.75
2022/01/01 2:34:07 A	rupalipatil4	Prabhakar shinde	Rupali prabhakar shi	TE	1	1	1	1	1
2022/01/01 1:49:56 P	gudadhejar	Yuvraj Gudadhe	Janhavi Yuvraj Gudad	TE- EnTC	5	5	5	4	4.75
									3.88

Bharati Vidyapeeth's College of Engineering Lavale.

Department of Electronics &Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale **Name of Student- Pushkraj Velnekar**

Name of subject-Microcontrollers

CO1	Understand the fundamentals of microcontroller and programming.															
			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (80%)			Internal Assessment (20%)					Feedback					
Sr No	Examination No	Name of the student	In Semister	Total	%	Assignment	Oral	Total	%	Total %	Studenf Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			30	30	100	10	10	20	100	100	5	5	5	100		
1	T191113001	AKARSH PODDAR	30	30	100	7	7	14	70	85	4	3.88	4	79	83	3
2	T191113002	ALISHA B SINGH	30	30	100	7	8	15	75	88	4	3.88	4	79	85	3
3	T191113003	AMRUTKAR SWATI DILIP	30	30	100	7	7	14	70	85	4	3.88	4	79	83	3
4	T191113004	CHOUBHARE YASH BALNATH	30	30	100	8	8	16	80	90	4	3.88	4	79	87	3
5	T191113005	DETHE HIMANSHU SHRIRAM	30	30	100	7	7	14	70	85	4	3.88	4	79	83	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	30	30	100	9	8	17	85	93	4	3.88	4	79	89	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	30	30	100	9	9	18	90	95	4	3.88	4	79	90	3
9	T191113009	JADHAV AMRUT BALAJI	30	30	100	8	8	16	80	90	4	3.88	4	79	87	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	30	30	100	7	8	15	75	88	4	3.88	4	79	85	3
11	T191113011	KAMBLE AKASH PRAKASH	30	30	100	9	8	17	85	93	4	3.88	4	79	89	3
12	T191113012	KARAN AHIRE	30	30	100	9	9	18	90	95	4	3.88	4	79	90	3
13	T191113013	KORPE RAJDEEP SANDEEP	30	30	100	9	7	16	80	90	4	3.88	4	79	87	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	30	30	100	8	7	15	75	88	4	3.88	4	79	85	3
15	T191113015	MORE ANIMESH AMBADAS	28	28	93.333	8	8	16	80	87	4	3.88	4	79	84	3
16	T191113016	PAWAR BHAVANA SANTOSH	30	30	100	7	8	15	75	88	4	3.88	4	79	85	3
17	T191113017	PUSHKARAJ VERNEKAR	30	30	100	10	9	19	95	98	4	3.88	4	79	92	3
18	T191113018	RAJ SUNIL NIKAM	30	30	100	7	6	13	65	83	4	3.88	4	79	82	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	30	30	100	7	8	15	75	88	4	3.88	4	79	85	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	30	30	100	7	7	14	70	85	4	3.88	4	79	83	3
21	T191113021	SONPAROTE VEDIKA UMESH	30	30	100	6	7	13	65	83	4	3.88	4	79	82	3
22	T191113022	WANKHEDE ANKIT SURESH	30	30	100	6	6	12	60	80	4	3.88	4	79	80	2
Average Direct and Indirect Feedback100%															81.60	2.82
Total Attainment In Scale																2.82

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics & Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale	Name of Student-Pushkraj Vernekar
Name of subject-Microcontrollers	

CO2 Interface various electronic components with microcontrollers.

			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (80%)			Internal Assessment (20%)					Feedback					
Sr No	Examination No	Name of the student	In Semister	Total	%	Assignment	Oral	Total	%	Total %	Student Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			30	30	100	10	10	20	100	100	5	5	5	100		
1	T191113001	AKARSH PODDAR	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
2	T191113002	ALISHA B SINGH	30	30	100	8	7	15	75	95	4	3.88	4	79	90	3
3	T191113003	AMRUTKAR SWATI DILIP	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
4	T191113004	CHOUBHARE YASH BALNATH	30	30	100	7	8	15	75	95	4	3.88	4	79	90	3
5	T191113005	DETHE HIMANSHU SHRIRAM	30	30	100	8	7	15	75	95	4	3.88	4	79	90	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
9	T191113009	JADHAV AMRUT BALAJI	30	30	100	8	9	17	85	97	4	3.88	4	79	92	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	30	30	100	8	9	17	85	97	4	3.88	4	79	92	3
11	T191113011	KAMBLE AKASH PRAKASH	30	30	100	9	8	17	85	97	4	3.88	4	79	92	3
12	T191113012	KARAN AHIRE	30	30	100	9	9	18	90	98	4	3.88	4	79	92	3
13	T191113013	KORPE RAJDEEP SANDEEP	30	30	100	9	8	17	85	97	4	3.88	4	79	92	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	30	30	100	7	8	15	75	95	4	3.88	4	79	90	3
15	T191113015	MORE ANIMESH AMBADAS	28	28	93.333	7	7	14	70	89	4	3.88	4	79	86	3
16	T191113016	PAWAR BHAVANA SANTOSH	30	30	100	6	7	13	65	93	4	3.88	4	79	89	3
17	T191113017	PUSHKARAJ VERNEKAR	30	30	100	9	9	18	90	98	4	3.88	4	79	92	3
18	T191113018	RAJ SUNIL NIKAM	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	30	30	100	7	8	15	75	95	4	3.88	4	79	90	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
21	T191113021	SONPAROTE VEDIKA UMESH	30	30	100	6	6	12	60	92	4	3.88	4	79	88	3
22	T191113022	WANKHEDE ANKIT SURESH	30	30	100	7	7	14	70	94	4	3.88	4	79	90	3
Average Direct and Indirect Feedback100%															86.02	2.86
Total Attainment In Scale																2.86

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics &Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale	Name of Student- Pushkraj Velnekar
Name of subject-Microcontrollers	

CO3	Analyze the features of PIC 18F XXXX.

			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (80%)			Internal Assessment (20%)					Feedback					
Sr No	Examination No	Name of the student	End Semister	Total	%	Assignment	Oral	Total	%	Total %	Student Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			70	70	100	10	10	20	100	100	5	5	5	100		
1	T191113001	AKARSH PODDAR	67	67	95.714	7	6	13	65	90	4	3.88	4	79	86	3
2	T191113002	ALISHA B SINGH	57	57	81.429	7	6	13	100	85	4	3.88	4	79	83	3
3	T191113003	AMRUTKAR SWATI DILIP	49	49	70	8	7	15	115	79	4	3.88	4	79	79	2
4	T191113004	CHOUBHARE YASH BALNATH	69	69	98.571	7	7	14	108	100	4	3.88	4	79	94	3
5	T191113005	DETHE HIMANSHU SHRIRAM	64	64	91.429	8	8	16	123	98	4	3.88	4	79	92	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	62	62	88.571	8	8	16	123	95	4	3.88	4	79	91	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	70	70	100	10	9	19	146	109	4	3.88	4	79	100	3
9	T191113009	JADHAV AMRUT BALAJI	67	67	95.714	8	8	16	123	101	4	3.88	4	79	95	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	57	57	81.429	8	7	15	115	88	4	3.88	4	79	86	3
11	T191113011	KAMBLE AKASH PRAKASH	59	59	84.286	9	8	17	131	94	4	3.88	4	79	89	3
12	T191113012	KARAN AHIRE	59	59	84.286	7	8	15	115	91	4	3.88	4	79	87	3
13	T191113013	KORPE RAJDEEP SANDEEP	67	67	95.714	7	7	14	108	98	4	3.88	4	79	92	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	65	65	92.857	9	8	17	131	100	4	3.88	4	79	94	3
15	T191113015	MORE ANIMESH AMBADAS	57	57	81.429	8	8	16	123	90	4	3.88	4	79	87	3
16	T191113016	PAWAR BHAVANA SANTOSH	63	63	90	8	8	16	123	97	4	3.88	4	79	91	3
17	T191113017	PUSHKARAJ VERNEKAR	69	69	98.571	9	8	17	131	105	4	3.88	4	79	97	3
18	T191113018	RAJ SUNIL NIKAM	67	67	95.714	9	9	18	138	104	4	3.88	4	79	97	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	62	62	88.571	6	7	13	100	91	4	3.88	4	79	87	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	57	57	81.429	6	6	12	92	84	4	3.88	4	79	82	3
21	T191113021	SONPAROTE VEDIKA UMESH	53	53	75.714	7	8	15	115	84	4	3.88	4	79	82	3
22	T191113022	WANKHEDE ANKIT SURESH	59	59	84.286	7	7	14	108	89	4	3.88	4	79	86	3
Average Direct and Indirect Feedback100%															85	3
Total Attainment In Scale																3

Bharati Vidyapeeth's College of Engineering Lavale.

Department of Electronics & Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale		Name of Student- Pushkraj Velnekar
Name of subject-Microcontrollers		
CO4	Describe the programming details in peripheral support.	

			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (60%)			Internal Assessment (40%)					Feedback					
Sr No	Examination No	Name of the student	End Semister	Total	%	Assignment	Oral	Total	%	Total %	Student Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			70	70	100	10	10	20	100	100	5	5	5	100	100	
1	T191113001	AKARSH PODDAR	67	67	95.714	6	7	13	65	90	4	3.88	4	79	86	3
2	T191113002	ALISHA B SINGH	57	57	81.429	9	8	17	85	82	4	3.88	4	79	81.3	3
3	T191113003	AMRUTKAR SWATI DILIP	49	49	70	7	7	14	70	70	4	3.88	4	79	73	2
4	T191113004	CHOUBHARE YASH BALNATH	69	69	98.571	9	7	16	80	95	4	3.88	4	79	90	3
5	T191113005	DETHE HIMANSHU SHRIRAM	64	64	91.429	7	7	14	70	87	4	3.88	4	79	85	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	62	62	88.571	9	8	17	85	88	4	3.88	4	79	85	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	70	70	100	10	9	19	95	99	4	3.88	4	79	93	3
9	T191113009	JADHAV AMRUT BALAJI	67	67	95.714	8	8	16	80	93	4	3.88	4	79	89	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	57	57	81.429	7	6	13	65	78	4	3.88	4	79	78	2
11	T191113011	KAMBLE AKASH PRAKASH	59	59	84.286	9	9	18	90	85	4	3.88	4	79	84	3
12	T191113012	KARAN AHIRE	59	59	84.286	8	7	15	75	82	4	3.88	4	79	81	3
13	T191113013	KORPE RAJDEEP SANDEEP	67	67	95.714	7	7	14	70	91	4	3.88	4	79	87	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	65	65	92.857	6	5	11	55	85	4	3.88	4	79	83	3
15	T191113015	MORE ANIMESH AMBADAS	57	57	81.429	8	8	16	80	81	4	3.88	4	79	81	3
16	T191113016	PAWAR BHAVANA SANTOSH	63	63	90	8	6	14	70	86	4	3.88	4	79	84	3
17	T191113017	PUSHKARAJ VERNEKAR	69	69	98.571	9	8	17	85	96	4	3.88	4	79	91	3
18	T191113018	RAJ SUNIL NIKAM	67	67	95.714	8	9	17	85	94	4	3.88	4	79	89	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	62	62	88.571	7	8	15	75	86	4	3.88	4	79	84	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	57	57	81.429	8	6	14	70	79	4	3.88	4	79	79	2
21	T191113021	SONPAROTE VEDIKA UMESH	53	53	75.714	7	7	14	70	75	4	3.88	4	79	76	2
22	T191113022	WANKHEDE ANKIT SURESH	59	59	84.286	7	6	13	65	80	4	3.88	4	79	80	3
Average Direct and Indirect Feedback100%															79.79	2.67
Total Attainment In Scale																2.67

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics &Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale	Name of Student- Pushkraj Velnekar
Name of subject-Microcontrollers	

CO5	Develop interfacing models according to applications.

			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (80%)			Internal Assessment (20%)					Feedback					
Sr No	Examination No	Name of the student	End Semester	Total	%	Assignment	Oral	Total	%	Total %	Student Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			70	70	100	10	10	20	100	100	5	5	5			
1	T191113001	AKARSH PODDAR	67	67	95.714	7	6	13	65	90	4	3.88	4	100	93	3
2	T191113002	ALISHA B SINGH	57	57	81.429	7	6	13	65	78	4	3.88	4	79	78	2
3	T191113003	AMRUTKAR SWATI DILIP	49	49	70	7	7	14	70	70	4	3.88	4	79	73	2
4	T191113004	CHOUBHARE YASH BALNATH	69	69	98.571	9	8	17	85	96	4	3.88	4	79	91	3
5	T191113005	DETHE HIMANSHU SHRIRAM	64	64	91.429	9	8	17	85	90	4	3.88	4	79	87	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0	0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	62	62	88.571	8	9	17	85	88	4	3.88	4	79	85	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	70	70	100	10	9	19	95	99	4	3.88	4	79	93	3
9	T191113009	JADHAV AMRUT BALAJI	67	67	95.714	8	9	17	85	94	4	3.88	4	79	89	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	57	57	81.429	8	7	15	75	80	4	3.88	4	79	80	2
11	T191113011	KAMBLE AKASH PRAKASH	59	59	84.286	9	9	18	90	85	4	3.88	4	79	84	3
12	T191113012	KARAN AHIRE	59	59	84.286	7	8	15	75	82	4	3.88	4	79	81	3
13	T191113013	KORPE RAJDEEP SANDEEP	67	67	95.714	7	7	14	70	91	4	3.88	4	79	87	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	65	65	92.857	9	8	17	85	91	4	3.88	4	79	88	3
15	T191113015	MORE ANIMESH AMBADAS	57	57	81.429	8	9	17	85	82	4	3.88	4	79	81	3
16	T191113016	PAWAR BHAVANA SANTOSH	63	63	90	8	8	16	80	88	4	3.88	4	79	85	3
17	T191113017	PUSHKARAJ VERNEKAR	69	69	98.571	9	8	17	85	96	4	3.88	4	79	91	3
18	T191113018	RAJ SUNIL NIKAM	67	67	95.714	9	9	18	90	95	4	3.88	4	79	90	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	62	62	88.571	7	8	15	75	86	4	3.88	4	79	84	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	57	57	81.429	7	6	13	65	78	4	3.88	4	79	78	2
21	T191113021	SONPAROTE VEDIKA UMESH	53	53	75.714	7	8	15	75	76	4	3.88	4	79	77	2
22	T191113022	WANKHEDE ANKIT SURESH	59	59	84.286	7	7	14	70	81	4	3.88	4	79	81	3
Average Direct and Indirect Feedback100%															80.16	2.6
Total Attainment In Scale																2.6

Bharati Vidyapeeth's College of Engineering Lavale.
Department of Electronics & Telecommunication Engineering

Name of Course Coordinator- Prof. Swati G. Gawhale			Name of Student- Pushkraj Velnekar													
Name of subject-Microcontrollers																
CO6	Evaluate the serial communication details and interfaces															
			Direct Attainment (70%)								Indirect Attainment (30%)					
			University Assessment (80%)			Internal Assessment (20%)					Feedback					
Sr No	Examination No	Name of the student	End Semister	Total	%	Assignment	Oral	Total	%	Total %	Student Feedback	Parent Feedback	Peer Feedback	Total %	CO ATTAINMENT	Converted into Scale
			70	70	100	10	10	20	100	100.00	5	5	5	100	100	
1	T191113001	AKARSH PODDAR	67	67	95.714	7	6	13	65	89.57	3.6	3.88	4	76.5333	85.66	3
2	T191113002	ALISHA B SINGH	57	57	81.429	10	9	19	95	84.14	3.6	3.88	4	76.5333	81.86	3
3	T191113003	AMRUTKAR SWATI DILIP	49	49	70	7	7	14	70	70.00	3.6	3.88	4	76.5333	71.96	2
4	T191113004	CHOUBHARE YASH BALNATH	69	69	98.571	7	7	14	70	92.86	3.6	3.88	4	76.5333	87.96	3
5	T191113005	DETHE HIMANSHU SHRIRAM	64	64	91.429	8	8	16	80	89.14	3.6	3.88	4	76.5333	85.36	3
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0.00	0.0	0.00	0	0	0	0
7	T191113007	GAUPAL ARYAN PRASHANT	62	62	88.571	8	8	16	80	86.86	3.6	3.88	4	76.5333	83.76	3
8	T191113008	GUDADHE JANHAVI YUVRAJ	70	70	100	9	8	17	85	97.00	3.6	3.88	4	76.5333	90.86	3
9	T191113009	JADHAV AMRUT BALAJI	67	67	95.714	8	8	16	80	92.57	3.6	3.88	4	76.5333	87.76	3
10	T191113010	KAKADE SHUBHANGI RAJENDRA	57	57	81.429	7	7	14	70	79.14	3.6	3.88	4	76.5333	78.36	2
11	T191113011	KAMBLE AKASH PRAKASH	59	59	84.286	9	8	17	85	84.43	3.6	3.88	4	76.5333	82.06	3
12	T191113012	KARAN AHIRE	59	59	84.286	7	8	15	75	82.43	3.6	3.88	4	76.5333	80.66	3
13	T191113013	KORPE RAJDEEP SANDEEP	67	67	95.714	7	7	14	70	90.57	3.6	3.88	4	76.5333	86.36	3
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	65	65	92.857	9	8	17	85	91.29	3.6	3.88	4	76.5333	86.86	3
15	T191113015	MORE ANIMESH AMBADAS	57	57	81.429	8	7	15	75	80.14	3.6	3.88	4	76.5333	79.06	2
16	T191113016	PAWAR BHAVANA SANTOSH	63	63	90	8	6	14	70	86.00	3.6	3.88	4	76.5333	83.16	3
17	T191113017	PUSHKARAJ VERNEKAR	69	69	98.571	9	8	17	85	95.86	3.6	3.88	4	76.5333	90.06	3
18	T191113018	RAJ SUNIL NIKAM	67	67	95.714	8	7	15	75	91.57	3.6	3.88	4	76.5333	87.06	3
19	T191113019	SHARMA UJJWAL RAMAVATAR	62	62	88.571	7	7	14	70	84.86	3.6	3.88	4	76.5333	82.36	3
20	T191113020	SHINDE RUPALI PRABHAKARRAO	57	57	81.429	8	6	14	70	79.14	3.6	3.88	4	76.5333	78.36	2
21	T191113021	SONPAROTE VEDIKA UMESH	53	53	75.714	7	8	15	75	75.57	3.6	3.88	4	76.5333	75.86	2
22	T191113022	WANKHEDE ANKIT SURESH	59	59	84.286	8	7	15	75	82.43	3.6	3.88	4	76.5333	80.66	3
Average Direct and Indirect Feedback100%															79.07	2.62
Total Attainment In Scale																2.62

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Dept. of Electronics & Telecommunication Engineering
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Bharati Vidyapeeth's College of Engineering, Lavale
Department of Electronics &Telecommunication Engineering
Subject - Microcontrollers
Results and Discussion

CO	Course outcomes	Attainment in %	Scale	Target	Achieved
CO1	Understand the fundamentals of microcontroller and programming.	81.60	2.82	2.4	Yes
CO2	Interface various electronic components with microcontrollers.	86.02	2.86	2.4	Yes
CO3	Analyze the features of PIC 18F XXXX.	85.41	2.82	2.4	Yes
CO4	Describe the programming details in peripheral support.	79.70	2.67	2.4	Yes
CO5	Develop interfacing models according to applications.	80.16	2.64	2.4	Yes
CO6	Evaluate the serial communication details and interfaces	79.07	2.62	2.4	Yes
	Average	81.99	2.74	2.4	Yes

SR.NO	Analysis
1	The average attainment of the subject of Microcontrollers is more than the Targeted Value 2.4
2	
3	
4	

CO	Proposed Steps
CO-1	
CO-2	
CO-3	
CO-4	
CO-5	
CO-6	

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Bharati Vidyapeeth's College of Engineering, Lavale
Department of Electronics &Telecommunication Engineering
Subject - Microcontrollers

Result analysis Sheet of Assignment

Sr. No.	Examination No.	Name of the student	CO1	CO2	CO3	CO4	CO5	CO6	TOTAL	%
1	T191113001	AKARSH PODDAR	7	7	7	6	7	7	41	68.33
2	T191113002	ALISHA B SINGH	7	8	8	9	7	10	49	81.67
3	T191113003	AMRUTKAR SWATI DILIP	7	7	7	7	7	7	42	70.00
4	T191113004	CHOUBHARE YASH BALNATH	8	7	8	9	9	7	48	80.00
5	T191113005	DETHE HIMANSHU SHRIRAM	7	8	7	7	9	8	46	76.67
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0.00
7	T191113007	GAUPAL ARYAN PRASHANT	9	7	10	9	8	8	51	85.00
8	T191113008	GUDADHE JANHAVI YUVRAJ	9	7	8	10	10	9	53	88.33
9	T191113009	JADHAV AMRUT BALAJI	8	8	8	8	8	8	48	80.00
10	T191113010	KAKADE SHUBHANGI RAJENDRA	7	8	9	7	8	7	46	76.67
11	T191113011	KAMBLE AKASH PRAKASH	9	9	7	9	9	9	52	86.67
12	T191113012	KARAN AHIRE	9	9	7	8	7	7	47	78.33
13	T191113013	KORPE RAJDEEP SANDEEP	9	9	9	7	7	7	48	80.00
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	8	7	8	6	9	9	47	78.33
15	T191113015	MORE ANIMESH AMBADAS	8	7	8	8	8	8	47	78.33
16	T191113016	PAWAR BHAVANA SANTOSH	7	6	9	8	8	8	46	76.67
17	T191113017	PUSHKARAJ VERNEKAR	10	9	9	9	9	9	55	91.67
18	T191113018	RAJ SUNIL NIKAM	7	7	6	8	9	8	45	75.00
19	T191113019	SHARMA UJJWAL RAMAVATAR	7	7	6	7	7	7	41	68.33
20	T191113020	SHINDE RUPALI PRABHAKARRAO	7	7	7	8	7	8	44	73.33
21	T191113021	SONPAROTE VEDIKA UMESH	6	6	7	7	7	7	40	66.67
22	T191113022	WANKHEDE ANKIT SURESH	6	7		7	7	8	35	58.33

Bharati Vidyapeeth's College of Engineering, Lavale
Department of Electronics &Telecommunication Engineering
Subject - Microcontrollers

Result analysis Sheet of Oral

Sr. No.	Examination No.	Name of the student	CO1	CO2	CO3	CO4	CO5	CO6	TOTAL	%
1	T191113001	AKARSH PODDAR	7	7	6	7	6	6	39	65.00
2	T191113002	ALISHA B SINGH	8	7	6	8	6	9	44	73.33
3	T191113003	AMRUTKAR SWATI DILIP	7	7	7	7	7	7	42	70.00
4	T191113004	CHOUBHARE YASH BALNATH	8	8	7	7	8	7	45	75.00
5	T191113005	DETHE HIMANSHU SHRIRAM	7	7	8	7	8	8	45	75.00
6	T191113006	GAIKWAD PRAJAKTA	0	0	0	0	0	0	0	0.00
7	T191113007	GAUPAL ARYAN PRASHANT	8	7	8	8	9	8	48	80.00
8	T191113008	GUDADHE JANHAVI YUVRAJ	9	7	9	9	9	8	51	85.00
9	T191113009	JADHAV AMRUT BALAJI	8	9	8	8	9	8	50	83.33
10	T191113010	KAKADE SHUBHANGI RAJENDRA	8	9	7	6	7	7	44	73.33
11	T191113011	KAMBLE AKASH PRAKASH	8	8	8	9	9	8	50	83.33
12	T191113012	KARAN AHIRE	9	9	8	7	8	8	49	81.67
13	T191113013	KORPE RAJDEEP SANDEEP	7	8	7	7	7	7	43	71.67
14	T191113014	MACHAPURE VYANKAT DHONDIRAM	7	8	8	5	8	8	44	73.33
15	T191113015	MORE ANIMESH AMBADAS	8	7	8	8	9	7	47	78.33
16	T191113016	PAWAR BHAVANA SANTOSH	8	7	8	6	8	6	43	71.67
17	T191113017	PUSHKARAJ VERNEKAR	9	9	8	8	8	8	50	83.33
18	T191113018	RAJ SUNIL NIKAM	6	7	9	9	9	7	47	78.33
19	T191113019	SHARMA UJJWAL RAMAVATAR	8	8	7	8	8	7	46	76.67
20	T191113020	SHINDE RUPALI PRABHAKARRAO	7	7	6	6	6	6	38	63.33
21	T191113021	SONPAROTE VEDIKA UMESH	7	6	8	7	8	8	44	73.33
22	T191113022	WANKHEDE ANKIT SURESH	6	7	7	6	7	7	40	66.67

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Lavale, Pune - 412 115

	Bharati Vidyapeeth's College of Engineering Lavale Pune **Department of Computer Engineering**
Course Name	Database Management Systems
Course Code	310242
Semester	V
Class	TE Computer
Batch	2018-2019
Total Number of students	71
Course Objectives	
Objective 1	To understand the fundamental concepts of database management. These concepts include aspects of database design, database languages, and database-system implementation
Objective 2	To provide a strong formal foundation in database concepts, technology and practice
Objective 3	To give systematic database design approaches covering conceptual design, logical design and an overview of physical design
Objective 4	Be familiar with the basic issues of transaction processing and concurrency control
Objective 5	To learn and understand various Database Architectures and Applications
Objective 6	To learn a powerful, flexible and scalable general-purpose database to handle big data
Course Outcomes	
310242.1	Design E-R Model for given requirements and convert the same into database tables
310242.2	Use database techniques such as SQL & PL/SQL
310242.3	Use modern database techniques such as NOSQL
310242.4	Explain transaction Management in relational database System
310242.5	Describe different database architecture and analyses the use of appropriate architecture in real time environment
310242.6	Students will be able to use advanced database Programming concepts Big Data – HADOOP
Program Specific Outcomes(PSOs)	
PSO1	**Professional Skills**-The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying.
PSO2	**Problem-Solving Skills**- The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.

PSO3	**Successful Career and Entrepreneurship-** The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur and a zest for higher studies.

Program Outcomes(POs)		
PO.1	Engineering Knowledge	To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis and mathematical modeling to the solution of complex engineering problems.
PO.2	Problem Analysis	To analyze the problem by finding its domain and applying domain specific skills.
PO.3	Design/ Development of Solutions	To understand the design issues of the product/software and develop effective solutions with appropriate consideration for public health and safety, cultural, societal, and environmental issues.
PO.4	Conduct	To find solutions of complex problems by conducting investigations applying suitable techniques.
PO.5	Modern Tool Usage	To adapt the usage of modern tools and recent software.
PO.6	The Engineer and Society	To contribute towards the society by understanding the impact of Engineering on global aspect.
PO.7	Environment & Sustainability	To understand environment issues and design a sustainable system.
PO.8	Ethics	To understand and follow professional ethics.
PO.9	Individual and Team Work	To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
PO.10	Communication	To demonstrate effective communication at various levels.
PO.11	Project Management and Finance	To apply the knowledge of Computer Engineering for development of projects, and its finance and management.
PO.12	Life - long Learning	To keep in touch with current technologies and inculcate the practice of lifelong learning.

CO-PO Mapping and CO-PSO Mapping

Course Outcomes	Program Outcomes(PO's)												Program Specific Outcomes (PSO's)		
	PO.1	PO.2	PO.3	PO.4	PO.5	PO.6	PO.7	PO.8	PO.9	PO.10	PO.11	PO.12	PSO1	PSO2	PSO3
310242.1	3	-	3	2	2	-	-	-	-	-	1	-	3	2	-
310242.2	2	-	-	3	2	-	-	-	-	-	2	-	3	3	1
310242.3	1	1	-	1	3	-	-	-	-	-	1	-	3	2	-

310242.4	1	-	1	-	1	1	-	-	-	-	-	1	2	1	-
310242.5	2	1	1	-	2	-	-	-	-	-	-	-	1	2	-
310242.6	2	2	1	1	3	-	-	-	-	-	1	-	3	2	3
Weighted Average	1.83	1.33	1.50	1.75	2.17	1.00	0.00	0.00	0.00	0.00	1.25	1.00	2.50	2.17	2.33
Final Value for Mapping	**2.00**	**2.00**	**2.00**	**2.00**	**3.00**	**1.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.00**	**1.00**	**3.00**	**3.00**	**3.00**

Course Outcomes	Knowledge Level (Bloom's Level)
310242.1	L-3 (Apply)
310242.2	L-3 (Apply)
310242.3	L-3 (Apply)
310242.4	L-II (Understand)
310242.5	L-4 (Analyze)
310242.6	L-3 (Apply)



Bharati Vidyapeeth's College of Engineering Lavale Pune

Department of Computer Engineering

Unit wise mapping

Course Outcomes	Unit No. 1	Unit No. 2	Unit No. 3	Unit No. 4	Unit No. 5	Unit No. 6
310242.1	1					
310242.2		1				
310242.3						
310242.4						1
310242.5				1		
310242.6					1	
						1

Direct method mapping

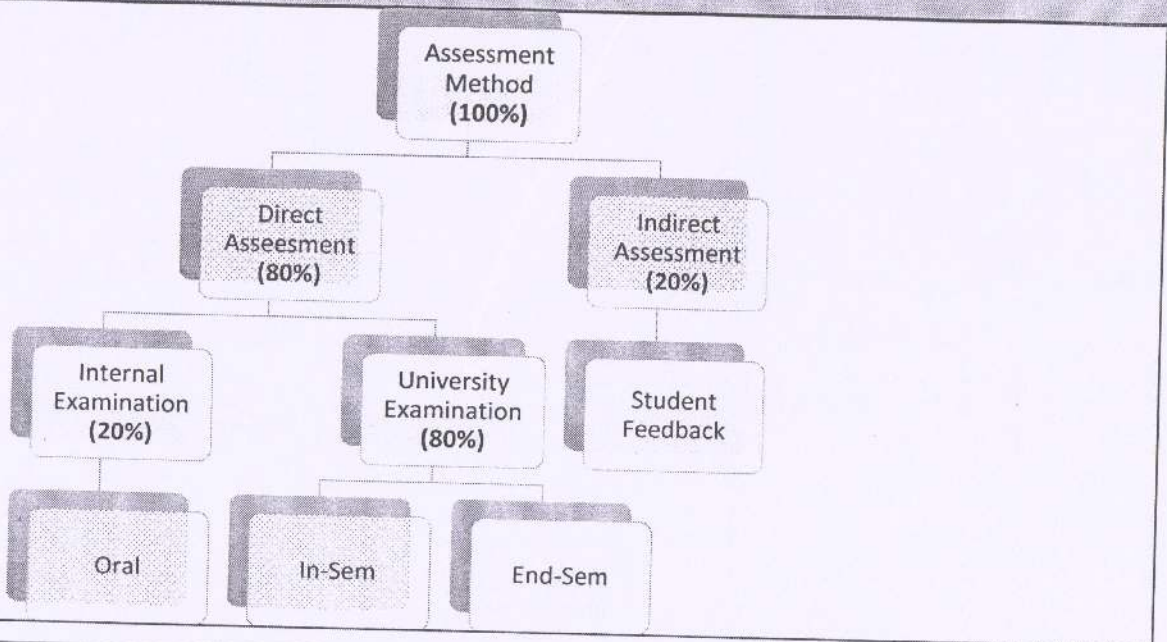
Course Outcomes	Univeristy Assessment		Internal Assessment	
	In-Sem Exam	Endsem Exam	Oral Exam	
			O1	O2
310242.1	1	1	1	
310242.2	1	1	1	
310242.3		1	1	
310242.4		1		1
310242.5		1		1
310242.6		1		1

Indirect method mapping

Course Outcomes	Course Feedback by Student					
	Q1	Q2	Q3	Q4	Q5	Q6
310242.1	1					
310242.2		1				
310242.3			1			
310242.4				1		
310242.5					1	
310242.6						1

Formulae Used	
310242.1	{[[((In-Sem Exam+Endsem Exam)/100)*100)*0.8+((Oral Exam O1/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}
310242.2	{[[((In-Sem Exam+Endsem Exam)/100)*100)*0.8+((Oral Exam O1/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}
310242.3	{[[((Endsem Exam)/100)*100)*0.8+((Oral Exam O1/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}
310242.4	{[((Endsem Exam/50)*100)*0.8+((Oral Exam O2/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}
310242.5	{[((Endsem Exam/50)*100)*0.8+((Oral Exam O2/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}
310242.6	{[((Endsem Exam/50)*100)*0.8+((Oral Exam O2/10)*100)*0.2]*0.8} + {[(Course Feedback/5)*100]*0.2}

Graphical Representation



Direct Assessment contributes 80% and Indirect Assessment contributes 20% in overall CO attainment.

University Assessment contributes 80% and Internal Assessment contributes 20% in Direct CO attainment.

Course Outcome is evaluated using various evaluation tools, based on the performance of students in University Assessment & Internal Assessment and Feedbacks.

Target Attainment Level: The level is taken on the scale of 3.

Level 3	If the 60% of students scoring >= 60% marks
Level 2	If the 60% of students scoring >= 50% marks
Level 1	If the 60% of students scoring >= 40% marks

Justification

Direct Method (Internal Assessment)

PRN	Name of the student	CO1 Score Obtained 10 Oral 1	CO2 Score Obtained 10 Oral 1	CO3 Score Obtained 10 Oral 1	CO4 Score Obtained 10 Oral 2	CO5 Score Obtained 10 Oral 2	CO6 Score Obtained 10 Oral 2
71806263K	BABHALE ONKAR MANOHAR	4	3	8	4	7	9
71806439K	RIYA MAKADE	8	8	6	6	5	4
71806444F	RUTUJA HIWASE	8	3	10	8	5	9
71923038B	ADHAV PRASHANT ASHOK	3	4	5	5	5	9
71923040D	AHMAD MOHD SAFFA .	4	5	10	3	8	7
71923044G	ASMITA ORSE	6	9	8	9	5	3
71923045E	AVINASH SHUKLA	6	4	4	5	9	8
71923049H	BHAVSAR SHUBHAM C.	10	3	5	8	9	8
71923056L	CHANDRAMANI PANDEY	10	6	3	8	6	6
71923070F	HARSH SHRIVASTAV	7	10	3	4	6	4
71923071D	HARSHIT PANSE	3	6	6	5	10	5
71923072B	HRITIKA SRIVASTAVA	3	10	4	3	4	9
71923073L	HUZAIF UMARSHARIF MUJAWAR	6	6	4	6	5	10
71923078M	JAMADAR NIKITA AMOGSIDDH	7	10	8	10	7	9
71923086B	KOLEKAR GAURI BABURAO	3	5	4	6	5	4
71923088J	CHOUDHARI MANALI S.	6	7	7	10	9	9
71923090L	MANE ROHIT SURESH	7	3	4	10	9	9
71923091J	MARGAJE VAIBHAV SOPAN	7	9	7	5	7	10
71923092G	MASKE SANSKAR RAMBHAU	5	4	7	9	10	6
71923094C	MENGADE RUSHIKESH G.	10	8	7	3	9	9
71923098F	MULLA SHAHEEN MEHABOOB	8	7	3	8	8	5
71923100M	NAIK MADHURA SUDESH	5	3	6	9	3	4
71923109E	PATIL ABHISHEK HANUMANT	8	10	8	5	10	10
71923110J	PATIL BHAGYASHRI RAJESH	6	9	7	3	5	7
71923114M	PEEYOOSH CHAUHAN	8	10	7	7	9	9
71923115K	POINWAR SANKALP RAJENDRA	10	9	4	10	6	10
71923116H	PRAFUL KATARE	3	9	4	3	6	10
71923117F	PRIYANSHU SINGH	8	9	7	7	8	9
71923121D	SADAWARTI GAURAV ISHWAR	8	8	7	3	6	6
71923127C	SHRAVANI TONGE	7	10	9	10	5	9
71923135D	SURYAWANSHI NIKHIL SATISH	4	7	5	8	5	7
71923137L	THOMBARE RUSHIKESH B.	9	10	10	4	9	5
71923139G	TONPE NIHAL RAJSHEKHAR	5	10	5	6	10	5
71923141J	TUSHAR SHARMA	9	9	4	8	3	3
71923142G	SHINDE UTKARSH TULSIDAS	9	8	6	10	9	10
71923144c	VAIBHAV KAUSHIK	9	3	10	8	9	9
72011294L	ATHARVA ASHOK PANDE	5	6	7	5	8	4
72011295J	BACHHER JAYESH NARESH	8	10	9	10	5	9
72011296G	KAKADE TEJASHREE G.	3	3	9	9	6	8
72011297E	KALE SAKSHI SHRIHARI	10	7	3	9	10	3
72011298C	KALWALE RAJSHRI R.	4	9	3	3	10	6
72011300J	KUNAL SUNIL BHADANE	7	6	10	10	3	5
72011301G	MOGLE PRATIKSHA UTTAMRAO	6	9	3	3	4	10
72011302E	NALAWADE KEDAR RANDHEER	4	7	5	6	8	3
72011303C	NAVARKAR MAHESH SUNIL	10	7	8	6	8	8
72011304M	OMKAR SUNIL SONAWANE	9	5	6	3	6	7
72011305K	PATIL ASHWINI AVINASH	7	3	4	9	7	6
72011306H	PHALKE SHRADDHA GORAKH	10	5	4	6	10	5

72011307F	PISAL SHUBHAM SURESH	4	5	5	4	10	6
72011308D	PUJARI OMKAR HALLAPPA	10	7	4	5	6	4
72011309B	SANKET PRAKASH UDANSHIV	3	9	4	6	3	5
72011310F	SAURABH DHARWADKAR	3	10	5	4	6	3
72011311D	SHAH MEHERAN MUSHTAQUE A.	9	8	3	7	10	8
72011312B	SHINDE TRUPTI PRAKASH	3	4	10	8	9	4
72011313L	SHREYASH MOHAN BAGAL	6	6	7	7	8	10
72011314J	SUCHAK YASH DHARMESH	5	6	5	3	7	9
72011315G	THORAWASE PRANITA SUDESH	7	6	10	10	3	5
72011316E	VAIDYA DEVESH TUSHAR	6	9	3	3	4	10
72011317C	VASAIKAR AMISHA SANJAY	4	7	5	6	8	3
72011318M	WABALE SUPRIYA YASHAVANT	9	8	3	7	10	8
72011319K	YERME OMKAR BALAJI	7	6	10	10	3	5
71806261C	AYUSH CHATURVEDI	6	9	3	3	4	10
71727555J	BHILARE SANEEKAA JATIIEEN	4	7	5	6	8	3
71940634L	CHAVAN YASHWANT NITIN	10	7	8	6	8	8
71806299L	DHARAMCHAND PAWAR	9	5	6	3	6	7
71727665B	HARSHITA KAUSHIK	7	3	4	9	7	6
71806392K	NAIR PREEJA RAVI	10	5	4	6	10	5
71806419E	PEM TSHERING	4	5	5	4	10	6
71806425K	PRATEEK BAJPAI	3	9	4	3	6	10
71940653G	SURYAWANSHI SHUBHAM ANUP	8	9	7	7	8	9
71806492F	SWADESH KANTI ROY	8	8	7	3	6	6
Threshold Marks		6	6	6	6	6	6
Number of Students Attempted		71	71	71	71	71	71
Number of Students Secured > Threshold Marks		38	41	29	31	39	38
% of students > Threshold Marks		53.52	57.75	40.85	43.66	54.93	53.52
Attainment Level		2	2	1	1	2	2

Indirect Method(Feedback)

Sr.No.	PRN	Name of the student	Student Feedback					
			5	5	5	5	5	5
			Q1	Q2	Q3	Q4	Q5	Q6
1	71806263K	BABHALE ONKAR MANOHAR	3	3	4	3	4	3
2	71806439K	RIYA MAKADE	4	2	3	2	2	3
3	71806444F	RUTUJA HIWASE	3	4	3	5	2	5
4	71923038B	ADHAV PRASHANT ASHOK	4	3	2	4	4	2
5	71923040D	AHMAD MOHD SAFFA .	4	3	3	4	5	5
6	71923044G	ASMITA ORSE	5	3	3	5	4	2
7	71923045E	AVINASH SHUKLA	2	5	5	4	3	2
8	71923049H	BHAVSAR SHUBHAM C.	2	3	4	3	4	2
9	71923056L	CHANDRAMANI PANDEY	2	3	3	4	4	2
10	71923070F	HARSH SHRIVASTAV	5	5	2	4	2	5
11	71923071D	HARSHIT PANSE	4	3	4	3	4	4
12	71923072B	HRITIKA SRIVASTAVA	2	3	3	3	3	3
13	71923073L	HUZAIF UMARSHARIF MUJAWAR	5	5	3	5	4	4
14	71923078M	JAMADAR NIKITA AMOGSIDDH	2	3	4	4	2	5
15	71923086B	KOLEKAR GAURI BABURAO	4	5	2	3	2	5
16	71923088J	CHOUDHARI MANALI S.	2	2	4	4	3	3
17	71923090L	MANE ROHIT SURESH	4	5	3	3	3	4
18	71923091J	MARGAJE VAIBHAV SOPAN	5	3	3	5	5	4
19	71923092G	MASKE SANSKAR RAMBHAU	5	4	4	5	4	4
20	71923094C	MENGADE RUSHIKESH G.	5	5	4	3	3	5
21	71923098F	MULLA SHAHEEN MEHABOOB	5	2	4	5	5	5
22	71923100M	NAIK MADHURA SUDESH	4	3	3	2	2	3
23	71923109E	PATIL ABHISHEK HANUMANT	4	5	4	3	3	3
24	71923110J	PATIL BHAGYASHRI RAJESH	3	5	3	3	5	4
25	71923114M	PEEYOOSH CHAUHAN	2	3	2	4	2	5
26	71923115K	POINWAR SANKALP RAJENDRA	5	2	3	4	4	5
27	71923116H	PRAFUL KATARE	4	3	4	3	4	5
28	71923117F	PRIYANSHU SINGH	3	2	2	4	2	2
29	71923121D	SADAWARTI GAURAV ISHWAR	5	5	2	3	4	3
30	71923127C	SHRAVANI TONGE	4	3	5	3	3	4
31	71923135D	SURYAWANSHI NIKHIL SATISH	5	5	3	4	4	5
32	71923137L	THOMBARE RUSHIKESH B.	3	4	2	2	3	4
33	71923139G	TONPE NIHAL RAJSHEKHAR	2	5	4	3	5	2
34	7192314IJ	TUSHAR SHARMA	2	3	3	4	5	3
35	71923142G	SHINDE UTKARSH TULSIDAS	5	2	5	3	2	5
36	71923144c	VAIBHAV KAUSHIK	2	4	3	5	3	2
37	72011294L	ATHARVA ASHOK PANDE	4	4	5	5	4	2
38	72011295J	BACHHER JAYESH NARESH	4	4	5	5	4	4
39	72011296G	KAKADE TEJASHREE G.	2	5	5	5	3	2
40	72011297E	KALE SAKSHI SHRIHARI	4	2	5	5	5	4
41	72011298C	KALWALE RAJSHRI R.	5	3	3	4	5	4
42	72011300J	KUNAL SUNIL BHADANE	3	3	4	4	4	4
43	72011301G	MOGLE PRATIKSHA UTTAMRAO	5	2	3	5	5	2
44	72011302E	NALAWADE KEDAR RANDHEER	3	5	2	2	2	5

45	72011303C	NAVARKAR MAHESH SUNIL	4	4	5	3	4	5
46	72011304M	OMKAR SUNIL SONAWANE	3	3	4	5	4	3
47	72011305K	PATIL ASHWINI AVINASH	2	5	5	3	3	2
48	72011306H	PHALKE SHRADDHA GORAKH	5	5	3	3	5	2
49	72011307F	PISAL SHUBHAM SURESH	5	5	3	4	5	3
50	72011308D	PUJARI OMKAR HALLAPPA	2	5	4	3	4	5
51	72011309B	SANKET PRAKASH UDANSHIV	5	2	4	2	3	5
52	72011310F	SAURABH DHARWADKAR	3	5	2	3	2	5
53	72011311D	SHAH MEHERAN MUSHTAQUE A.	3	5	2	3	2	4
54	72011312B	SHINDE TRUPTI PRAKASH	3	3	3	5	4	5
55	72011313L	SHREYASH MOHAN BAGAL	4	4	2	2	2	3
56	72011314J	SUCHAK YASH DHARMESH	3	2	5	2	4	5
57	72011315G	THORAWASE PRANITA SUDESH	5	2	4	5	5	5
58	72011316E	VAIDYA DEVESH TUSHAR	4	3	3	2	2	3
59	72011317C	VASAIKAR AMISHA SANJAY	4	5	4	3	3	3
60	72011318M	WABALE SUPRIYA YASHAVANT	3	5	2	3	2	4
61	72011319K	YERME OMKAR BALAJI	3	3	3	5	4	5
62	71806261C	AYUSH CHATURVEDI	4	4	2	2	2	3
63	71727555J	BHILARE SANEEKAA JATIIEEN	3	2	5	2	4	5
64	71940634L	CHAVAN YASHWANT NITIN	5	2	4	5	5	5
65	71806299L	DHARAMCHAND PAWAR	4	3	3	2	2	3
66	71727665B	HARSHITA KAUSHIK	3	5	3	3	5	4
67	71806392K	NAIR PREEJA RAVI	2	3	2	2	2	5
68	71806419E	PEM TSHERING	5	2	3	2	4	5
69	71806425K	PRATEEK BAJPAI	4	3	2	3	4	5
70	71940653G	SURYAWANSHI SHUBHAM ANUP	3	2	2	4	2	2
71	71806492F	SWADESH KANTI ROY	3	2	5	2	4	5
	Threshold Marks		3	3	3	3	3	3
	Number of Students Attempted		71	71	71	71	71	71
	Number of Students Secured > Threshold Marks		39	31	30	33	39	42
	% of students > Threshold Marks		54.93	43.66	42.25	46.48	54.93	59.15
	Attainment Level		2	1	1	1	2	2

Sample peer feedabck is taken and average of these is considered for all students

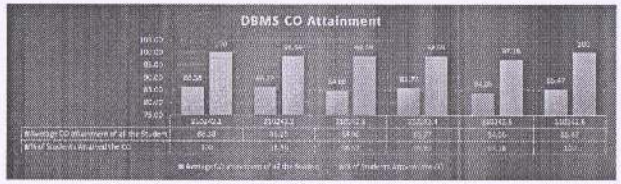
Direct Method (University Assessment)

PRN	Name of the student	CO1			CO2			CO3	CO4	CO5	CO6
		Score Obtained			Score			Score Obtained	Score Obtained	Score Obtained	Score Obtained
		30	70	100	30	70	100	70	70	70	70
		In Sem	End Sem	Total	In Sem	End Sem	Total	End Sem	End Sem	End Sem	End Sem
71806263K	BAIBHALE ONKAR MANOHAR	30	67	97	30	67	97	67	67	67	67
71806439K	RIYA MAKADE	30	70	100	30	70	100	70	70	70	70
71806444F	RUTUJA HIWASE	30	70	100	30	70	100	70	70	70	70
71923038B	ADHAV PRASHANT ASHOK	30	70	100	30	70	100	70	70	70	70
71923040D	AHMAD MOHD SAFFA	30	70	100	30	70	100	70	70	70	70
71923044G	ASMITA ORSE	28	64	92	28	64	92	64	64	64	64
71923045E	AVINASH SHUKLA	30	70	100	30	70	100	70	70	70	70
71923049H	BHAVSAR SHUBHAM C	30	66	96	30	66	96	66	66	66	66
71923056L	CHANDRAMANI PANDEY	30	70	100	30	70	100	70	70	70	70
71923070F	HARSH SHRIVASTAV	30	70	100	30	70	100	70	70	70	70
71923071D	HARSHIT PANSE	30	70	100	30	70	100	70	70	70	70
71923072B	HRITIKA SRIVASTAVA	30	70	100	30	70	100	70	70	70	70
71923073L	HUZAIF UMARSHARIF MUJAWAR	30	67	97	30	67	97	67	67	67	67
71923078M	JAMADAR NIKITA AMOGSIDDH	30	70	100	30	70	100	70	70	70	70
71923086B	KOLEKAR GAURI BABURAO	30	70	100	30	70	100	70	70	70	70
71923088J	CHOUDHARI MANALI S.	30	70	100	30	70	100	70	70	70	70
71923090L	MANE ROHIT SURESH	30	59	89	30	59	89	59	59	59	59
71923091J	MARGAJE VAIBHAV SOPAN	30	70	100	30	70	100	70	70	70	70
71923092G	MASKE SANSKAR RAMBHAU	29	69	98	29	69	98	69	69	69	69
71923094C	MENGADE RUSHIKESH G	30	66	96	30	66	96	66	66	66	66
71923098F	MULLA SHAHEEN MEHABOOB	30	70	100	30	70	100	70	70	70	70
71923100M	NAIK MADHURA SUDESH	30	62	92	30	62	92	62	62	62	62
71923109E	PATIL ABHISHEK HANUMANT	30	70	100	30	70	100	70	70	70	70
71923110J	PATIL BHAGYASHRI RAJESH	30	70	100	30	70	100	70	70	70	70
71923114M	PEEYOOSH CHAUHAN	29	43	72	29	43	72	43	43	43	43
71923115K	POINWAR SANKALP RAJENDRA	30	66	96	30	66	96	66	66	66	66
71923116H	PRAFUL KATARE	30	69	99	30	69	99	69	69	69	69
71923117F	PRIYANSHU SINGH	30	70	100	30	70	100	70	70	70	70
71923121D	SADAWARTI GAURAV ISHWAR	30	70	100	30	70	100	70	70	70	70
71923127C	SHRAVANI TONGE	30	70	100	30	70	100	70	70	70	70
71923135D	SURYAWANSHI NIKHIL SATISH	30	70	100	30	70	100	70	70	70	70
71923137L	THOMBARE RUSHIKESH B.	30	70	100	30	70	100	70	70	70	70
71923139G	TONPE NIHAL RAJSHEKHAR	30	64	94	30	64	94	64	64	64	64
71923141J	TUSHAR SHARMA	30	70	100	30	70	100	70	70	70	70
71923142G	SHINDE UTKARSH TULSIDAS	30	70	100	30	70	100	70	70	70	70
71923144c	VAIBHAV KAUSHIK	30	62	92	30	62	92	62	62	62	62
72011294L	ATHARVA ASHOK PANDE	30	66	96	30	66	96	66	66	66	66
72011295J	BACHHER JAYESH NARESH	27	59	86	27	59	86	59	59	59	59
72011296G	KAKADE TEJASHREE G.	30	63	93	30	63	93	63	63	63	63
72011297E	KALE SAKSHI SHRIHARI	30	70	100	30	70	100	70	70	70	70
72011298C	KALWALE RAJSHRI R	30	70	100	30	70	100	70	70	70	70
72011300J	KUNAL SUNIL BHADANE	30	70	100	30	70	100	70	70	70	70
72011301G	MOGLE PRATIKSHA UTTAMRAO	30	69	99	30	69	99	69	69	69	69
72011302E	NALAWADE KEDAR RANDHEER	30	67	97	30	67	97	67	67	67	67
72011303C	NAVARKAR MAHESH SUNIL	30	70	100	30	70	100	70	70	70	70
72011304M	OMKAR SUNIL SONAWANE	30	70	100	30	70	100	70	70	70	70
72011305K	PATIL ASHWINI AVINASH	30	70	100	30	70	100	70	70	70	70
72011306H	PHALKE SHRADDHA GORAKH	29	70	99	29	70	99	70	70	70	70
72011307F	PISAL SHUBHAM SURESH	30	59	89	30	59	89	59	59	59	59
72011308D	PUJARI OMKAR HALLAPPA	30	64	94	30	64	94	64	64	64	64
72011309B	SANKET PRAKASH UDANSHIV	24	70	94	24	70	94	70	70	70	70
72011310F	SAURABH DHARWADKAR	30	70	100	30	70	100	70	70	70	70
72011311D	SHAH MEHERAN MUSHTAQUE A.	25	63	88	25	63	88	63	63	63	63
72011312B	SHINDE TRUPTI PRAKASH	30	70	100	30	70	100	70	70	70	70
72011313L	SHREYASH MOHAN BAGAL	30	70	100	30	70	100	70	70	70	70
72011314J	SUCHAK YASH DHARMESH	30	70	100	30	70	100	70	70	70	70
72011315G	THORAWASE PRANITA SUDESH	30	48	78	30	48	78	48	48	48	48
72011316E	VAIDYA DEVESH TUSHAR	30	70	100	30	70	100	70	70	70	70
72011317C	VASAIKAR AMISHA SANJAY	30	70	100	30	70	100	70	70	70	70
72011318M	WABALE SUPRIYA YASHAVANT	30	70	100	30	70	100	70	70	70	70
72011319K	YERME OMKAR BALAJI	28	70	98	28	70	98	70	70	70	70
71806261C	AYUSH CHATURVEDI	30	60	90	30	60	90	60	60	60	60
71727555J	BHILARE SANEEKAA JATIBEEN	21	45	66	21	45	66	45	45	45	45
71940634L	CHAVAN YASHWANT NITIN	30	70	100	30	70	100	70	70	70	70
71806299L	DHARAMCHAND PAWAR	30	64	94	30	64	94	64	64	64	64
71727665B	HARSHITA KAUSHIK	30	70	100	30	70	100	70	70	70	70
71806392K	NAIR PREEJA RAVI	30	70	100	30	70	100	70	70	70	70
71806419E	PEM TSHERING	30	55	85	30	55	85	55	55	55	55
71806425K	PRATEEK BAJPAI	30	48	78	30	48	78	48	48	48	48
71940653G	SURYAWANSHI SHUBHAM ANUP	30	62	92	30	62	92	62	62	62	62
71806492F	SWADESH KANTI ROY	30	70	100	30	70	100	70	70	70	70
Threshold Marks		18	42		18	42		42	42	42	42
Number of Students Attempted		71	71		71	71		71	71	71	71
Number of Students Secured > Threshold Marks		71	71		71	71		71	71	71	71
% of students > Threshold Marks		100.00	100.00		100.00	100.00		100.00	100.00	100.00	100.00
Attainment Level		3	3		3	3		3	3	3	3

PRN	Name of the student	Direct Method-University Evaluation						Direct Method-Internal Evaluation						Indirect Method-Feedback						Attainment in Percentage						Target=60						Attainment Level					
		100	100	70	70	70	70	10	10	10	10	10	10	5	5	5	5	5	5																	
		CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6	CO 1	CO 2	CO 3	CO 4	CO 5	CO 6
710062638	HARHALE ONKAR MANOHAR	97	97	67	67	67	67	5	3	6	4	9	25	3	3	4	3	4	3	82.08	78.88	86.86	79.66	91.66	113.3	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
710064308	RIYA MAKADE	100	100	70	70	70	70	4	7	4	6	5	8	4	2	3	2	2	3	86.4	83.2	82.4	81.6	80	82.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
710064448	RUTUJA IBWASE	100	100	70	70	70	70	5	6	7	6	5	9	3	4	3	5	2	5	84	89.6	87.2	93.6	80	98.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230388	ADHAV PRASHANT ASHOK	100	100	70	70	70	70	6	4	7	7	5	9	4	3	2	4	4	2	89.6	82.4	83.2	91.2	88	86.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230400	AHMAD MOHD SAFFA	100	100	70	70	70	70	7	9	8	6	8	7	4	3	4	5	5	5	91.2	90.4	88.8	89.6	96.8	95.2	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230446	ASMITA GHSE	92	92	64	64	64	64	9	10	9	9	9	9	5	5	3	5	4	2	93.28	86.88	84.91	92.95	82.52	71.41	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230458	AVINASH SHUKLA	100	100	70	70	70	70	6	7	5	8	9	8	2	5	5	4	3	2	83.6	95.2	92	92.8	90.4	84.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230498	BHAVSAR SHUBHAM C	96	96	66	66	66	66	8	8	9	8	9	8	2	3	4	3	4	2	82.24	86.24	90.74	85.14	90.74	81.14	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230568	CHANDRAMANI PANDEY	100	100	70	70	70	70	8	7	9	8	6	6	2	3	3	4	4	2	84.8	87.2	90.4	92.8	89.6	81.6	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230708	HARSH SHRIVASTAV	100	100	70	70	70	70	6	6	5	8	6	4	5	5	2	4	2	5	93.6	93.6	80	92.8	81.6	90.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230710	HARSHIT PANSE	100	100	70	70	70	70	8	9	10	9	10	5	4	3	4	3	4	4	92.8	90.4	96	90.4	96	88	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230728	HRITIKA SRIVASTAVA	100	100	70	70	70	70	8	7	8	8	8	9	2	3	3	3	3	3	84.8	87.2	88.8	88.8	82.4	90.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230738	IRFZAIE UMARSHARIF MUJAWA	100	100	70	70	70	70	7	6	5	8	5	10	5	5	3	5	4	4	95.2	93.6	84	96.8	88	96	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230784	JAMADAR NIKITA AMOGSIDDH	97	97	67	67	67	67	7	6	6	8	7	9	2	3	4	4	2	5	81.28	83.68	86.86	90.06	80.46	95.06	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230868	KOLEKAR GAURI BABURAO	100	100	70	70	70	70	8	7	5	8	5	4	4	5	2	3	2	5	89.6	95.2	80	88.8	80	90.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230883	CHOUDHARI MANALI S	100	100	70	70	70	70	7	6	4	6	9	9	2	2	4	4	3	3	83.2	81.6	86.4	89.6	90.4	90.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230908	MANE ROHIT SURESH	89	89	59	59	59	59	8	9	7	8	9	9	4	5	3	3	3	4	85.76	91.36	77.14	78.74	80.84	84.34	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230911	MARGAJE VAIBHAV SOPAN	100	100	70	70	70	70	8	9	8	9	7	10	5	3	3	5	5	4	96.8	90.4	88.8	98.4	95.2	96	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230920	MASKE SANSKAR RAMBHAU	98	98	69	69	69	69	8	7	8	7	10	6	5	4	4	5	4	4	95.52	89.92	91.89	94.29	95.09	88.69	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230940	MENGADE RUSHIKESH G	96	96	66	66	66	66	7	6	6	8	9	9	5	5	4	3	3	5	92.64	91.04	85.94	85.14	86.74	94.74	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719230988	MULLA SHAHEEN MEHABOOB	100	100	70	70	70	70	6	7	5	8	8	5	5	2	4	5	5	5	93.6	83.2	88	96.8	96.8	92	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231065	NAIK MADHURA SUDESH	92	92	62	62	62	62	7	6	8	6	3	4	4	3	3	2	2	3	86.08	80.48	81.49	74.29	69.49	75.09	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231096	PATIL ABHISHEK HANUMANT	100	100	70	70	70	70	7	6	8	6	10	10	4	5	4	3	3	3	91.2	93.6	92.8	85.6	92	92	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231101	PATIL BHAGYASHRI RAJESH	100	100	70	70	70	70	5	3	6	7	5	7	3	5	3	3	5	4	84	88.8	85.6	87.2	94	91.2	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231140	PRAYOOSH CHAUHAN	72	72	43	43	43	43	4	7	4	6	9	9	2	3	2	4	2	5	60.48	69.28	53.71	64.91	61.71	73.71	Y	Y	N	Y	Y	Y	3	3	2	3	3	3
719231158	POKWAR SANSKALP RAJENDRA	96	96	66	66	66	66	6	7	5	8	6	10	5	2	3	4	4	5	91.04	80.64	80.34	89.14	85.94	96.34	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231168	PRAFUL KATARE	99	99	69	69	69	69	5	6	7	6	6	10	4	3	4	3	4	5	87.36	84.96	90.29	84.69	88.69	99.09	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231178	PRIYANSHU SINGH	100	100	70	70	70	70	6	4	7	4	8	9	3	2	3	4	2	2	85.6	78.4	83.2	86.4	84.8	86.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231210	SADAWARTI GAURAV ISHWAR	100	100	70	70	70	70	7	9	8	6	6	6	3	5	2	4	4	3	95.2	98.4	84.8	85.6	89.6	85.6	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231220	SHRAVANI TONDE	100	100	70	70	70	70	9	10	9	9	5	9	4	3	5	3	3	4	94.4	92	98.4	90.4	84	94.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231350	SURYAVANSHI NIKHIL SATISH	100	100	70	70	70	70	6	7	5	8	5	7	5	5	3	4	4	5	93.6	95.2	84	92.8	88	95.2	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231370	THOMBARE RUSHIKESH B	100	100	70	70	70	70	8	8	9	8	9	5	3	4	2	2	3	4	88.8	92.8	86.4	84.8	90.4	88	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231390	TONPE NIHAL RAJSHEKHAR	94	94	64	64	64	64	8	7	9	8	10	5	2	5	4	3	5	2	80.96	91.36	88.91	83.31	94.51	74.51	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231413	TUSHAR SHARMA	100	100	70	70	70	70	5	3	6	4	8	4	2	4	3	4	5	3	80	80.8	85.6	86.4	88.8	80.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231420	SHINDE UTKARSH TULSIDAS	100	100	70	70	70	70	4	6	4	6	9	10	5	2	5	3	2	5	90.4	81.6	90.4	85.6	86.4	100	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231446	VAIBHAV KAUSHIK	92	92	62	62	62	62	5	6	7	6	9	9	2	4	3	5	3	2	74.88	84.48	79.89	86.29	83.09	79.09	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231298	ATHARVA ASHOK PANDE	96	96	66	66	66	66	6	4	7	5	8	4	4	4	5	5	4	2	87.04	83.84	91.54	86.74	89.14	74.74	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231953	BACHHER JAYESH NARESH	86	86	59	59	59	59	7	9	8	7	5	9	4	4	5	5	4	4	82.24	85.44	86.74	85.14	77.94	84.34	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719232966	KAKADE TEJASHREE G	93	93	63	63	63	63	7	6	6	6	6	8	2	5	5	5	3	2	78.72	89.12	87.2	87.2	79.2	78.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231297	KALE SAKSHI SHRIHARI	100	100	70	70	70	70	5	7	6	4	10	3	4	2	5	5	5	4	88	83.7	93.6	90.4	100	84.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719232987	KALWALE RAJSHREE	100	100	70	70	70	70	7	7	7	6	10	6	5	3	3	5	5	4	95.2	87.2	87.2	89.6	100	89.6	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231491	KUNAL SUNIL BHADANE	100	100	70	70	70	70	6	7	5	8	7	5	3	3	4	4	4	4	85.6	87.2	88	92.8	84.8	88	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231010	MOGLE PRATIKSHA UTTAMRAO	99	99	69	69	69	69	6	7	7	5	8	4	10	5	2	1	5	5	2	97.96	82.56	83.09	95.49	89.49	87.09	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231026	NALAWADE KEDAR RANDHEER	97	97	67	67	67	67	7	6	6	8	6	8	3	5	2	2	2	5	85.28	91.68	78.86	82.06	82.06	86.06	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231030	NAVARKAR MAHESH SUNIL	100	100	70	70	70	70	6	7	5	8	8	8	4	4	5	3	4	5	89.6	91.2	92	88.8	92.8	96.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231045	OMKAR SUNIL SONAWANE	100	100	70	70	70	70	7	6	6	6	6	7	3	3	4	5	4	3	87.2	85.6	89.6	93.6	89.6	87.2	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231095	PATIL ASHWINI AVINASH	100	100	70	70	70	70	5	8	6	7	7	6	2	5	5	3	3	2	80	96.8	93.6	87.2	87.2	81.6	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231068	PISALE SHRADDHA GORAKH	99	99	70	70	70	70	7	8	4	6	10	5	5	5	4	4	5	2	94.56	96.16	82.4	85.6	100	80	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231078	PISAL SHUBHAM SURESH	89	89	59	59	59	59	5	6	7	6	10	6	5	5	3	4	5	3	84.96	86.56	77.14	79.54	89.94	75.54	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231088	PUJARI OMKAR MALLAPPA	94	94	64	64	64	64	5	6	7	7	5	4	2	5	4	3	4	5	77.76	89.76	85.71	81.71	84.11	84.91	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231098	SANKET PRAKASH UDANSHIV	94	94	70	70	70	70	7	9	8	6	3	5	5	2	4	2	3	5	91.36	82.56	92.8	83.6	80.8	92	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231108	SAURABH DHARWADKAR	100	100	70	70	70	70	5	6	6	4	6	3	3	5	2	3	2	5	84	93.6	81.6	82.4	81.6	88.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231118	SHAIKHMEHERAN MUSHTAQUE	88	88	63	63	63	63	8	6	5	6	10	8	3	5	2	3	2	4	81.12	85.92	73.6	79.2	81.6	86.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231128	SHINDE TRUPTI PRAKASH	100	100	70	70	70	70	5	6	7	6	9	4	3	3	3	5	4	5	84	85.6	87.2	93.6	90.4	90.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231138	SHREYASH MOHAN BAGAL	100	100	70	70	70	70	6	4	7	8	8	10	4	4	2	2	2	1	89.6	86.4	83.2	84.8	84.8	92	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231143	SUCHAK YASH HARIMESH	100	100	70	70	70	70	8	8	8	9	7	9	3	2	5	2	4	5	88.8	84.8	96.8	86.4	91.2	98.4	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231150	THORAWASE PRANITA SUDESH	78	78	48	48	48	48	7	6	6	8	8	5	5	2	4	5	5	5	81.12	67.52	69.49	76.69	68.69	71.89	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231169	VAIDYA DEVESH TUSHAR	100	100	70	70	70	70	6	7	5	8	4	10	4	3	3	3	2	4	89.6	87.2	86	84.8	76.4	92	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231270	VASAIKAR AMISHA SANJAY	100	100	70	70	70	70	7	6	4	6	8	3	4	5	4	3	3	3	91.2	93.6	86.4	83.6	88.4	80.8	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231180	WABALE SUPRIYA YASHAVANT	100	100	70	70	70	70	5	6	6	7	9	7	2	3	2	3	2	4	84	93.6	81.6	87.2	72	80	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719231190	YERME OMKAR BALAJI	98	98	70	70	70	70	4	6	8	6	0	0	3	3	3	5	4	5	87.52	84.32	88.8	93.6	80	84	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
719062610	AYUSH CHAUDHARI	90	90	60	60	60	60	5	6	7	6	0	0	4	4	2	2	2	3	81.6	83.2	74.06	72.46	62.86	66.86	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
717775553	BHILARE SANDEKAA JATIBEN	66	66	45	45	45	45	6	4	7	6	0	0	3	2	5	2	4	5	62.84	56.64	72.34	58.74	57.14	68.14	Y	N	Y	N	N	Y	3	2	3	2	2	3
719406348	CHAVAN YASHWANT NITIN	100	100	70	70	70	70	7	9	8	6	0	0	5	2	4	5	5	5	95.2	86.4	92.8	93.6	84	84	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
718662901	DHARAMCHAND PAWAR	94	94	64	64	64	64	7	8	8	7	0	0	4	3	3	2	2	3	87.36	81.76	80.11	77.71	66.51	70.51	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
717766658	HARSHITA KALASHR	100	100	70	70	70	70	6	6	7	7	0	0	3	5	3	3	5	4	85.6	93.6	87.2	87.2	84	80	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
718663926	NAIK PREETA RAVI	200	100	70	70	70	70	7	9	8	6	0	0	2	3	2	2	2	5	83.2	90.4	84.8	81.6	72	84	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
718664108	PEM TSHERING	85	85	55	55	55	55	5	6	6	4	0	0	5	2	3	2	4	5	82.4	72	71.89	74.09	66.29	70.29	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
718664258	PRATIK DAIPAY	78	78	48	48	48	48	9	8	9	6	0	0	4	3	3	3	4	5	80.32	74.72	66.29	65.49	59.89	63.89	Y	Y	Y	Y	N	Y	3	3	3	3	2	3
719406550	SURYAVANSHI SHUBHAM	92	92	62	62	62	62	6	7	8	8	0	0	4	2	2	4	2	2	80.48	78.08	77.49	85.49	64.69	64.69	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
718664928	SWADESH KASTUROY	100	100	70	70	70	70	7	6	8	7	0	0	3	2	5	2	4	5	87.2	81.6	96.8	83.2	80	84	Y	Y	Y	Y	Y	Y	3	3	3	3	3	3
																				86.48	86.3	85	85.8	84.1	85.5	71	73	70	78	68	71	3	3.00	2.99	2.99	2.99	3

Analysis for Class	
Bharati Vidyapeeth's College of Engineering Lavale Pune	
Course Name	Database Management Systems
Course Code	310242
Semester	V
Class	TE Computer
Batch	2018-19
Total Student	71

Course Outcomes	Average CO attainment of all the Student	No of Student Achieve Target	% of Students Attained the CO	Average CO attainment of all the Students in Level	Attained or Not
310242.1	86.38	71	100	3.00	Y
310242.2	86.25	70	98.59	2.99	Y
310242.3	84.96	70	98.59	2.99	Y
310242.4	85.77	70	98.59	2.99	Y
310242.5	84.06	69	97.18	2.97	Y
310242.6	85.47	71	100	3.00	Y



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- BE EL-III 2019 PAT PC
- Blockchain Technology
- Design and Analysis of Algorithm
- Elective III
- Elective IV
- Laboratory Practice III
- Laboratory Practice IV
- Machine Learning
- Project Stage I

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- Audit Course 8
- Deep Learning
- Elective V
- Elective VI
- HPC - 2019 PAT
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- Honours Course 1
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Bharati Vidyapeeth's College Of Engineering, Lavale,Pune.

Savitribai Phule Pune University (SPPU)
Fourth Year of Computer Engineering (2019 Course)

410246: Laboratory Practice III

Subject Teacher: - Dr. Prof. Uday C. Patkar

Term work: 50 Marks
Practical: 50 Marks
Design and Analysis of Algorithms (410241)
Machine Learning(410242)
Blockchain Technology(410243)

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Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group A

Assignment No: 1

Title of the Assignment: Write a program non-recursive and recursive program to calculate Fibonacci numbers and analyze their time and space complexity.

Objective of the Assignment: Students should be able to perform non-recursive and recursive programs to calculate Fibonacci numbers and analyze their time and space complexity.

Prerequisite:

1. Basic of Python or Java Programming
2. Concept of Recursive and Non-recursive functions
3. Execution flow of calculate Fibonacci numbers
4. Basic of Time and Space complexity

Contents for Theory:

1. **Introduction to Fibonacci numbers**
2. **Time and Space complexity**

Introduction to Fibonacci numbers

- The Fibonacci series, named after Italian mathematician Leonardo Pisano Bogollo, later known as Fibonacci, is a series (sum) formed by Fibonacci numbers denoted as Fn. The numbers in Fibonacci sequence are given as: 0, 1, 1, 2, 3, 5, 8, 13, 21, 38, . . .
- In a Fibonacci series, every term is the sum of the preceding two terms, starting from 0 and 1 as first and second terms. In some old references, the term '0' might be omitted.

What is the Fibonacci Series?

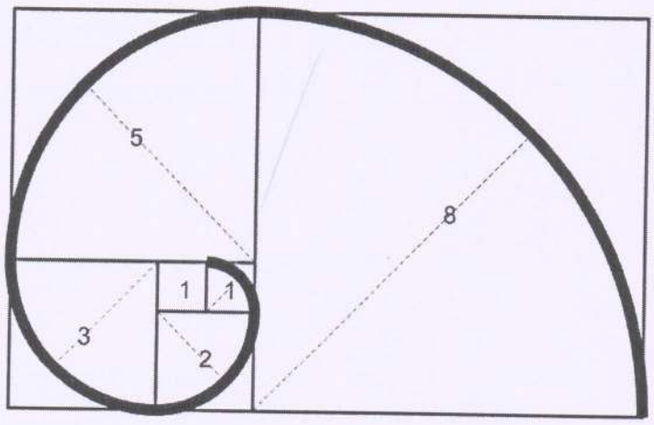
- The Fibonacci series is the sequence of numbers (also called Fibonacci numbers), where every number is the sum of the preceding two numbers, such that the first two terms are '0' and '1'.
- In some older versions of the series, the term '0' might be omitted. A Fibonacci series can thus be given as, 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, . . . It can be thus be observed that every term can be calculated by adding the two terms before it.
- Given the first term, F0 and second term, F1 as '0' and '1', the third term here can be given as, F2 = 0 + 1 = 1

Similarly,

F3 = 1 + 1 = 2

F4 = 2 + 1 = 3

Given a number n, print n-th Fibonacci Number.



Fibonacci Sequence Formula

The Fibonacci sequence of numbers "Fn" is defined using the recursive relation with the seed values F0=0 and F1=1:

Fn = Fn-1+Fn-2

Here, the sequence is defined using two different parts, such as kick-off and recursive relation.

The kick-off part is F0=0 and F1=1.

The recursive relation part is Fn = Fn-1+Fn-2.

It is noted that the sequence starts with 0 rather than 1. So, F5 should be the 6th term of the sequence.

Examples:

Input : n = 2

Output : 1

Input : n = 9

Output : 34

The list of Fibonacci numbers are calculated as follows:

F_n	Fibonacci Number
0	0
1	1
2	1
3	2
4	3
5	5

6	8
7	13
8	21
9	34
… and so on.	… and so on.

Method 1 (Use Non-recursion)

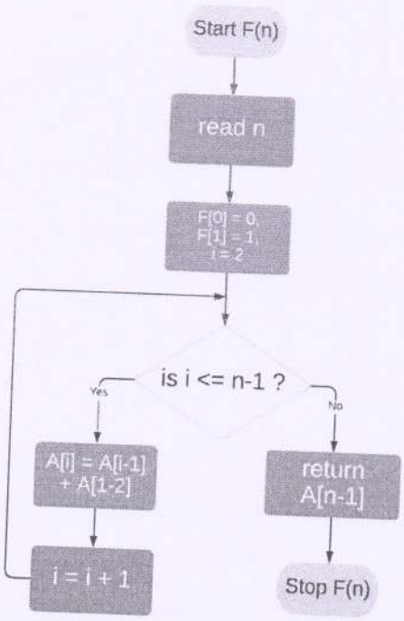
A simple method that is a direct recursive implementation of mathematical recurrence relation is given above.

First, we'll store 0 and 1 in $F[0]$ and $F[1]$, respectively.

Next, we'll iterate through array positions 2 to $n-1$. At each position i, we store the sum of the two preceding array values in $F[i]$.

Finally, we return the value of $F[n-1]$, giving us the number at position n in the sequence.

Here's a visual representation of this process:




```
# Program to display the Fibonacci sequence up to n-th term
nterms = int(input("How many terms? "))
# first two terms
n1, n2 = 0, 1
count = 0
# check if the number of terms is valid
if nterms <= 0:
   print("Please enter a positive integer")
# if there is only one term, return n1
elif nterms == 1:
   print("Fibonacci sequence upto",nterms,":")
   print(n1)
# generate fibonacci sequence
```

```
else:
  print("Fibonacci sequence:")
  while count < nterms:
    print(n1)
    nth = n1 + n2
    # update values
    n1 = n2
    n2 = nth
    count += 1
```

Output

How many terms? 7

Fibonacci sequence:

0

1

1

2

3

5

8

Time and Space Complexity of Space Optimized Method

- The time complexity of the Fibonacci series is **T(N) i.e, linear**. We have to find the sum of two terms and it is repeated n times depending on the value of n.
- The space complexity of the Fibonacci series using dynamic programming is **O(1)**.

Time Complexity and Space Complexity of Dynamic Programming

- The time complexity of the above code is **T(N) i.e, linear**. We have to find the sum of two terms and it is repeated n times depending on the value of n.

- The space complexity of the above code is **O(N)**.

Method 2 (Use Recursion)

Let's start by defining F(n) as the function that returns the value of Fn.

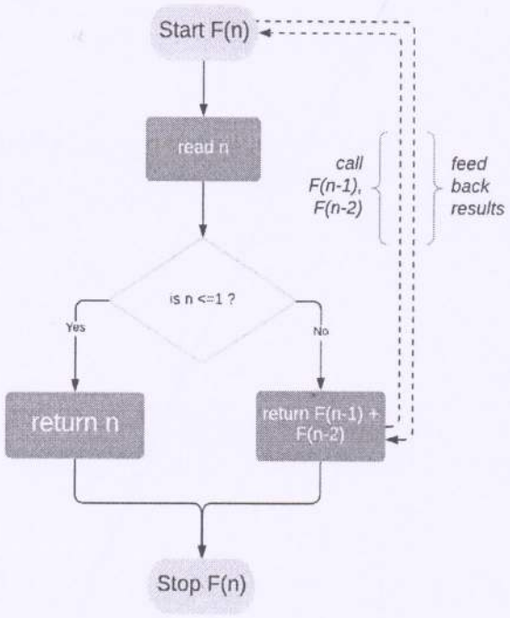
To evaluate $F(n)$ for $n > 1$, we can reduce our problem into two smaller problems of the same kind: $F(n-1)$ and $F(n-2)$. We can further reduce $F(n-1)$ and $F(n-2)$ to $F((n-1)-1)$ and $F((n-1)-2)$; and $F((n-2)-1)$ and $F((n-2)-2)$, respectively.

If we repeat this reduction, we'll eventually reach our known base cases and, thereby, obtain a solution to $F(n)$.

Employing this logic, our algorithm for $F(n)$ will have two steps:

1. Check if $n \leq 1$. If so, return n.
2. Check if $n > 1$. If so, call our function F with inputs $n-1$ and $n-2$, and return the sum of the two results.

Here's a visual representation of this algorithm:



```
# Python program to display the Fibonacci sequence
def recur_fibo(n):
   if n <= 1:
      return n
   else:
      return(recur_fibo(n-1) + recur_fibo(n-2))
nterms = 7
# check if the number of terms is valid
if nterms <= 0:
   print("Plese enter a positive integer")
else:
   print("Fibonacci sequence:")
   for i in range(nterms):
      print(recur_fibo(i))
```

Output

Fibonacci sequence:

0

1

1

2

3

5

8

Time and Space Complexity

- The time complexity of the above code is **T(2^N) i.e, exponential**.

- The Space complexity of the above code is **O(N) for a recursive series.**

Method	Time complexity	Space complexity
Using recursion	T(n) = T(n-1) + T(n-2)	O(n)
Using DP	O(n)	O(1)
Space optimization of DP	O(n)	O(1)
Using the power of matrix method	O(n)	O(1)
Optimized matrix method	O(log n)	O(log n)
Recursive method in O(log n) time	O(log n)	O(n)
Using direct formula	O(log n)	O(1)
DP using memoization	O(n)	O(1)

Applications of Fibonacci Series

The Fibonacci series finds application in different fields in our day-to-day lives. The different patterns found in a varied number of fields from nature, to music, and to the human body follow the Fibonacci series. Some of the applications of the series are given as,

- It is used in the grouping of numbers and used to study different other special mathematical sequences.
- It finds application in Coding (computer algorithms, distributed systems, etc). For example, Fibonacci series are important in the computational run-time analysis of Euclid's algorithm, used for determining the GCF of two integers.
- It is applied in numerous fields of science like quantum mechanics, cryptography, etc.
- In finance market trading, Fibonacci retracement levels are widely used in technical analysis.

Conclusion- In this way we have explored Concept of Fibonacci series using recursive and non recursive method and also learn time and space complexity

Assignment Question

1. **What is the Fibonacci Sequence of numbers?**
2. **How do the Fibonacci work?**
3. **What is the Golden Ratio?**
4. **What is the Fibonacci Search technique?**
5. **What is the real application for Fibonacci series**

Reference link

- https://www.scaler.com/topics/fibonacci-series-in-c/
- https://www.baeldung.com/cs/fibonacci-computational-complexity

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group A

Assignment No: 2

Title of the Assignment: Write a program to implement Huffman Encoding using a greedy strategy.

Objective of the Assignment: Students should be able to understand and solve Huffman Encoding using greedy method

Prerequisite:

1. Basic of Python or Java Programming
2. Concept of Greedy method
3. Huffman Encoding concept

Contents for Theory:

1. **Greedy Method**
2. **Huffman Encoding**
3. **Example solved using huffman encoding**

What is a Greedy Method?

- A greedy algorithm is an approach for solving a problem by selecting the best option available at the moment. It doesn't worry whether the current best result will bring the overall optimal result.
- The algorithm never reverses the earlier decision even if the choice is wrong. It works in a top-down approach.
- This algorithm may not produce the best result for all the problems. It's because it always goes for the local best choice to produce the global best result.

Advantages of Greedy Approach

- The algorithm is **easier to describe**.
- This algorithm can **perform better** than other algorithms (but, not in all cases).

Drawback of Greedy Approach

- As mentioned earlier, the greedy algorithm doesn't always produce the optimal solution. This is the major disadvantage of the algorithm
- For example, suppose we want to find the longest path in the graph below from root to leaf.

Greedy Algorithm

1. To begin with, the solution set (containing answers) is empty.
2. At each step, an item is added to the solution set until a solution is reached.
3. If the solution set is feasible, the current item is kept.
4. Else, the item is rejected and never considered again.

Huffman Encoding

- Huffman Coding is a technique of compressing data to reduce its size without losing any of the details. It was first developed by David Huffman.
- Huffman Coding is generally useful to compress the data in which there are frequently occurring

characters.

- Huffman Coding is a famous Greedy Algorithm.
- It is used for the lossless compression of data.
- It uses variable length encoding.
- It assigns variable length code to all the characters.
- The code length of a character depends on how frequently it occurs in the given text.
- The character which occurs most frequently gets the smallest code.
- The character which occurs least frequently gets the largest code.
- It is also known as **Huffman Encoding**.

Prefix Rule-

- Huffman Coding implements a rule known as a prefix rule.
- This is to prevent the ambiguities while decoding.
- It ensures that the code assigned to any character is not a prefix of the code assigned to any other character

Major Steps in Huffman Coding-

There are two major steps in Huffman Coding-

1. Building a Huffman Tree from the input characters.
2. Assigning code to the characters by traversing the Huffman Tree.

How does Huffman Coding work?

Suppose the string below is to be sent over a network.

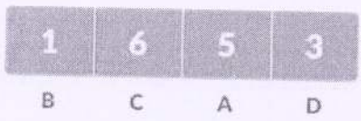


Initial string

- Each character occupies 8 bits. There are a total of 15 characters in the above string. Thus, a total of 8 * 15 = 120 bits are required to send this string.
- Using the Huffman Coding technique, we can compress the string to a smaller size.

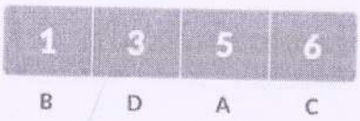
- Huffman coding first creates a tree using the frequencies of the character and then generates code for each character.
- Once the data is encoded, it has to be decoded. Decoding is done using the same tree.
- Huffman Coding prevents any ambiguity in the decoding process using the concept of **prefix code** ie. a code associated with a character should not be present in the prefix of any other code. The tree created above helps in maintaining the property.
- Huffman coding is done with the help of the following steps.

1. Calculate the frequency of each character in the string.



Frequency of string

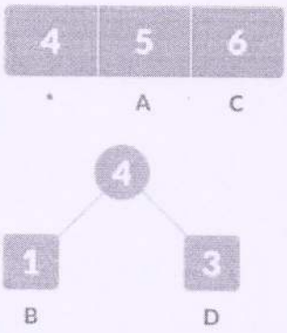
2. Sort the characters in increasing order of the frequency. These are stored in a priority queue Q.



Characters sorted according to the frequency

3. Make each unique character as a leaf node.

4. Create an empty node z. Assign the minimum frequency to the left child of z and assign the second minimum frequency to the right child of z. Set the value of the z as the sum of the above two minimum frequencies.

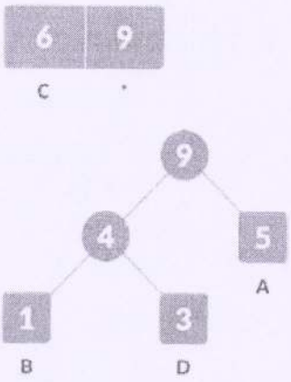


Getting the sum of the least numbers

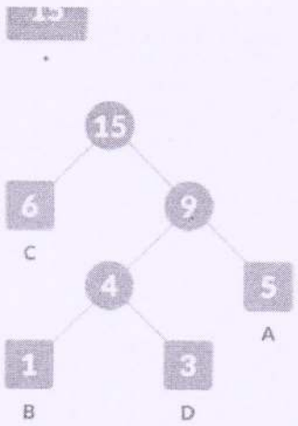
5. Remove these two minimum frequencies from Q and add the sum into the list of frequencies (* denote the internal nodes in the figure above).

6. Insert node z into the tree.

7. Repeat steps 3 to 5 for all the characters.

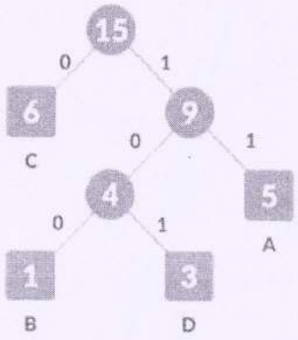


Repeat steps 3 to 5 for all the characters.



Repeat steps 3 to 5 for all the characters.

8. For each non-leaf node, assign 0 to the left edge and 1 to the right edge



Assign 0 to the left edge and 1 to the right edge

For sending the above string over a network, we have to send the tree as well as the above compressed-code. The total size is given by the table below.

Character	Frequency	Code	Size
A	5	11	5*2 = 10
B	1	100	1*3 = 3
C	6	0	6*1 = 6
D	3	101	3*3 = 9
4 * 8 = 32 bits	15 bits		28 bits

Without encoding, the total size of the string was 120 bits. After encoding the size is reduced to 32 + 15 + 28 = 75.

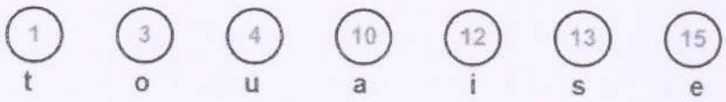
Example:

A file contains the following characters with the frequencies as shown. If Huffman Coding is used for data compression, determine-

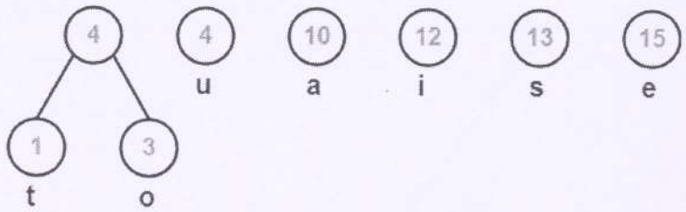
1. Huffman Code for each character
2. Average code length
3. Length of Huffman encoded message (in bits)

Characters	Frequencies
a	10
e	15
i	12
o	3
u	4
s	13
t	1

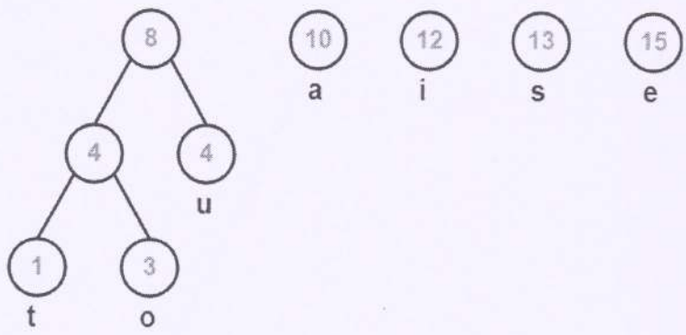
Step-01:



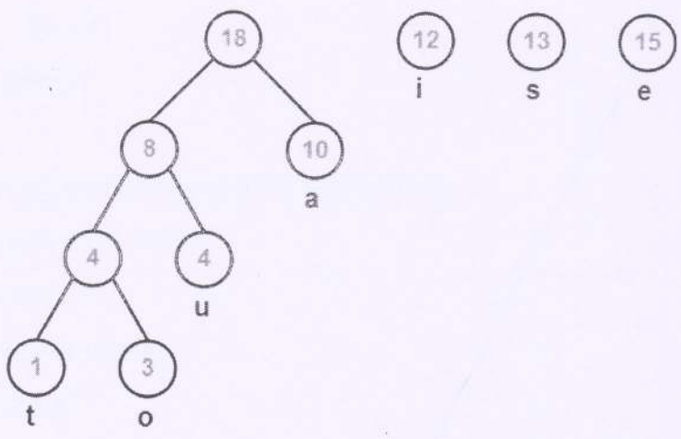
Step-02:



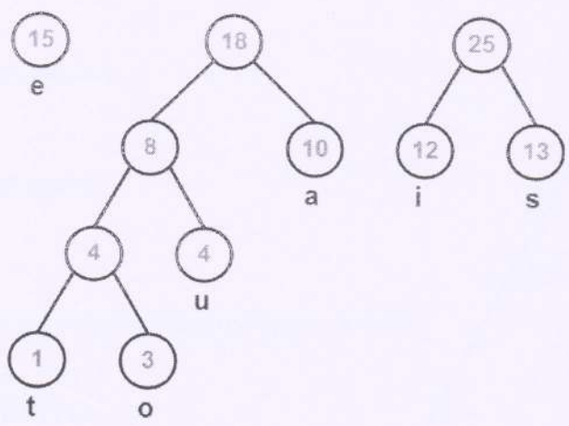
Step-03:

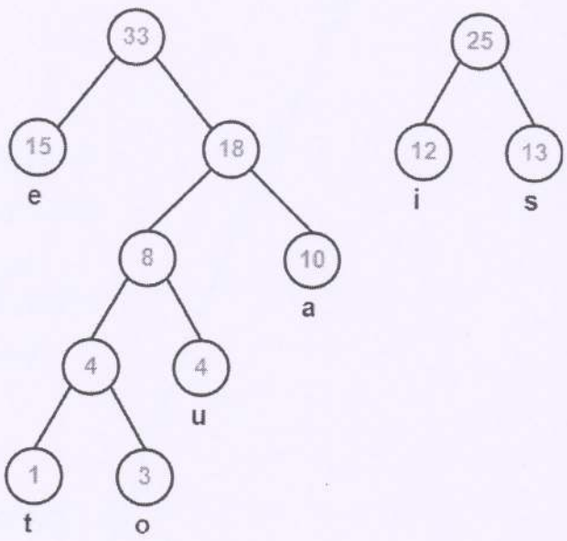


Step-04:

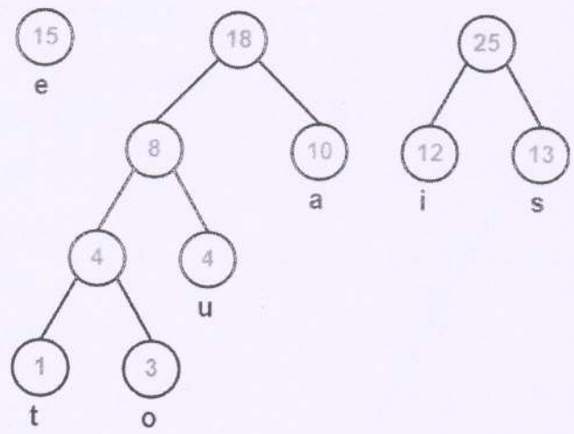


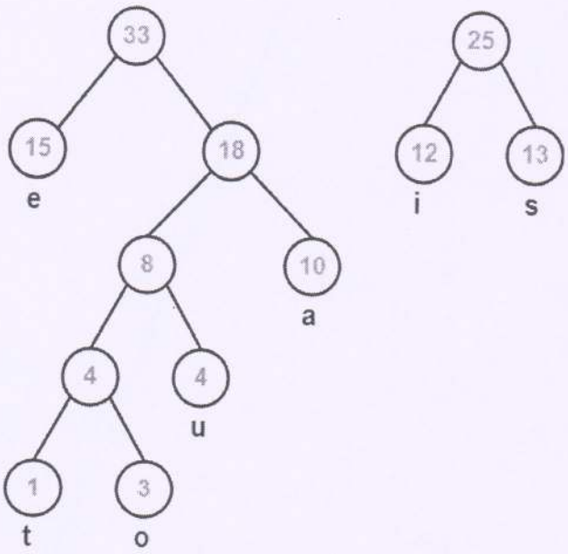
Step-06:


15
e
18
8
10
a
4
4
u
1
t
3
o
25
12
i
13
s

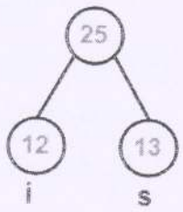

33
15
e
18
8
10
a
4
4
u
1
t
3
o
25
12
i
13
s

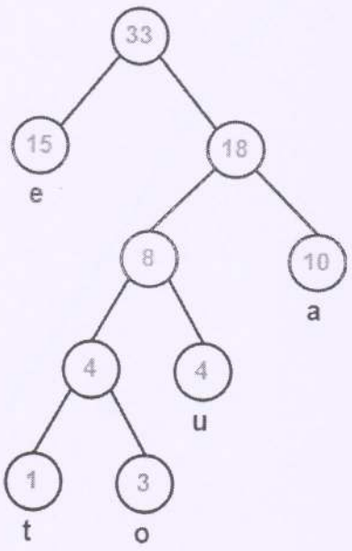
Step-06:

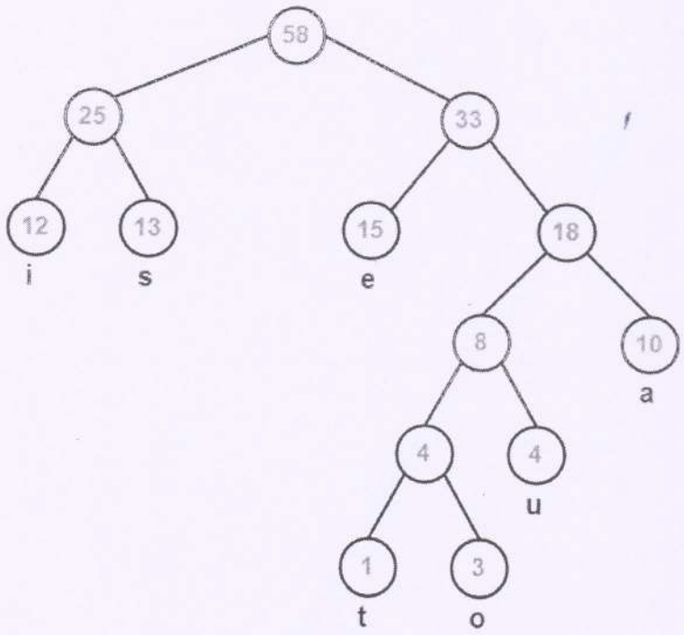

15
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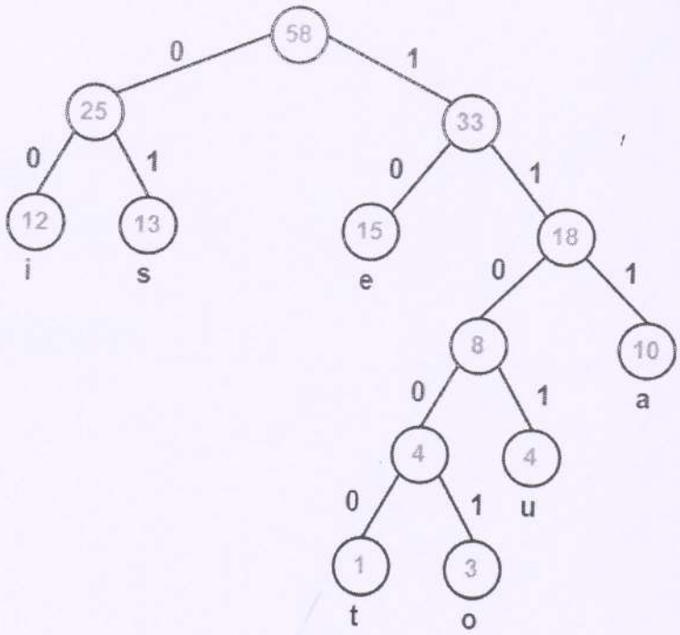
Step-07:







After assigning weight to all the edges, the modified Huffman Tree is-



Huffman Tree

To write Huffman Code for any character, traverse the Huffman Tree from root node to the leaf node of that character.

Following this rule, the Huffman Code for each character is-

a = 111

e = 10

i = 00

o = 11001

u = 1101

s = 01

t = 11000

Time Complexity-

The time complexity analysis of Huffman Coding is as follows-

- extractMin( ) is called 2 x (n-1) times if there are n nodes.
- As extractMin( ) calls minHeapify( ), it takes O(logn) time.

Thus, Overall time complexity of Huffman Coding becomes **O(nlogn)**.

Code :-

```
class Node:
    def __init__(self, prob, symbol, left=None, right=None):
        # probability of symbol
        self.prob = prob

        # symbol
        self.symbol = symbol

        # left node
        self.left = left

        # right node
        self.right = right

        # tree direction (0/1)
        self.code = ''
```

```
""" A helper function to calculate the probabilities of symbols in given data"""
def Calculate_Probability(data):
    symbols = dict()
    for element in data:
        if symbols.get(element) == None:
            symbols[element] = 1
        else:
            symbols[element] += 1
    return symbols
```

```
""" A helper function to obtain the encoded output"""
def Output_Encoded(data, coding):
    encoding_output = []
    for c in data:
        print(coding[c], end = '')
        encoding_output.append(coding[c])

    string = ''.join([str(item) for item in encoding_output])
    return string
```

```
""" A helper function to calculate the space difference between compressed and non co
def Total_Gain(data, coding):
    before_compression = len(data) * 8 # total bit space to stor the data before compr
    after_compression = 0
    symbols = coding.keys()
    for symbol in symbols:
        count = data.count(symbol)
        after_compression += count * len(coding[symbol]) #calculate how many bit is r
    print("Space usage before compression (in bits):", before_compression)
    print("Space usage after compression (in bits):",  after_compression)
```

```
def Huffman_Encoding(data):
    symbol_with_probs = Calculate_Probability(data)
    symbols = symbol_with_probs.keys()
    probabilities = symbol_with_probs.values()
    print("symbols: ", symbols)
    print("probabilities: ", probabilities)

    nodes = []

    # converting symbols and probabilities into huffman tree nodes
    for symbol in symbols:
        nodes.append(Node(symbol_with_probs.get(symbol), symbol))

    while len(nodes) > 1:
        # sort all the nodes in ascending order based on their probability
        nodes = sorted(nodes, key=lambda x: x.prob)
        # for node in nodes:
        #       print(node.symbol, node.prob)

        # pick 2 smallest nodes
        right = nodes[0]
        left = nodes[1]

        left.code = 0
        right.code = 1

        # combine the 2 smallest nodes to create new node
        newNode = Node(left.prob+right.prob, left.symbol+right.symbol, left, right)

        nodes.remove(left)
        nodes.remove(right)
        nodes.append(newNode)

    huffman_encoding = Calculate_Codes(nodes[0])
    print(huffman_encoding)
    Total_Gain(data, huffman_encoding)
    encoded_output = Output_Encoded(data,huffman_encoding)
    print("Encoded output:", encoded_output)
    return encoded_output, nodes[0]
```

Output

```
AAAAAAABCCCCCCDDEEEEE
symbols:  dict_keys(['A', 'B', 'C', 'D', 'E'])
probabilities:  dict_values([7, 1, 6, 2, 5])
symbols with codes {'A': '00', 'C': '01', 'E': '10', 'D': '110', 'B': '111'}
Space usage before compression (in bits): 168
Space usage after compression (in bits): 45
Encoded output 00000000000000011101010101010111011010101010
```

Conclusion- In this way we have explored Concept ofHuffman Encoding using greedy method

Assignment Question

1. What is Huffman Encoding?
2. How many bits may be required for encoding the message 'mississippi'?
3. Which tree is used in Huffman encoding?Give one Example
4. Why Huffman coding is lossless compression?

Reference link

- https://towardsdatascience.com/huffman-encoding-python-implementation-8448c3654328
- https://www.programiz.com/dsa/huffman-coding#cpp-code
- https://www.gatevidyalay.com/tag/huffman-coding-example-ppt/

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group A

Assignment No: 3

Title of the Assignment: Write a program to solve a fractional Knapsack problem using a greedy method.

Objective of the Assignment: Students should be able to understand and solve fractional Knapsack problems using a greedy method.

Prerequisite:

1. Basic of Python or Java Programming
2. Concept of Greedy method
3. fractional Knapsack problem

Contents for Theory:

1. **Greedy Method**
2. **Fractional Knapsack problem**
3. **Example solved using fractional Knapsack problem**

What is a Greedy Method?

- A greedy algorithm is an approach for solving a problem by selecting the best option available at the moment. It doesn't worry whether the current best result will bring the overall optimal result.
- The algorithm never reverses the earlier decision even if the choice is wrong. It works in a top-down approach.
- This algorithm may not produce the best result for all the problems. It's because it always goes for the local best choice to produce the global best result.

Advantages of Greedy Approach

- The algorithm is **easier to describe**.
- This algorithm can **perform better** than other algorithms (but, not in all cases).

Drawback of Greedy Approach

- As mentioned earlier, the greedy algorithm doesn't always produce the optimal solution. This is the major disadvantage of the algorithm
- For example, suppose we want to find the longest path in the graph below from root to leaf.

Greedy Algorithm

1. To begin with, the solution set (containing answers) is empty.
2. At each step, an item is added to the solution set until a solution is reached.
3. If the solution set is feasible, the current item is kept.
4. Else, the item is rejected and never considered again.

Knapsack Problem

You are given the following-

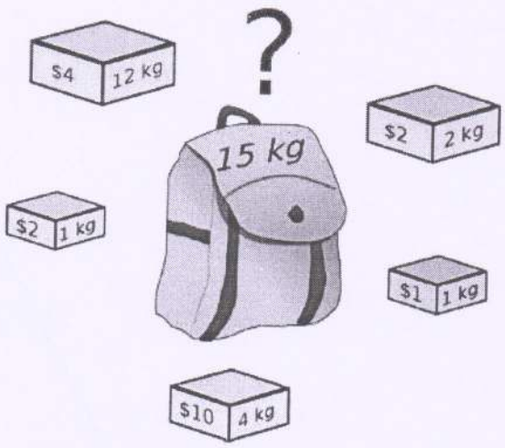
- A knapsack (kind of shoulder bag) with limited weight capacity.

- Few items each having some weight and value.

The problem states-

Which items should be placed into the knapsack such that-

- The value or profit obtained by putting the items into the knapsack is maximum.
- And the weight limit of the knapsack does not exceed.



Knapsack Problem

Knapsack Problem Variants

Knapsack problem has the following two variants-

1. Fractional Knapsack Problem
2. 0/1 Knapsack Problem

Fractional Knapsack Problem-

In Fractional Knapsack Problem,

- As the name suggests, items are divisible here.
- We can even put the fraction of any item into the knapsack if taking the complete item is not

possible.

- It is solved using the Greedy Method.

Fractional Knapsack Problem Using Greedy Method-

Fractional knapsack problem is solved using greedy method in the following steps-

Step-01:

For each item, compute its value / weight ratio.

Step-02:

Arrange all the items in decreasing order of their value / weight ratio.

Step-03:

Start putting the items into the knapsack beginning from the item with the highest ratio.

Put as many items as you can into the knapsack.

Problem-

For the given set of items and knapsack capacity = 60 kg, find the optimal solution for the fractional knapsack problem making use of greedy approach.

Item	Weight	Value
1	5	30
2	10	40
3	15	45
4	22	77
5	25	90

n = 5

w = 60 kg

(w1, w2, w3, w4, w5) = (5, 10, 15, 22, 25)

(b1, b2, b3, b4, b5) = (30, 40, 45, 77, 90)

Solution-

Step-01:

Compute the value / weight ratio for each item-

Items	Weight	Value	Ratio
1	5	30	6
2	10	40	4
3	15	45	3
4	22	77	3.5
5	25	90	3.6

Step-02:

Sort all the items in decreasing order of their value / weight ratio-

I1 I2 I5 I4 I3

(6) (4) (3.6) (3.5) (3)

Step-03:

Start filling the knapsack by putting the items into it one by one.

Knapsack Weight	Items in Knapsack	Cost
60	Ø	0
55	I1	30
45	I1, I2	70
20	I1, I2, I5	160

Now,

- Knapsack weight left to be filled is 20 kg but item-4 has a weight of 22 kg.
- Since in fractional knapsack problem, even the fraction of any item can be taken.
- So, knapsack will contain the following items-

< I1 , I2 , I5 , (20/22) I4 >

Total cost of the knapsack

= 160 + (20/22) x 77

= 160 + 70

= 230 units

Time Complexity-

- The main time taking step is the sorting of all items in decreasing order of their value / weight ratio.
- If the items are already arranged in the required order, then while loop takes O(n) time.
- The average time complexity of Quick Sort is O(nlogn).
- Therefore, total time taken including the sort is O(nlogn).

Code:-

```
class Item:
        def __init_(self, value, weight):
                self.value = value
                self.weight = weight

def fractionalKnapsack(W, arr):

        # Sorting Item on basis of ratio
        arr.sort(key=lambda x: (x.value/x.weight), reverse=True)

        # Result(value in Knapsack)
        finalvalue = 0.0

        # Looping through all Items
        for item in arr:

                # If adding Item won't overflow,
                # add it completely
                if item.weight <= W:
                        W -= item.weight
                        finalvalue += item.value

                # If we can't add current Item,
                # add fractional part of it
                else:
                        finalvalue += item.value * W / item.weight
                        break

        # Returning final value
        return finalvalue


# Driver Code
if__name__== "__main__":

        W = 50
        arr = [Item(60, 10), Item(100, 20), Item(120, 30)]

        # Function call
        max_val = fractionalKnapsack(W, arr)
        print(max_val)
```

Output

```
Maximum value we can obtain = 24
```

Conclusion-In this way we have explored Concept of Fractional Knapsack using greedy method

Assignment Question

1. **What is Greedy Approach?**
2. **Explain concept of fractional knapsack**
3. **Difference between Fractional and 0/1 Knapsack**
4. **Solve one example based on Fractional knapsack(Other than Manual)**

Reference link

- https://www.gatevidyalay.com/fractional-knapsack-problem-using-greedy-approach/

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group A

Assignment No: 4

Title of the Assignment: Write a program to solve a 0-1 Knapsack problem using dynamic programming or branch and bound strategy.

Objective of the Assignment: Students should be able to understand and solve 0-1 Knapsack problem using dynamic programming

Prerequisite:

1. Basic of Python or Java Programming
2. Concept of Dynamic Programming
3. 0/1 Knapsack problem

Contents for Theory:

1. **Greedy Method**
2. **0/1 Knapsack problem**
3. **Example solved using 0/1 Knapsack problem**

What is Dynamic Programming?

- Dynamic Programming is also used in optimization problems. Like divide-and-conquer method, Dynamic Programming solves problems by combining the solutions of subproblems.
- Dynamic Programming algorithm solves each sub-problem just once and then saves its answer in a table, thereby avoiding the work of re-computing the answer every time.
- Two main properties of a problem suggest that the given problem can be solved using Dynamic Programming. These properties are **overlapping sub-problems and optimal substructure**.
- Dynamic Programming also combines solutions to sub-problems. It is mainly used where the solution of one sub-problem is needed repeatedly. The computed solutions are stored in a table, so that these don't have to be re-computed. Hence, this technique is needed where overlapping sub-problem exists.
- For example, Binary Search does not have overlapping sub-problem. Whereas recursive program of Fibonacci numbers have many overlapping sub-problems.

Steps of Dynamic Programming Approach

Dynamic Programming algorithm is designed using the following four steps –

- Characterize the structure of an optimal solution.
- Recursively define the value of an optimal solution.
- Compute the value of an optimal solution, typically in a bottom-up fashion.
- Construct an optimal solution from the computed information.

Applications of Dynamic Programming Approach

- Matrix Chain Multiplication
- Longest Common Subsequence
- Travelling Salesman Problem

Knapsack Problem

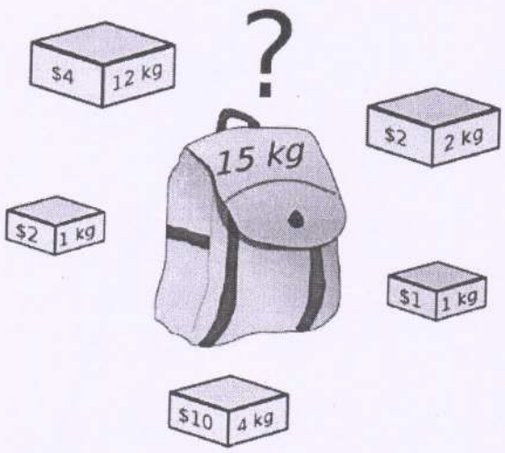
You are given the following-

- A knapsack (kind of shoulder bag) with limited weight capacity.
- Few items each having some weight and value.

The problem states-

Which items should be placed into the knapsack such that-

- The value or profit obtained by putting the items into the knapsack is maximum.
- And the weight limit of the knapsack does not exceed.



Knapsack Problem

Knapsack Problem Variants

Knapsack problem has the following two variants-

1. Fractional Knapsack Problem
2. 0/1 Knapsack Problem

0/1 Knapsack Problem-

In 0/1 Knapsack Problem,

- As the name suggests, items are indivisible here.
- We can not take a fraction of any item.
- We have to either take an item completely or leave it completely.
- It is solved using a dynamic programming approach.

0/1 Knapsack Problem Using Greedy Method-

Consider-

- Knapsack weight capacity = w
- Number of items each having some weight and value = n

0/1 knapsack problem is solved using dynamic programming in the following steps-

Step-01:

- Draw a table say 'T' with (n+1) number of rows and (w+1) number of columns.
- Fill all the boxes of 0^{th} row and 0^{th} column with zeroes as shown-

	0	1	2	3	.....	W
0	0	0	0	0	.....	0
1	0					
2	0					
	.....					
n	0					

T-Table

Step-02:

Start filling the table row wise top to bottom from left to right.

Use the following formula-

$$T(i, j) = \max \{ T(i-1, j), value_i + T(i-1, j - weight_i) \}$$

Here, T(i , j) = maximum value of the selected items if we can take items 1 to i and have weight restrictions of j.

- This step leads to completely filling the table.
- Then, value of the last box represents the maximum possible value that can be put into the knapsack.

Step-03:

- To identify the items that must be put into the knapsack to obtain that maximum profit,
- Consider the last column of the table.
- Start scanning the entries from bottom to top.
- On encountering an entry whose value is not same as the value stored in the entry immediately above it, mark the row label of that entry.
- After all the entries are scanned, the marked labels represent the items that must be put into the knapsack

Problem-.

For the given set of items and knapsack capacity = 5 kg, find the optimal solution for the 0/1 knapsack problem making use of a dynamic programming approach.

Item	Weight	Value
1	2	3
2	3	4
3	4	5
4	5	6

n = 4

w = 5 kg

(w1, w2, w3, w4) = (2, 3, 4, 5)

(b1, b2, b3, b4) = (3, 4, 5, 6)

Solution-

Given

- Knapsack capacity (w) = 5 kg
- Number of items (n) = 4

Step-01:

- Draw a table say 'T' with (n+1) = 4 + 1 = 5 number of rows and (w+1) = 5 + 1 = 6 number of columns.
- Fill all the boxes of 0^{th} row and 0^{th} column with 0.

	0	1	2	3	4	5
0	0	0	0	0	0	0
1	0					
2	0					
3	0					
4	0					

T-Table

Step-02:

Start filling the table row wise top to bottom from left to right using the formula-

$$T(i, j) = \max \{ T(i-1, j), value_i + T(i-1, j - weight_i) \}$$

Finding T(1,1)-

We have,

- i = 1
- j = 1
- $(value)_i = (value)_1 = 3$
- $(weight)_i = (weight)_1 = 2$

Substituting the values, we get-

$T(1,1) = \max \{ T(1-1, 1), 3 + T(1-1, 1-2) \}$

$T(1,1) = \max \{ T(0,1), 3 + T(0,-1) \}$

$T(1,1) = T(0,1)$ { Ignore $T(0,-1)$ }

$T(1,1) = 0$

Finding T(1,2)-

We have,

- i = 1
- j = 2
- $(value)_i = (value)_1 = 3$
- $(weight)_i = (weight)_1 = 2$

Substituting the values, we get-

T(1,2) = max { T(1-1 , 2) , 3 + T(1-1 , 2-2) }

T(1,2) = max { T(0,2) , 3 + T(0,0) }

T(1,2) = max {0 , 3+0}

T(1,2) = 3

Finding T(1,3)-

We have,

- i = 1
- j = 3
- $(value)_i = (value)_1 = 3$
- $(weight)_i = (weight)_1 = 2$

Substituting the values, we get-

T(1,3) = max { T(1-1 , 3) , 3 + T(1-1 , 3-2) }

T(1,3) = max { T(0,3) , 3 + T(0,1) }

T(1,3) = max {0 , 3+0}

T(1,3) = 3

Finding T(1,4)-

We have,

- i = 1
- j = 4
- $(value)_i = (value)_1 = 3$
- $(weight)_i = (weight)_1 = 2$

Substituting the values, we get-

T(1,4) = max { T(1-1 , 4) , 3 + T(1-1 , 4-2) }

T(1,4) = max { T(0,4) , 3 + T(0,2) }

T(1,4) = max {0 , 3+0}

T(1,4) = 3

Finding T(1,5)-

We have,

- i = 1
- j = 5
- $(value)_i = (value)_1 = 3$
- $(weight)_i = (weight)_1 = 2$

Substituting the values, we get-

$T(1,5) = \max \{ T(1-1 , 5) , 3 + T(1-1 , 5-2) \}$

$T(1,5) = \max \{ T(0,5) , 3 + T(0,3) \}$

$T(1,5) = \max \{0 , 3+0\}$

$T(1,5) = 3$

Finding T(2,1)-

We have,

- i = 2
- j = 1
- $(value)_i = (value)_2 = 4$
- (weight)i = (weight)2 = 3

Substituting the values, we get-

$T(2,1) = \max \{ T(2-1 , 1) , 4 + T(2-1 , 1-3) \}$

$T(2,1) = \max \{ T(1,1) , 4 + T(1,-2) \}$

$T(2,1) = T(1,1)$ { Ignore T(1,-2) }

$T(2,1) = 0$

Finding T(2,2)-

We have,

- i = 2
- j = 2
- $(value)_i = (value)_2 = 4$
- $(weight)_i = (weight)_2 = 3$

Substituting the values, we get-

$T(2,2) = \max \{ T(2-1 , 2) , 4 + T(2-1 , 2-3) \}$

$T(2,2) = \max \{ T(1,2) , 4 + T(1,-1) \}$

$T(2,2) = T(1,2)$ { Ignore T(1,-1) }

$T(2,2) = 3$

Finding T(2,3)-

We have,

- i = 2
- j = 3
- $(value)_i = (value)_2 = 4$
- $(weight)_i = (weight)_2 = 3$

Substituting the values, we get-

$T(2,3) = \max \{ T(2-1 , 3) , 4 + T(2-1 , 3-3) \}$

$T(2,3) = \max \{ T(1,3) , 4 + T(1,0) \}$

$T(2,3) = \max \{ 3 , 4+0 \}$

$T(2,3) = 4$

Similarly, compute all the entries.

After all the entries are computed and filled in the table, we get the following table-

	0	1	2	3	4	5
0	0	0	0	0	0	0
✓ 1	0	0	3	3	3	3
✓ 2	0	0	3	4	4	7
3	0	0	3	4	5	7
4	0	0	3	4	5	(7)

T-Table

- The last entry represents the maximum possible value that can be put into the knapsack.
- So, maximum possible value that can be put into the knapsack = 7.

Identifying Items To Be Put Into Knapsack

Following Step-04,

- We mark the rows labelled "1" and "2".
- Thus, items that must be put into the knapsack to obtain the maximum value 7 are-

Item-1 and Item-2

Time Complexity-

- Each entry of the table requires constant time $\theta(1)$ for its computation.
- It takes $\theta(nw)$ time to fill $(n+1)(w+1)$ table entries.
- It takes $\theta(n)$ time for tracing the solution since tracing process traces the n rows.
- Thus, overall $\theta(nw)$ time is taken to solve 0/1 knapsack problem using dynamic programming

Code :-

```
# code

# A Dynamic Programming based Python

# Program for 0-1 Knapsack problem

# Returns the maximum value that can

# be put in a knapsack of capacity W




def knapSack(W, wt, val, n):

    dp = [0 for i in range(W+1)]  # Making the dp array



    for i in range(1, n+1):  # taking first i elements

        for w in range(W, 0, -1): # starting from back,so that we also
have data of

                                  # previous computation when taking i-1
items

            if wt[i-1] <= w:

                # finding the maximum value

                dp[w] = max(dp[w], dp[w-wt[i-1]]+val[i-1])



    return dp[W]  # returning the maximum value of knapsack




# Driver code

val = [60, 100, 120]

wt = [10, 20, 30]

W = 50

n = len(val)

print(knapSack(W, wt, val, n))
```

Output
220

Conclusion-In this way we have explored Concept of 0/1 Knapsack using Dynamic approch

Assignment Question

1. **What is Dynamic Approach?**
2. **Explain concept of 0/1 knapsack**
3. **Difference between Dynamic and Branch and Bound Approach.Which is best?**
4. **Solve one example based on 0/1 knapsack(Other than Manual)**

Reference link

- https://www.gatevidyalay.com/0-1-knapsack-problem-using-dynamic-programming-approach/
- https://www.youtube.com/watch?v=mMhC9vuA-70
- https://www.tutorialspoint.com/design_and_analysis_of_algorithms/design_and_analysis_of_algorithms_fractional_knapsack.htm

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group A

Assignment No: 5

Title of the Assignment: Design n-Queens matrix having first Queen placed. Use backtracking to place remaining Queens to generate the final n-queen's matrix.

Objective of the Assignment: Students should be able to understand and solve n-Queen Problem,and understand basics of Backtracking

Prerequisite:

1. Basic of Python or Java Programming
2. Concept of backtracking method
3. N-Queen Problem

Contents for Theory:

1. **Introduction to Backtracking**
2. **N-Queen Problem**

Introduction to Backtracking

- Many problems are difficult to solve algorithmically. Backtracking makes it possible to solve at least some large instances of difficult combinatorial problems.

Suppose we have to make a series of decisions among various choices, where

- We don't have enough information to know what to choose
- Each decision leads to a new set of choices.
- Some sequence of choices (more than one choices) may be a solution to your problem.

What is backtracking?

Backtracking is finding the solution of a problem whereby the solution depends on the previous steps taken. For example, in a maze problem, the solution depends on all the steps you take one-by-one. If any of those steps is wrong, then it will not lead us to the solution. In a maze problem, we first choose a path and continue moving along it. But once we understand that the particular path is incorrect, then we just come back and change it. This is what backtracking basically is.

In backtracking, we first take a step and then we see if this step taken is correct or not i.e., whether it will give a correct answer or not. And if it doesn't, then we just come back and change our first step. In general, this is accomplished by recursion. Thus, in backtracking, we first start with a partial sub-solution of the problem (which may or may not lead us to the solution) and then check if we can proceed further with this sub-solution or not. If not, then we just come back and change it.

Thus, the general steps of backtracking are:

- start with a sub-solution
- check if this sub-solution will lead to the solution or not
- If not, then come back and change the sub-solution and continue again

Applications of Backtracking:

- N Queens Problem
- Sum of subsets problem

- Graph coloring
- Hamiltonian cycles.

N queens on NxN chessboard

One of the most common examples of the backtracking is to arrange N queens on an NxN chessboard such that no queen can strike down any other queen. A queen can attack horizontally, vertically, or diagonally. The solution to this problem is also attempted in a similar way. We first place the first queen anywhere arbitrarily and then place the next queen in any of the safe places. We continue this process until the number of unplaced queens becomes zero (a solution is found) or no safe place is left. If no safe place is left, then we change the position of the previously placed queen.

N-Queens Problem:

A classic combinational problem is to place n queens on a n*n chess board so that no two attack, i.,e no two queens are on the same row, column or diagonal.

What is the N Queen Problem?

N Queen problem is the classical Example of backtracking. N-Queen problem is defined as, "given N x N chess board, arrange N queens in such a way that no two queens attack each other by being in the same row, column or diagonal".

- For N = 1, this is a trivial case. For N = 2 and N = 3, a solution is not possible. So we start with N = 4 and we will generalize it for N queens.

If we take n=4then the problem is called the 4 queens problem.

If we take n=8 then the problem is called the 8 queens problem.

Algorithm

1) Start in the leftmost column

2) If all queens are place return true

3) Try all rows in the current column.

Do following for every tried row.

a) If the queen can be placed safely in this row then mark this [row, column] as part of the solution and recursively check if placing queen here leads to a solution.

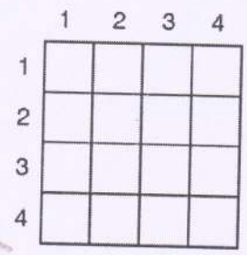
b) If placing the queen in [row, column] leads to a solution then return true.

c) If placing queen doesn't lead to a solution then unmark this [row, column] (Backtrack) and go to step (a) to try other rows.

4) If all rows have been tried and nothing worked,return false to trigger backtracking.

4-Queen Problem

Problem 1 : Given 4 x 4 chessboard, arrange four queens in a way, such that no two queens attack each other. That is, no two queens are placed in the same row, column, or diagonal.



4 x 4 Chessboard

- We have to arrange four queens, Q1, Q2, Q3 and Q4 in 4 x 4 chess board. We will put with queen in ith row. Let us start with position (1, 1). Q1 is the only queen, so there is no issue. partial solution is <1>
- We cannot place Q2 at positions (2, 1) or (2, 2). Position (2, 3) is acceptable. the partial solution is <1, 3>.
- Next, Q3 cannot be placed in position (3, 1) as Q1 attacks her. And it cannot be placed at (3, 2), (3, 3) or (3, 4) as Q2 attacks her. There is no way to put Q3 in the third row. Hence, the algorithm backtracks and goes back to the previous solution and readjusts the position of queen Q2. Q2 is moved from positions (2, 3) to
  (2, 4). Partial solution is <1, 4>

- Now, Q3 can be placed at position (3, 2). Partial solution is <1, 4, 3>.
- Queen Q4 cannot be placed anywhere in row four. So again, backtrack to the previous solution and readjust the position of Q3. Q3 cannot be placed on (3, 3) or(3, 4). So the algorithm backtracks even further.
- All possible choices for Q2 are already explored, hence the algorithm goes back to partial solution <1> and moves the queen Q1 from (1, 1) to (1, 2). And this process continues until a solution is found.

All possible solutions for 4-queen are shown in fig (a) & fig. (b)

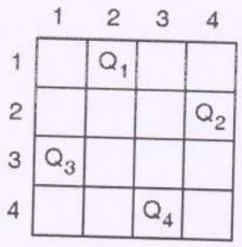


Fig. (a): Solution – 1

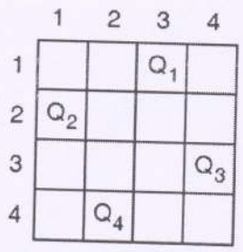
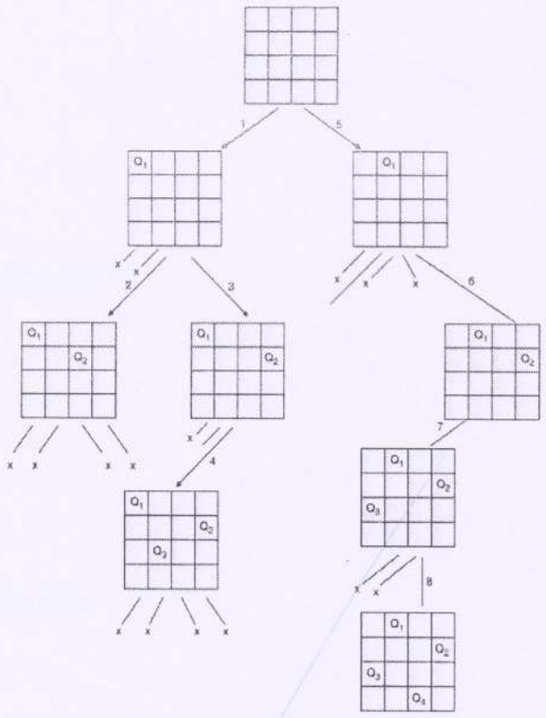


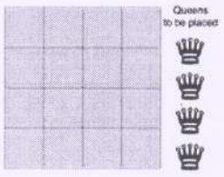
Fig. (b): Solution – 2

Fig. (d) describes the backtracking sequence for the 4-queen problem.



The solution of the 4-queen problem can be seen as four tuples (x_1, x_2, x_3, x_4), where x_i represents the column number of queen Q_i. Two possible solutions for the 4-queen problem are (2, 4, 1, 3) and (3, 1, 4, 2).

Explanation :

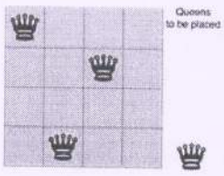


The above picture shows an NxN chessboard and we have to place N queens on it. So, we will start by placing the first queen.



Now, the second step is to place the second queen in a safe position and then the third queen.



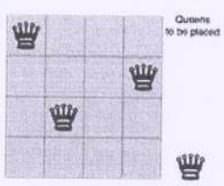


Now, you can see that there is no safe place where we can put the last queen. So, we will just change the position of the previous queen. And this is backtracking.

Also, there is no other position where we can place the third queen so we will go back one more step and change the position of the second queen.



And now we will place the third queen again in a safe position until we find a solution.

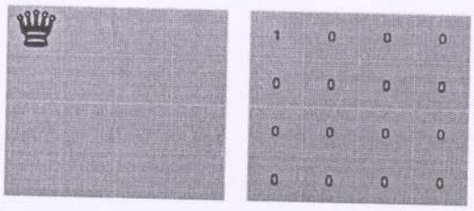


We will continue this process and finally, we will get the solution as shown below.

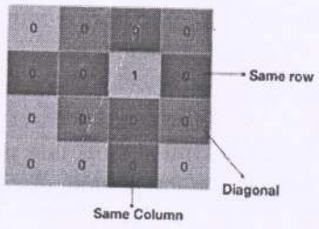


We need to check if a cell (i, j) is under attack or not. For that, we will pass these two in our function along with the chessboard and its size - IS-ATTACK(i, j, board, N).

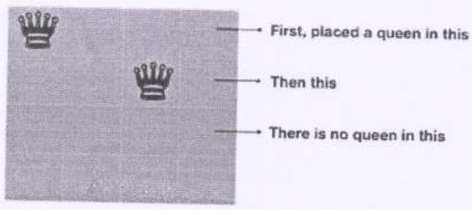
If there is a queen in a cell of the chessboard, then its value will be 1, otherwise, 0.



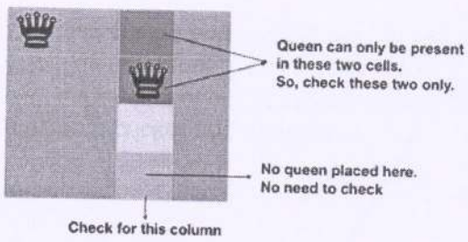
The cell (i,j) will be under attack in three condition - if there is any other queen in row i, if there is any other queen in the column j or if there is any queen in the diagonals.



We are already proceeding row-wise, so we know that all the rows above the current row(i) are filled but not the current row and thus, there is no need to check for row i.



We can check for the column j by changing k from 1 to i-1 in board[k][j] because only the rows from 1 to i-1 are filled.



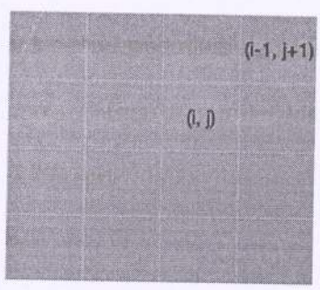
for k in 1 to i-1

if board[k][j]==1

return TRUE

Now, we need to check for the diagonal. We know that all the rows below the row i are empty, so we need to check only for the diagonal elements which above the row i.

If we are on the cell (i, j), then decreasing the value of i and increasing the value of j will make us traverse over the diagonal on the right side, above the row i.



```
k = i-1

l = j+1

while k>=1 and l<=N

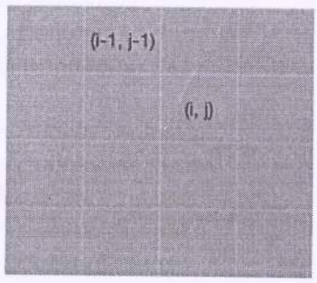
 if board[k][l] == 1

 return TRUE

 k=k-1

 l=l+1
```

Also if we reduce both the values of i and j of cell (i, j) by 1, we will traverse over the left diagonal, above the row i.




```
k = i-1

l = j-1

while k>=1 and l>=1

 if board[k][l] == 1

 return TRUE

 k=k-1

 l=l-1
```

At last, we will return false as it will be return true is not returned by the above statements and the cell (i,j) is safe.

We can write the entire code as:

```
IS-ATTACK(i, j, board, N)

 // checking in the column j

 for k in 1 to i-1

  if board[k][j]==1

   return TRUE


 // checking upper right diagonal

 k = i-1

 l = j+1

 while k>=1 and l<=N

  if board[k][l] == 1

   return TRUE

  k=k+1

  l=l+1


 // checking upper left diagonal

 k = i-1

 l = j-1
```

```
while k>=1 and l>=1
 if board[k][l] == 1
  return TRUE
 k=k-1
 l=l-1

return FALSE
```

Now, let's write the real code involving backtracking to solve the N Queen problem.

Our function will take the row, number of queens, size of the board and the board itself - N-QUEEN(row, n, N, board).

If the number of queens is 0, then we have already placed all the queens.

```
if n==0
 return TRUE
```

Otherwise, we will iterate over each cell of the board in the row passed to the function and for each cell, we will check if we can place the queen in that cell or not. We can't place the queen in a cell if it is under attack.

```
for j in 1 to N
 if !IS-ATTACK(row, j, board, N)
  board[row][j] = 1
```

After placing the queen in the cell, we will check if we are able to place the next queen with this arrangement or not. If not, then we will choose a different position for the current queen.

```
for j in 1 to N
 ...
```

if N-QUEEN(row+1, n-1, N, board)

return TRUE

board[row][j] = 0

if N-QUEEN(row+1, n-1, N, board) - We are placing the rest of the queens with the current arrangement. Also, since all the rows up to 'row' are occupied, so we will start from 'row+1'. If this returns true, then we are successful in placing all the queen. if not, then we have to change the position of our current queen. So, we are leaving the current cell board[row][j] = 0 and then iteration will find another place for the queen and this is backtracking.

Take a note that we have already covered the base case - if n==0 → return TRUE. It means when all queens will be placed correctly, then N-QUEEN(row, 0, N, board) will be called and this will return true.

At last, if true is not returned, then we didn't find any way, so we will return false.

N-QUEEN(row, n, N, board)

...

return FALSE

N-QUEEN(row, n, N, board)

if n==0

return TRUE

for j in 1 to N

if !IS-ATTACK(row, j, board, N)

board[row][j] = 1

```
    if N-QUEEN(row+1, n-1, N, board)

     return TRUE



    board[row][j] = 0 //backtracking, changing current decision

   return FALSE
```

Code :-

```
# Python3 program to solve N Queen
# Problem using backtracking
global N
N = 4

def printSolution(board):
        for i in range(N):
                for j in range(N):
                        print(board[i][j], end = " ")
                print()

# A utility function to check if a queen can
# be placed on board[row][col]. Note that this
# function is called when "col" queens are
# already placed in columns from 0 to col -1.
# So we need to check only left side for
# attacking queens
def isSafe(board, row, col):

        # Check this row on left side
        for i in range(col):
                if board[row][i] == 1:
                        return False

        # Check upper diagonal on left side
        for i, j in zip(range(row, -1, -1),
                                range(col, -1, -1)):
                if board[i][j] == 1:
                        return False

        # Check lower diagonal on left side
        for i, j in zip(range(row, N, 1),
                                range(col, -1, -1)):
                if board[i][j] == 1:
                        return False

        return True

def solveNQUtil(board, col):

        # base case: If all queens are placed
        # then return true
        if col >= N:
                return True

        # Consider this column and try placing
        # this queen in all rows one by one
        for i in range(N):

                if isSafe(board, i, col):

                        # Place this queen in board[i][col]
```

```
                board[i][col] = 1

                # recur to place rest of the queens
                if solveNQUtil(board, col + 1) == True:
                        return True

                # If placing queen in board[i][col
                # doesn't lead to a solution, then
                # queen from board[i][col]
                board[i][col] = 0

        # if the queen can not be placed in any row in
        # this column col then return false
        return False

# This function solves the N Queen problem using
# Backtracking. It mainly uses solveNQUtil() to
# solve the problem. It returns false if queens
# cannot be placed, otherwise return true and
# placement of queens in the form of 1s.
# note that there may be more than one
# solutions, this function prints one of the
# feasible solutions.
def solveNQ():
        board = [ [0, 0, 0, 0],
                        [0, 0, 0, 0],
                        [0, 0, 0, 0],
                        [0, 0, 0, 0] ]

        if solveNQUtil(board, 0) == False:
                print ("Solution does not exist")
                return False

        printSolution(board)
        return True

# Driver Code
solveNQ()
```

Output:-

```
0  0  1  0
1  0  0  0
0  0  0  1
0  1  0  0
```

Conclusion- In this way we have explored Concept of Backtracking method and solve n-Queen problem using backtracking method

Assignment Question

1. **What is backtracking? Give the general Procedure.**
2. **Give the problem statement of the n-queens problem. Explain the solution**
3. **Write an algorithm for N-queens problem using backtracking?**
4. **Why it is applicable to N=4 and N=8 only?**

Reference link

- https://www.codesdope.com/blog/article/backtracking-explanation-and-n-queens-problem/

- https://www.codesdope.com/course/algorithms-backtracking/\
- https://codecrucks.com/n-queen-problem/

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

ASSIGNMENT NO: 6

Title: Write a program for analysis of quick sort by using deterministic and randomized variant.

Objective: Students should learn to implement Quick Sort and know the difference in performance with deterministic and randomized variant.

Prerequisite:

1. Basic of Python Language or Java Language
2. Concept of Quick Sort.
3. Difference between deterministic and randomized variant.

Theory:

Quick Sort is a popular sorting algorithm that efficiently sorts an array by selecting a "pivot" element and partitioning the other elements into two sub-arrays, according to whether they are less than or greater than the pivot. The process is then recursively applied to the sub-arrays.

Working of Quick Sort Algorithm

Now, let's see the working of the Quicksort Algorithm.

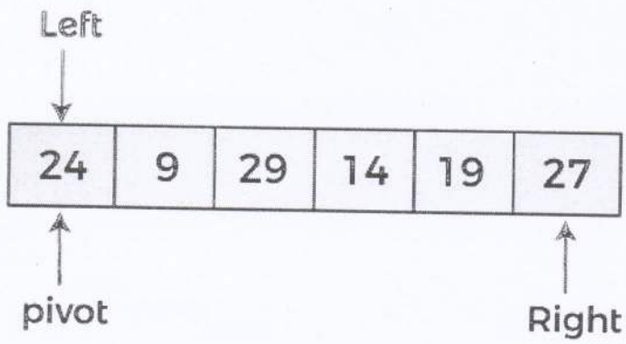
To understand the working of quick sort, let's take an unsorted array. It will make the concept more clear and understandable.

Let the elements of array are -

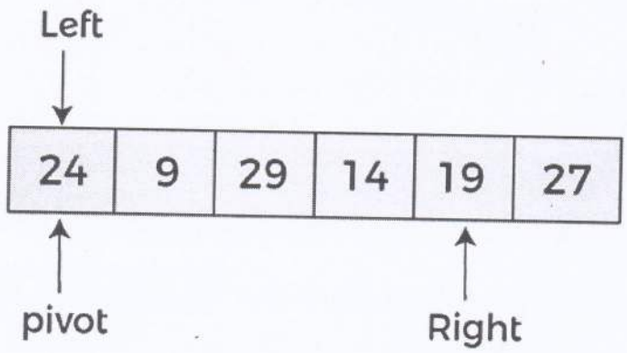
24	9	29	14	19	27

In the given array, we consider the leftmost element as pivot. So, in this case, a[left] = 24, a[right] = 27 and a[pivot] = 24.

Since, pivot is at left, so algorithm starts from right and move towards left.

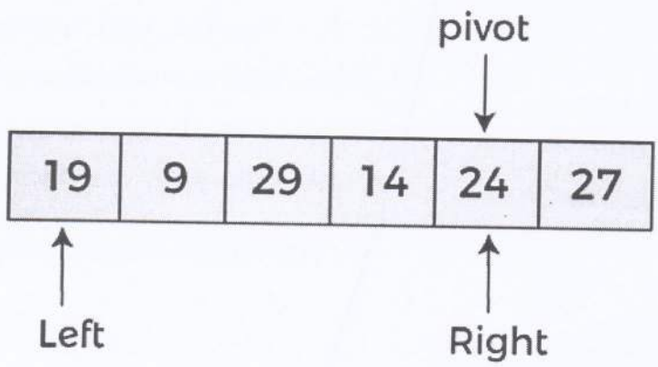


Now, a[pivot] < a[right], so algorithm moves forward one position towards left, i.e. -



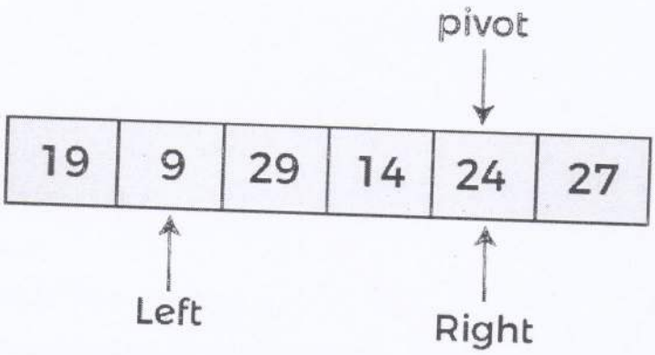
Now, a[left] = 24, a[right] = 19, and a[pivot] = 24.

Because, a[pivot] > a[right], so, algorithm will swap a[pivot] with a[right], and pivot moves to right, as -

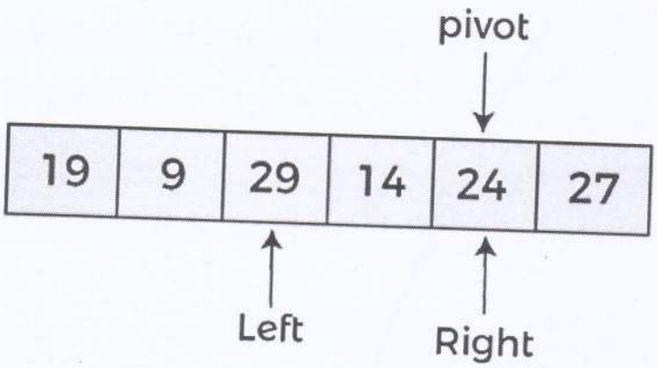


Now, a[left] = 19, a[right] = 24, and a[pivot] = 24. Since, pivot is at right, so algorithm starts from left and moves to right.

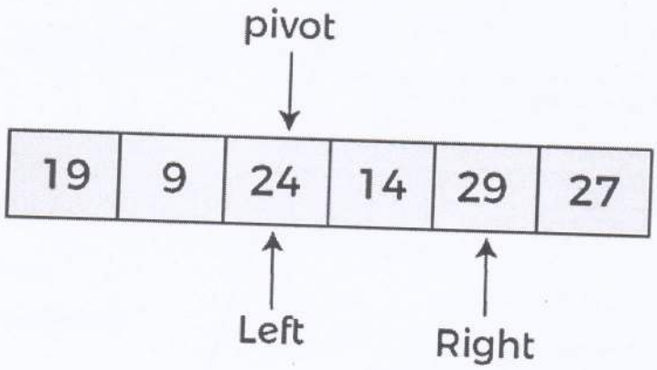
As a[pivot] > a[left], so algorithm moves one position to right as -



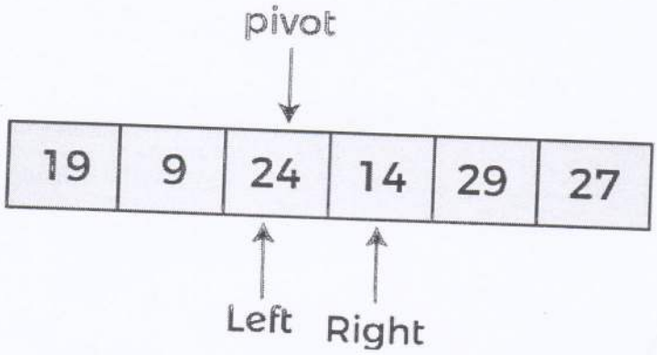
Now, a[left] = 9, a[right] = 24, and a[pivot] = 24. As a[pivot] > a[left], so algorithm moves one position to right as -



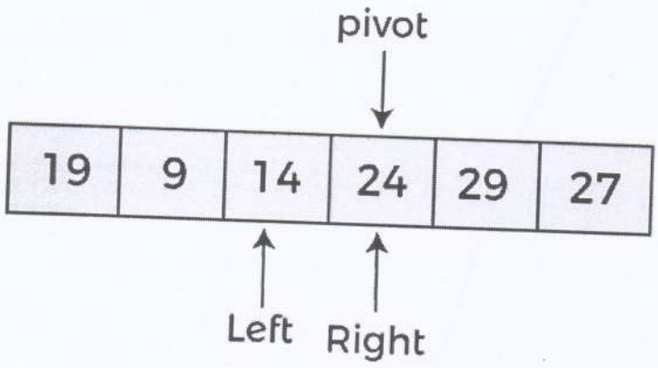
Now, a[left] = 29, a[right] = 24, and a[pivot] = 24. As a[pivot] < a[left], so, swap a[pivot] and a[left], now pivot is at left, i.e. -



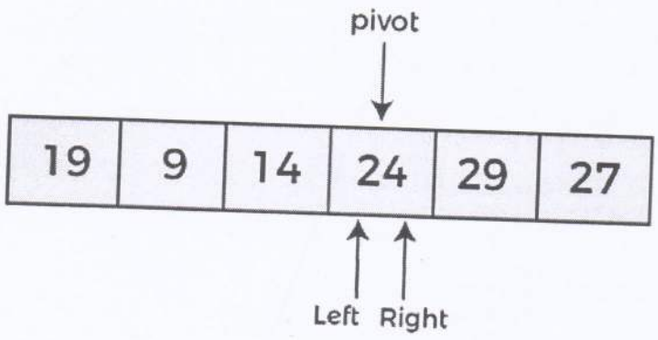
Since, pivot is at left, so algorithm starts from right, and move to left. Now, a[left] = 24, a[right] = 29, and a[pivot] = 24. As a[pivot] < a[right], so algorithm moves one position to left, as -



Now, a[pivot] = 24, a[left] = 24, and a[right] = 14. As a[pivot] > a[right], so, swap a[pivot] and a[right], now pivot is at right, i.e. -



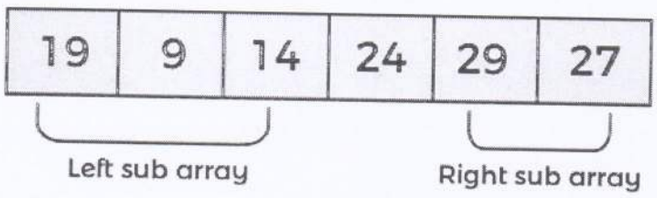
Now, a[pivot] = 24, a[left] = 14, and a[right] = 24. Pivot is at right, so the algorithm starts from left and move to right.



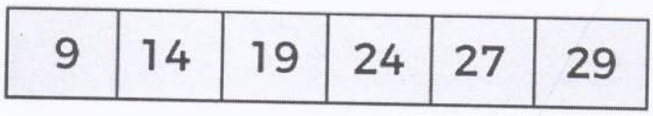
Now, a[pivot] = 24, a[left] = 24, and a[right] = 24. So, pivot, left and right are pointing the same element. It represents the termination of procedure.

Element 24, which is the pivot element is placed at its exact position.

Elements that are right side of element 24 are greater than it, and the elements that are left side of element 24 are smaller than it.



Now, in a similar manner, quick sort algorithm is separately applied to the left and right sub-arrays. After sorting gets done, the array will be -



There are two primary variants of Quick Sort: deterministic and randomized. Let's analyze both variants.

Deterministic Quick Sort: In the deterministic variant, a fixed strategy is used to select the pivot element. The most common strategies are to select the first element, the last element, or the middle element as the pivot. Here is the analysis:

- **Time Complexity:**
  - Best Case: O(n log n)
  - Average Case: O(n log n)
  - Worst Case: O(n^2)

In the worst-case scenario, when the array is already sorted or mostly sorted, the pivot selection strategy can lead to significant performance degradation. This worst-case behavior is a notable drawback of deterministic Quick Sort.

Randomized Quick Sort: In the randomized variant, the pivot element is chosen randomly. This randomness mitigates the worst-case scenario that deterministic Quick Sort can encounter. Here is the analysis:

- **Time Complexity:**
  - Expected Best Case: O(n log n)
  - Expected Average Case: O(n log n)
  - Expected Worst Case: O(n log n)

The expected time complexity of randomized Quick Sort is O(n log n) for all cases. This is because the random choice of pivot reduces the likelihood of encountering the worst-case scenarios.

Comparative Analysis:

- **Deterministic Quick Sort:**
  - Sensitive to input order (e.g., already sorted or reverse-sorted data).
  - Performance can be predictable but may lead to worst-case behavior.
  - May require careful pivot selection to optimize performance.
  - Suitable for cases where randomness is not allowed or desired.
- **Randomized Quick Sort:**
  - Less sensitive to input order due to random pivot selection.
  - Expected performance is consistently good, avoiding worst-case scenarios.
  - Not suitable for cases where deterministic results are needed, but often preferred for practical applications.
  - Requires random number generation, which may add some overhead.

In practice, randomized Quick Sort is often favored due to its predictable and efficient expected performance across various input distributions. However, in situations where deterministic behavior is necessary or for educational purposes, deterministic variants can be used with appropriate pivot selection strategies.

Conclusion:

Hence by this way we have successfully implemented and analysed quick sort by using deterministic and randomized variant.

MINI PROJECT 1

Title: Write a program to implement matrix multiplication. Also implement multithreaded matrix multiplication with either one thread per row or one thread per cell. Analyze and compare their performance.

Objective of the Assignment: Students will be able to implement and analyze matrix multiplication and multithreaded matrix multiplication with either one thread per row or one thread per cell.
Prerequisite:

1. Basic Knowledge of python or Java
2. Concept of Matrix Multiplication

Theory

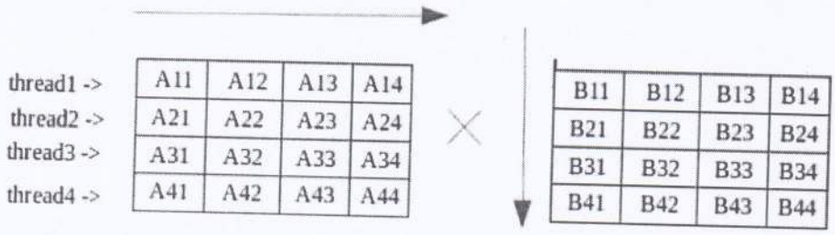
Multiplication of matrix does take time surely. Time complexity of matrix multiplication is O(n^3) using normal matrix multiplication. And Strassen algorithm improves it and its time complexity is O(n^(2.8074)).

But, Is there any way to improve the performance of matrix multiplication using the normalmethod.

Multi-threading can be done to improve it. In multi-threading, instead of utilizing a single core of your processor, we utilizes all or more core to solve the problem.
We create different threads, each thread evaluating some part of matrix multiplication.

Depending upon the number of cores your processor has, you can create the number of threads required. Although you can create as many threads as you need, a better way is to create each thread for one core.

In second approach,we create a separate thread for each element in resultant matrix. Using pthread_exit() we return computed value from each thread which is collected by pthread_join().This approach does not make use of any global variables.



To compare the performance of matrix multiplication with one thread per row and one thread per cell, we'll analyze the execution times and consider factors like matrix size and the number of CPU threads available. In general, the choice of which method is more efficient will depend on the specific use case and hardware configuration. Let's analyze the performance:

1. **Matrix Size (m, n, p)**: In this example, we used matrices of size 1000x1000 for A and B. Smaller matrices may not demonstrate significant performance differences, while larger matrices may show more noticeable speedups from parallelization.

2. **Multithreading Overhead**: The use of multiple threads introduces overhead in terms of thread creation, synchronization, and context switching. For smaller matrices, this overhead can dominate, and one thread per cell may perform better. For larger matrices, the actual matrix multiplication work may dominate, and one thread per row may perform better.

3. **Number of CPU Threads**: The number of available CPU threads can affect the performance. If there are fewer threads than rows/columns, it might not make sense to use one thread per row or cell. On a multi-core CPU, if you have many threads available, parallelization can be more beneficial.

4. **Cache and Memory**: The efficiency of cache usage can play a role in performance. One thread per row may perform better when it utilizes the cache more effectively.
5. **Optimized Libraries**: Specialized libraries like NumPy have highly optimized matrix multiplication routines that can outperform custom multithreaded implementations.
6. **Hardware**: The performance can vary based on the specific hardware and CPU architecture.
7. **Implementation Overheads**: The specific implementation of the matrix multiplication algorithm and the way it's parallelized can also impact performance. In this example, we used a basic approach.
8. **Load Balancing**: Load balancing is important when using one thread per row. Uneven workloads can lead to inefficient use of CPU resources.
9. **Scaling**: The performance may not scale linearly with the number of threads. Beyond a certain point, adding more threads may not lead to significant improvements due to the limitations of the hardware

Code :-

```
// CPP Program to multiply two matrix using pthreads
#include <bits/stdc++.h>
using namespace std;

// maximum size of
matrix#define MAX 4

// maximum number of threads
#define MAX_THREAD 4

int
matA[MAX][MAX];
int
matB[MAX][MAX];
int
matC[MAX][MAX];
int step_i = 0;

void* multi(void* arg)
{
   int i = step_i++; //i denotes row number of resultant matC

   for (int j = 0; j < MAX;
   j++) for (int k = 0; k <
   MAX; k++)
         matC[i][j] += matA[i][k] * matB[k][j];
}

// Driver
Codeint
main()
{
   // Generating random values in matA and matB
   for (int i = 0; i < MAX; i++) {
         for (int j = 0; j < MAX; j++) {
               matA[i][j] = rand() %
               10;
               matB[i][j] = rand() % 10;
         }
```

```
    }

    // Displaying
    matAcout << endl
             << "Matrix A" <<
    endl;for (int i = 0; i < MAX;
    i++) {
            for (int j = 0; j < MAX; j++)
                    cout << matA[i][j] << "
            ";cout << endl;
    }

    // Displaying
    matBcout << endl
            << "Matrix B" <<
    endl;for (int i = 0; i < MAX;
    i++) {
            for (int j = 0; j < MAX; j++)
                    cout << matB[i][j] << "
            ";cout << endl;
    }

    // declaring four threads
    pthread_t threads[MAX_THREAD];

    // Creating four threads, each evaluating its own partfor
    (int i = 0; i < MAX_THREAD; i++) {
            int* p;
            pthread_create(&threads[i], NULL, multi, (void*)(p));
    }

    // joining and waiting for all threads to complete
    for (int i = 0; i < MAX_THREAD; i++)
            pthread_join(threads[i], NULL);

    // Displaying the result
    matrixcout << endl
            << "Multiplication of A and B" <<
    endl;for (int i = 0; i < MAX; i++) {
            for (int j = 0; j < MAX; j++)
                    cout << matC[i][j] << "
            ";cout << endl;
    }
    return 0;
}
```

Conclusion

Hence we have successfully completed the implementation of this Mini Project.

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B
Assignment No : 1

Title of the Assignment: Predict the price of the Uber ride from a given pickup point to the agreed drop-off location. Perform following tasks:

1. Pre-process the dataset.
2. Identify outliers.
3. Check the correlation.
4. Implement linear regression and random forest regression models.
5. Evaluate the models and compare their respective scores like R2, RMSE, etc.

Dataset Description: The project is about on world's largest taxi company Uber inc. In this project, we're looking to predict the fare for their future transactional cases. Uber delivers service to lakhs of customers daily. Now it becomes really important to manage their data properly to come up with new business ideas to get best results. Eventually, it becomes really important to estimate the fare prices accurately.

Link for Dataset: https://www.kaggle.com/datasets/yasserh/uber-fares-dataset

Objective of the Assignment:
Students should be able to preprocess dataset and identify outliers, to check correlation and implement linear regression and random forest regression models. Evaluate them with respective scores like R2, RMSE etc.

Prerequisite:

1. Basic knowledge of Python
2. Concept of preprocessing data
3. Basic knowledge of Data Science and Big Data Analytics.

Contents of the Theory:

1. Data Preprocessing
2. Linear regression
3. Random forest regression models
4. Box Plot
5. Outliers
6. Haversine
7. Mathplotlib
8. Mean Squared Error

Data Preprocessing:

Data preprocessing is a process of preparing the raw data and making it suitable for amachine learning model. It is the rst and crucial step while creating a machine learning model.

When creating a machine learning project, it is not always a case that we come across the clean and formatted data. And while doing any operation with data, it is mandatory to clean itand put in a formatted way. So for this, we use data preprocessing task.

Why do we need Data Preprocessing?

A real-world data generally contains noises, missing values, and maybe in an unusable format which cannot be directly used for machine learning models. Data preprocessing is required tasks for cleaning the data and making it suitable for a machine learning model which also increases the accuracy and eciency of a machine learning model.

It involves below steps:

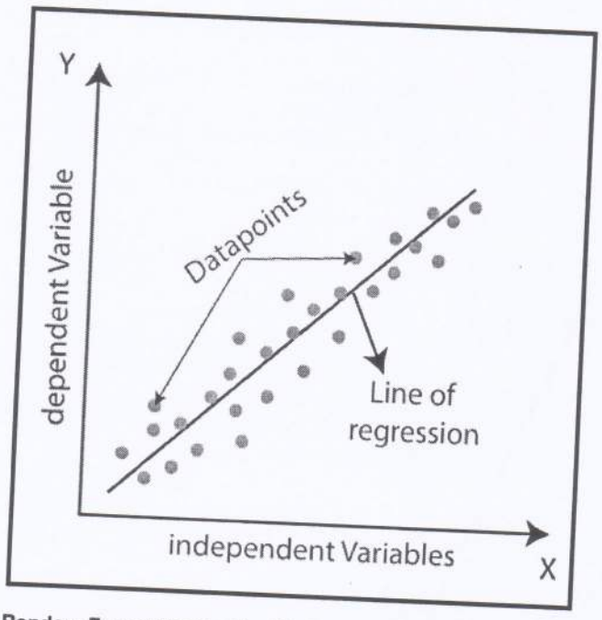
- Getting the dataset
- Importing libraries
- Importing datasets
- Finding Missing Data
- Encoding Categorical Data
- Splitting dataset into training and test set
- Feature scaling

Linear Regression:

Linear regression is one of the easiest and most popular Machine Learning algorithms. It is a statistical method that is used for predictive analysis. Linear regression makes predictions for continuous/real or numeric variables such as**sales, salary, age, product price,**etc.

Linear regression algorithm shows a linear relationship between a dependent (y) and one or more independent (y) variables, hence called as linear regression. Since linear regression shows the linear relationship, which means it finds how the value of the dependent variable is changing according to the value of the independent variable.

The linear regression model provides a sloped straight line representing the relationship between the variables. Consider the below image:



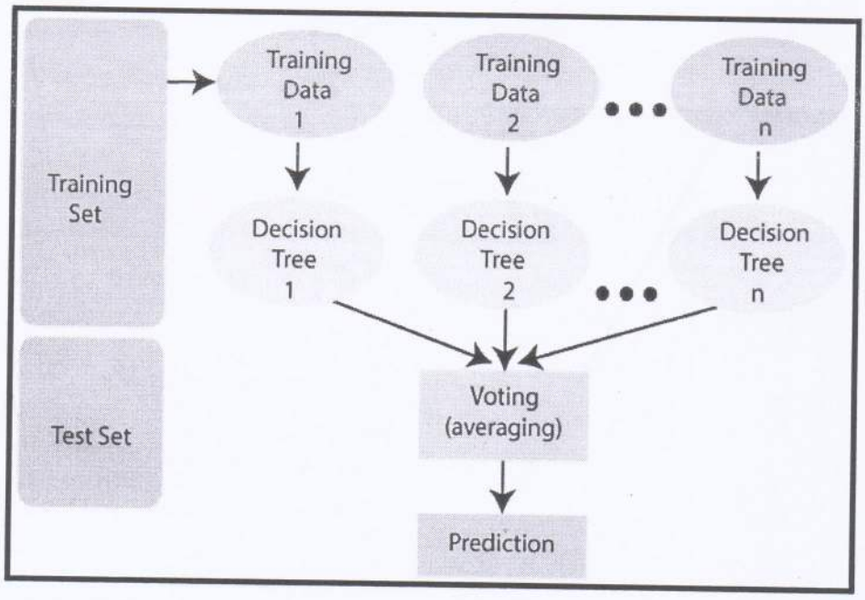
Random Forest Regression Models:

Random Forest is a popular machine learning algorithm that belongs to the supervisedlearning technique. It can be used for both Classi cation and Regression problems in ML. Itis based on the concept of**ensemble learning,**which is a process of*combining multiple classi ers to solve a complex problem and to improve the performance of the model.*

As the name suggests,***"Random Forest is a classi er that contains a number of decision trees on various subsets of the given dataset and takes the average to improve the predictive accuracy of that dataset."***Instead of relying on one decision tree, the random forest takes the

prediction from each tree and based on the majority votes of predictions, and it predicts the] nal output.

The greater number of trees in the forest leads to higher accuracy and prevents theproblem of over tting.



Boxplot:

Boxplots are a measure of how well data is distributed across a data set. This divides thedata set into three quartiles. This graph represents the minimum, maximum, average, rst quartile, and the third quartile in the data set. Boxplot is also useful in comparing thedistribution of data in a data set by drawing a boxplot for each of them.

R provides a boxplot() function to create a boxplot. There is the following syntax of boxplot()function:

boxplot(x, data, notch, varwidth, names, main)

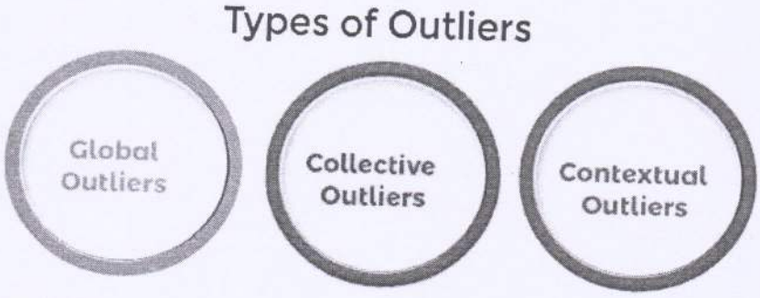
Here,

S.No	Parameter	Description

1.	x	It is a vector or a formula.
2.	data	It is the data frame.
3.	notch	It is a logical value set as true to draw a notch.
4.	varwidth	It is also a logical value set as true to draw the width of the boxsame as the sample size.
5.	names	It is the group of labels that will be printed under each boxplot.
6.	main	It is used to give a title to the graph.

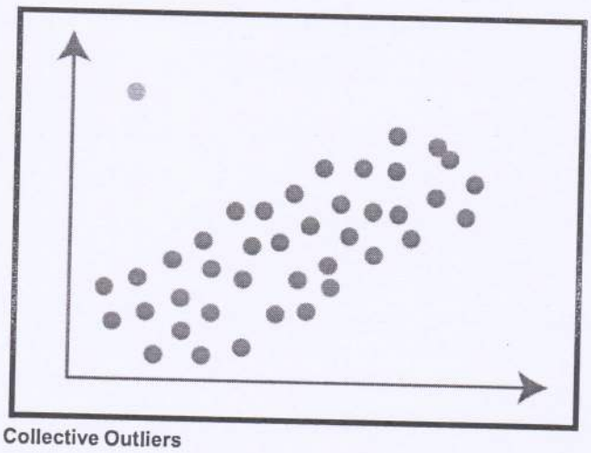
Outliers:

As the name suggests, "outliers" refer to the data points that exist outside of what is to beexpected. The major thing about the outliers is what you do with them. If you are going toanalyze any task to analyze data sets, you will always have some assumptions based onhow this data is generated. If you find some data points that are likely to contain some form of error, then these are definitely outliers, and depending on the context, you want toovercome those errors. The data mining process involves the analysis and prediction of datathat the data holds. In 1969, Grubbs introduced the first definition of outliers.



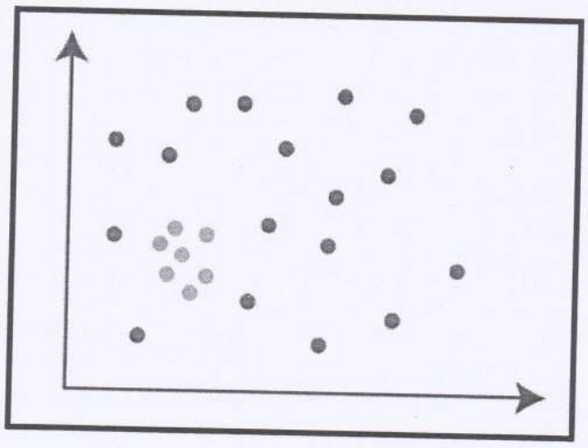
Global Outliers

Global outliers are also called point outliers. Global outliers are taken as the simplest form of outliers. When data points deviate from all the rest of the data points in a given data set, it is known as the global outlier. In most cases, all the outlier detection procedures are targeted to determine the global outliers. The green data point is the global outlier.



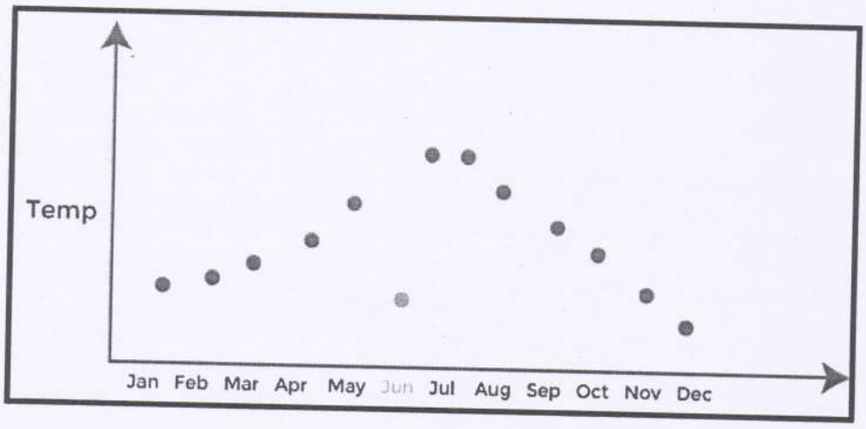
Collective Outliers

In a given set of data, when a group of data points deviates from the rest of the data set is called collective outliers. Here, the particular set of data objects may not be outliers, but when you consider the data objects as a whole, they may behave as outliers. To identify thetypes of different outliers, you need to go through background information about the relationship between the behavior of outliers shown by different data objects. For example, in an Intrusion Detection System, the DOS package from one system to another is taken as normal behavior. Therefore, if this happens with the various computer simultaneously, it is considered abnormal behavior, and as a whole, they are called collective outliers. The greendata points as a whole represent the collective outlier.



Contextual Outliers

As the name suggests, "Contextual" means this outlier introduced within a context. For example, in the speech recognition technique, the single background noise. Contextual outliers are also known as Conditional outliers. These types of outliers happen if a data object deviates from the other data points because of any speci c condition in a given data set. As we know, there are two types of attributes of objects of data: contextual attributes and behavioral attributes. Contextual outlier analysis enables the users to examine outliers in different contexts and conditions, which can be useful in various applications. For example, A temperature reading of 45 degrees Celsius may behave as an outlier in a rainy season. Still, it will behave like a normal data point in the context of a summer season. In thegiven diagram, a green dot representing the low-temperature value in June is a contextual outlier since the same value in December is not an outlier.



Haversine:

The Haversine formula calculates the shortest distance between two points on a sphere using their latitudes and longitudes measured along the surface. It is important for use in navigation.

Matplotlib:

Matplotlib is an amazing visualization library in Python for 2D plots of arrays. Matplotlib is a multi-platform data visualization library built on NumPy arrays and designed to work with the broader SciPy stack. It was introduced by John Hunter in the year 2002.

One of the greatest benefits of visualization is that it allows us visual access to huge amounts of data in easily digestible visuals. Matplotlib consists of several plots like line, bar, scatter, histogram etc.

Mean Squared Error;

The**Mean Squared Error (MSE)**or**Mean Squared Deviation (MSD)**of an estimator measures the average of error squares i.e. the average squared difference between theestimated values and true value. It is a risk function, corresponding to the expected value ofthe squared error loss. It is always non – negative and values close to zero are better. TheMSE is the second moment of the error (about the origin) and thus incorporates both thevariance of the estimator and its bias.

Code :- https://www.kaggle.com/code/proxzima/uber-fare-price-prediction

Conclusion:

In this way we have explored Concept correlation and implement linear regression andrandom forest regression models.

Assignment Questions:

1. What is data preprocessing?
2. De ne Outliers?
3. What is Linear Regression?
4. What is Random Forest Algorithm?
5. Explain: pandas, numpy?

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B

Assignment No : 2

Title of the Assignment: Classify the email using the binary classification method. Email Spam detection has two states:
a) Normal State - Not Spam,
b) Abnormal State - Spam.
Use K-Nearest Neighbors and Support Vector Machine for classification. Analyze their performance.

Dataset Description: The csv file contains 5172 rows, each row for each email. There are 3002 columns. The first column indicates Email name. The name has been set with numbers and not recipients' name to protect privacy. The last column has the labels for prediction : 1for spam, 0 for not spam. The remaining 3000 columns are the 3000 most common words inall the emails, after excluding the non-alphabetical characters/words. For each row, thecount of each word(column) in that email(row) is stored in the respective cells. Thus,information regarding all 5172 emails are stored in a compact dataframe rather than asseparate text files.

Link: https://www.kaggle.com/datasets/balaka18/email-spam-classification-dataset-csv

Objective of the Assignment:

Students should be able to classify email using the binary Classification and implement email spam detection technique by using K-Nearest Neighbors and Support Vector Machine algorithm.

Prerequisite:

1. Basic knowledge of Python

2. Concept of K-Nearest Neighbors and Support Vector Machine for classification.

Contents of the Theory:

1. Data Preprocessing
2. Binary Classification
3. K-Nearest Neighbours
4. Support Vector Machine
5. Train, Test and Split Procedure

Data Preprocessing:

Data preprocessing is a process of preparing the raw data and making it suitable for amachine learning model. It is the rst and crucial step while creating a machine learning model.

When creating a machine learning project, it is not always a case that we come across the clean and formatted data. And while doing any operation with data, it is mandatory to clean itand put in a formatted way. So for this, we use data preprocessing task.

Why do we need Data Preprocessing?

A real-world data generally contains noises, missing values, and maybe in an unusable format which cannot be directly used for machine learning models. Data preprocessing is required tasks for cleaning the data and making it suitable for a machine learning model which also increases the accuracy and ēlciency of a machine learning model.

It involves below steps:

- Getting the dataset
- Importing libraries
- Importing datasets
- Finding Missing Data
- Encoding Categorical Data
- Splitting dataset into training and test set
- Feature scaling

Code :- https://www.kaggle.com/code/mfaisalqureshi/email-spam-detection-98-accuracy/notebook

Binary classification

Binary classification is a supervised machine learning task where the goal is to assign each data point to one of two classes or categories. Classification into one of two classes is a common machine learning problem. You might want to predict whether or not a customer is likely to make a purchase, whether or not a credit card transaction was fraudulent, whether deep space signals show evidence of a new planet, or a medical test evidence of a disease. These are all binary classification problems.

Two common algorithms used for binary classification are K-Nearest Neighbors (K-NN) and Support Vector Machine (SVM). Here's an overview of these algorithms and the train-test split procedure:

1. **K-Nearest Neighbors (K-NN):**

   - K-NN is a simple classification algorithm that makes predictions based on the majority class of the k-nearest data points to a given test point.To use K-NN for binary classification, you need labeled data with two classes (e.g., positive and negative).
   - K-NN is a lazy learner because it doesn't build a specific model during the training phase; it memorizes the training data.
   - The choice of 'k' is a hyperparameter that can significantly affect the model's performance. A small 'k' may make the model sensitive to noise, while a large 'k' might lead to oversmoothing. K-NN can be computationally expensive for large datasets, as it requires calculating distances to all data points.
   - Feature scaling is essential because K-NN relies on distance calculations. Features with different scales can bias the results. K-NN works well for simple and small to medium-sized datasets but may not be suitable for high-dimensional data or datasets with imbalanced class distributions.
   - It's important to choose an appropriate distance metric based on the nature of your data and the problem you're trying to solve. K-NN is a versatile algorithm, and while it has its limitations, it can be a useful tool for various classification tasks, especially when the dataset is well-preprocessed, and the choice of 'k' is well-tuned
   - The steps for using K-NN for binary classification are as follows:
   - a. Collect and preprocess your data.
   - b. Split the data into a training set and a test set.
   - c. Choose a value for 'k' (the number of nearest neighbors to consider).
   - d. Train the K-NN model on the training data.

- e. Use the trained model to make predictions on the test data.
- f. Evaluate the model's performance using metrics like accuracy, precision, recall, and F1-score.

2. **Support Vector Machine (SVM):**

- SVM is a powerful classification algorithm that finds a hyperplane that best separates the two classes in a way that maximizes the margin between them.
- SVM is effective in cases where the data is not linearly separable by transforming it into a higher-dimensional space. The choice of kernel and its hyperparameters can have a significant impact on the SVM's performance. SVM is capable of finding a decision boundary that maximizes the margin, making it robust against overfitting.
- SVM can handle both balanced and imbalanced datasets. SVM can be computationally intensive, especially for large datasets. Techniques like stochastic gradient descent and linear SVMs may be used for efficiency. Support vectors are essential for defining the decision boundary, so they play a crucial role in the SVM's performance. Support Vector Machines are a versatile algorithm that works well in a wide range of applications, including image classification, text classification, and anomaly detection, among others.
- Steps for using SVM for binary classification:
- a. Collect and preprocess your data.
- b. Split the data into a training set and a test set.
- c. Choose a suitable kernel (e.g., linear, polynomial, or radial basis function) and kernel parameters.
- d. Train the SVM model on the training data.
- e. Use the trained model to make predictions on the test data.
- f. Evaluate the model's performance, typically using metrics like accuracy, precision, recall, and F1-score.

3. **Train-Test Split Procedure:**

- The train-test split is a critical step in machine learning to assess the model's performance. It involves dividing the dataset into two parts: a training set and a test set.
- The training set is used to train the machine learning model, while the test set is used to evaluate the model's performance and generalization.
- The steps for the train-test split procedure are as follows:

- a. Randomly shuffle the dataset to ensure that the data is evenly distributed between the training and test sets.
- b. Split the dataset into two parts, typically with a ratio like 70-30 or 80-20, where the training set gets the larger portion.
- c. Ensure that the two sets are mutually exclusive, meaning that no data point appears in both sets.
- d. Use the training set to train the machine learning model.
- e. Use the test set to evaluate the model's performance by making predictions and comparing them to the actual labels.
- f. Calculate various evaluation metrics to assess the model's accuracy and generalization, such as accuracy, precision, recall, and F1-score.

The train-test split procedure helps you estimate how well your model is likely to perform on new, unseen data and avoid overfitting, where the model performs well on the training data but poorly on new data.

Conclusion

Hence in this way we have studied the Concept of K-Nearest Neighbors and Support Vector Machine for classification.

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B

Assignment No : 3

Title of the Assignment: Given a bank customer, build a neural network-based classifier that can determine whether they will leave or not in the next 6 months

Dataset Description: The case study is from an open-source dataset from Kaggle. The dataset contains 10,000 sample points with 14 distinct features such as CustomerId, CreditScore, Geography, Gender, Age, Tenure, Balance, etc.

Link for Dataset: https://www.kaggle.com/barelydedicated/bank-customer-churn-modeling

Perform the following steps:

1. Read the dataset.
2. Distinguish the feature and target set and divide the data set into training and test sets.
3. Normalize the train and test data.
4. Initialize and build the model. Identify the points of improvement and implement the same.
5. Print the accuracy score and confusion matrix (5 points).

Objective of the Assignment:

Students should be able to distinguish the feature and target set and divide the data set into training and test sets and normalize them and students should build the model on the basis of that.

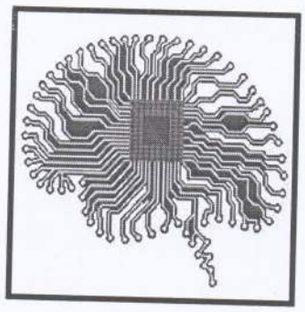
Prerequisite:

1. Basic knowledge of Python
2. Concept of Confusion Matrix

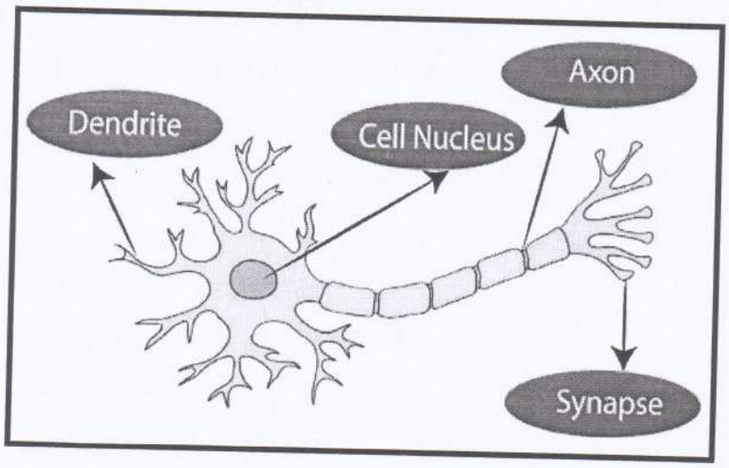
Contents of the Theory:

1. Artificial Neural Network
2. Keras
3. tensorflow
4. Normalization
5. Confusion Matrix

Artificial Neural Network:

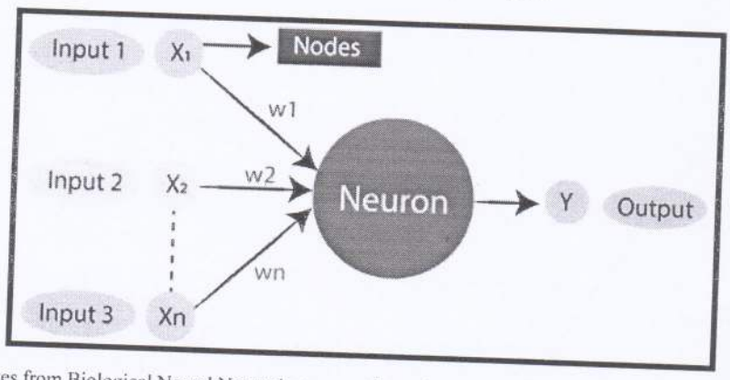


The term "Arti cial Neural Network" is derived from Biological neural networks that develop the structure of a human brain. Similar to the human brain that has neurons interconnected to one another, arti cial neural networks also have neurons that are interconnected to one another in various layers of the networks. These neurons are known as nodes.



The given gure illustrates the typical diagram of Biological Neural Network.

The typical Artificial Neural Network looks something like the given figure.



Dendrites from Biological Neural Network represent inputs in Artificial Neural Networks, cellnucleus represents Nodes, synapse represents Weights, and Axon represents Output.

Relationship between Biological neural network and artificial neural network:

Biological Neural Network	**Artificial Neural Network**
Dendrites	Inputs
Cell nucleus	Nodes
Synapse	Weights
Axon	Output

An**Artificial Neural Network**in the field of**Artificial intelligence**where it attempts to mimic the network of neurons makes up a human brain so that computers will have an option tounderstand things and make decisions in a human-like manner. The artificial neural networkis designed by programming computers to behave simply like interconnected brain cells.

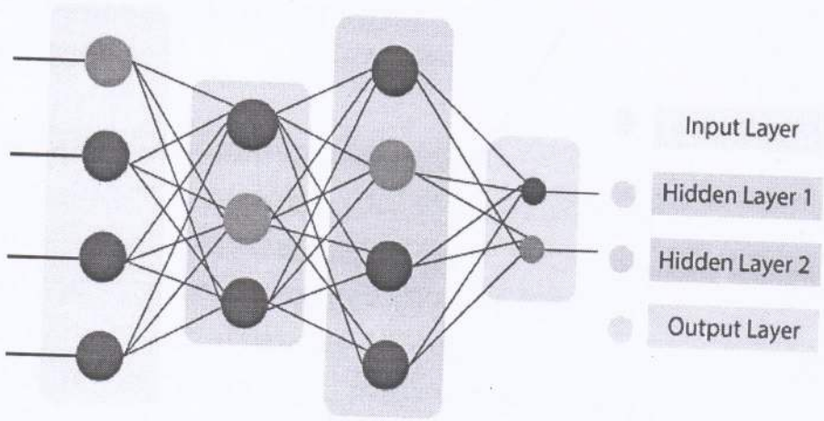
There are around 1000 billion neurons in the human brain. Each neuron has an association point somewhere in the range of 1,000 and 100,000. In the human brain, data is stored in such a manner as to be distributed, and we can extract more than one piece of this data when necessary from our memory parallelly. We can say that the human brain is made up ofincredibly amazing parallel processors.

We can understand the artificial neural network with an example, consider an example of adigital logic gate that takes an input and gives an output. "OR" gate, which takes two inputs. If one or both the inputs are "On," then we get "On" in output. If both the inputs are "Off," thenwe get "Off" in output. Here the output depends upon input. Our brain does not perform the same task. The outputs to inputs relationship keep changing because of the neurons in our brain, which are "learning."

The architecture of an artificial neural network:

To understand the concept of the architecture of an artificial neural network, we have to understand what a neural network consists of. In order to define a neural network that consists of a large number of artificial neurons, which are termed units arranged in a sequence of layers. Lets us look at various types of layers available in an artificial neural network.

Artificial Neural Network primarily consists of three layers:



Input Layer:

As the name suggests, it accepts inputs in several different formats provided by the programmer.

Hidden Layer:

The hidden layer presents in-between input and output layers. It performs all the calculationsto nd hidden features and patterns.

Output Layer:

The input goes through a series of transformations using the hidden layer, which nally results in output that is conveyed using this layer.

The arti cial neural network takes input and computes the weighted sum of the inputs andincludes a bias. This computation is represented in the form of a transfer function.

$$\sum_{i=1}^{n} Wi * Xi + b$$

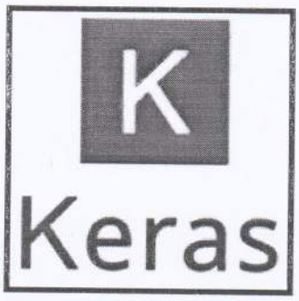
It determines weighted total is passed as an input to an activation function to produce the output. Activation functions choose whether a node should re or not. Only those who are red make it to the output layer. There are distinctive activation functions available that canbe applied upon the sort of task we are performing.

Keras:

Keras is an open-source high-level Neural Network library, which is written in Python is capable enough to run on Theano, TensorFlow, or CNTK. It was developed by one of the Google engineers, Francois Chollet. It is made user-friendly, extensible, and modular for facilitating faster experimentation with deep neural networks. It not only supports Convolutional Networks and Recurrent Networks individually but also their combination.

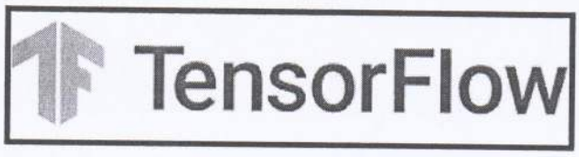
It cannot handle low-level computations, so it makes use of the**Backend**library to resolve it.The backend library act as a high-level API wrapper for the low-level API, which lets it run onTensorFlow, CNTK, or Theano.

Initially, it had over 4800 contributors during its launch, which now has gone up to 250,000 developers. It has a 2X growth ever since every year it has grown. Big companies like Microsoft, Google, NVIDIA, and Amazon have actively contributed to the development of Keras. It has an amazing industry interaction, and it is used in the development of popular rms likes Net ix, Uber, Google, Expedia, etc.



Tensor□ow:

TensorFlow is a Google product, which is one of the most famous deep learning tools widelyused in the research area of machine learning and deep neural network. It came into the market on 9th November 2015 under the Apache License 2.0. It is built in such a way that it can easily run on multiple CPUs and GPUs as well as on mobile operating systems. It consists of various wrappers in distinct languages such as Java, C++, or Python.



Normalization:

Normalization is a scaling technique in Machine Learning applied during data preparation tochange the values of numeric columns in the dataset to use a common scale. It is not necessary for all datasets in a model. It is required only when features of machine learning models have different ranges.

Mathematically, we can calculate normalization with the below formula:Xn = (X -

Xminimum) / (Xmaximum - Xminimum)

Where,

- Xn = Value of Normalization
- Xmaximum = Maximum value of a feature
- Xminimum = Minimum value of a feature

Example: Let's assume we have a model dataset having maximum and minimum values of feature as mentioned above. To normalize the machine learning model, values are shiftedand rescaled so their range can vary between 0 and 1. This technique is also known asMin-Max scaling. In this scaling technique, we will change the feature values as follows:

Case1-If the value of X is minimum, the value of Numerator will be 0; hence Normalizationwill also be 0.

Xn = (X - Xminimum) / (Xmaximum - Xminimum) ---------- formula

Put X =Xminimum in above formula, we get;

Xn = Xminimum- Xminimum/ (Xmaximum - Xminimum)Xn = 0

Case2-If the value of X is maximum, then the value of the numerator is equal to the denominator; hence Normalization will be 1.

Xn = (X - Xminimum) / (Xmaximum - Xminimum)Put X

=Xmaximum in above formula, we get;

Xn = Xmaximum - Xminimum/ (Xmaximum - Xminimum)Xn = 1

Case3-On the other hand, if the value of X is neither maximum nor minimum, then values of normalization will also be between 0 and 1.

Hence, Normalization can be de¯ned as a scaling method where values are shifted and rescaled to maintain their ranges between 0 and 1, or in other words; it can be referred to as Min-Max scaling technique.

Normalization techniques in Machine Learning

Although there are so many feature normalization techniques in Machine Learning, few of them are most frequently used. These are as follows:

- **Min-Max Scaling:**This technique is also referred to as scaling. As we have already discussed above, the Min-Max scaling method helps the dataset to shift and rescalethe values of their attributes, so they end up ranging between 0 and 1.
- **Standardization scaling:**

Standardization scaling is also known as**Z-score**normalization, in which values are centered around the mean with a unit standard deviation, which means the attributebecomes zero and the resultant distribution has a unit standard deviation. Mathematically,we can calculate the standardization by subtracting the feature value from the mean anddividing it by standard deviation.

Hence, standardization can be expressed as follows:

$$X' = \frac{X - \mu}{\sigma}$$

Here,μrepresents the mean of feature value, andσrepresents the standard deviation offeature values.

However, unlike Min-Max scaling technique, feature values are not restricted to a speci crange in the standardization technique.

This technique is helpful for various machine learning algorithms that use distance measures such as**KNN, K-means clustering, and Principal component analysis**, etc. Further,it is also important that the model is built on assumptions and data is normally distributed.

When to use Normalization or Standardization?

Which is suitable for our machine learning model, Normalization or Standardization? This is probably a big confusion among all data scientists as well as machine learning engineers. Although both terms have the almost same meaning choice of using normalization or standardization will depend on your problem and the algorithm you are using in models.

1. Normalization is a transformation technique that helps to improve the performance as well as the accuracy of your model better. Normalization of a machine learning model is useful when you don't know feature distribution exactly. In other words, the feature distribution of data does not follow a**Gaussian**(bell curve) distribution. Normalization must

have an abounding range, so if you have outliers in data, they will be affected by Normalization.

Further, it is also useful for data having variable scaling techniques such as**KNN, artificial neural networks**. Hence, you can't use assumptions for the distribution of data.

2. Standardization in the machine learning model is useful when you are exactly aware of the feature distribution of data or, in other words, your data follows a Gaussian distribution. However, this does not have to be necessarily true. Unlike Normalization, Standardization does not necessarily have a bounding range, so if you have outliers in your data, they will notbe affected by Standardization.

Further, it is also useful when data has variable dimensions and techniques such as**linear regression, logistic regression, and linear discriminant analysis**.

Example: Let's understand an experiment where we have a dataset having two attributes, i.e., age and salary. Where the age ranges from 0 to 80 years old, and the income varies from 0 to 75,000 dollars or more. Income is assumed to be 1,000 times that of age. As a result, the ranges of these two attributes are much different from one another.

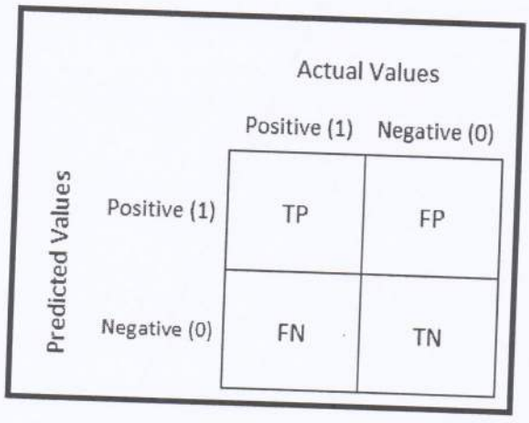
Because of its bigger value, the attributed income will organically influence the conclusion more when we undertake further analysis, such as multivariate linear regression. However, this does not necessarily imply that it is a better predictor. As a result, we normalize the dataso that all of the variables are in the same range.

Further, it is also helpful for the prediction of credit risk scores where normalization isapplied to all numeric data except the class column. It uses the**tanh transformation** technique, which converts all numeric features into values of range between 0 to 1.

Confusion Matrix:

The confusion matrix is a matrix used to determine the performance of the classification models for a given set of test data. It can only be determined if the true values for test data are known. The matrix itself can be easily understood, but the related terminologies may beconfusing. Since it shows the errors in the model performance in the form of a matrix, hence also known as an**error matrix**. Some features of Confusion matrix are given below:

- For the 2 prediction classes of classifiers, the matrix is of 2*2 table, for 3 classes, it is3*3 table, and so on.
- The matrix is divided into two dimensions, that are**predicted values**and**actual values**along with the total number of predictions.
- Predicted values are those values, which are predicted by the model, and actualvalues are the true values for the given observations.
- It looks like the below table:



The above table has the following cases:

- **True Negative:**Model has given prediction No, and the real or actual value was alsoNo.
- **True Positive:**The model has predicted yes, and the actual value was also true.
- **False Negative:**The model has predicted no, but the actual value was Yes, it is alsocalled as**Type-II error**.
- **False Positive:**The model has predicted Yes, but the actual value was No. It is alsocalled a**Type-I error.**

Need for Confusion Matrix in Machine learning

- It evaluates the performance of the classification models, when they makepredictions on test data, and tells how good our classification model is.
- It not only tells the error made by the classifiers but also the type of errors such as itis either type-I or type-II error.
- With the help of the confusion matrix, we can calculate the different parameters forthe model, such as accuracy, precision, etc.

Example: We can understand the confusion matrix using an example.

Suppose we are trying to create a model that can predict the result for the disease that iseither a person has that disease or not. So, the confusion matrix for this is given as:

n = 100	Actual: No	Actual: Yes	
Predicted: No	TN: 65	FP: 3	68
Predicted: Yes	FN: 8	TP: 24	32
	73	27	

From the above example, we can conclude that:

- The table is given for the two-class classifier, which has two predictions "Yes" and "NO." Here, Yes defines that patient has the disease, and No defines that patient doesnot has that disease.
- The classifier has made a total of **100 predictions**. Out of 100 predictions, **89 are true predictions**, and **11 are incorrect predictions**.
- The model has given prediction "yes" for 32 times, and "No" for 68 times. Whereas theactual "Yes" was 27, and actual "No" was 73 times.

Calculations using Confusion Matrix:

We can perform various calculations for the model, such as the model's accuracy, using thismatrix. These calculations are given below:

- **Classification Accuracy:** It is one of the important parameters to determine the accuracy of the classification problems. It defines how often the model predicts thecorrect output. It can be calculated as the ratio of the number of correct predictionsmade by the classifier to all number of predictions made by the classifiers. The formula is given below:

$$\text{Accuracy} = \frac{TP+TN}{TP+FP+FN+TN}$$

- **Misclassification rate:** It is also termed as Error rate, and it defines how often the model gives the wrong predictions. The value of error rate can be calculated as thenumber of incorrect predictions to all number of the predictions made by the classifier. The formula is given below:

$$\text{Error rate} = \frac{FP+FN}{TP+FP+FN+TN}$$

- **Precision:** It can be defined as the number of correct outputs provided by the model or out of all positive classes that have predicted correctly by the model, how many ofthem were actually true. It can be calculated using the below formula:

$$\text{Precision} = \frac{TP}{TP+FP}$$

- **Recall:** It is defined as the out of total positive classes, how our model predictedcorrectly. The recall must be as high as possible.

$$\text{Recall} = \frac{TP}{TP+FN}$$

- **F-measure:** If two models have low precision and high recall or vice versa, it is difficult to compare these models. So, for this purpose, we can use F-score. This score helps us to evaluate the recall and precision at the same time. The F-score is maximum if the recall is equal to the precision. It can be calculated using the belowformula:

$$\text{F-measure} = \frac{2*Recall*Precision}{Recall+Precision}$$

Other important terms used in Confusion Matrix:

- **Null Error rate:** It defines how often our model would be incorrect if it always predicted the majority class. As per the accuracy paradox, it is said that "*the bestclassifier has a higher error rate than the null error rate.*"
- **ROC Curve:** The ROC is a graph displaying a classifier's performance for all possible thresholds. The graph is plotted between the true positive rate (on the Y-axis) and thefalse Positive rate (on the x-axis).

Code :- https://www.kaggle.com/code/jaysadguru00/starter-bank-customer-churn-modeling-6dbfe05e-a

Conclusion:

In this way we build a a neural network-based classifier that can determine whether they willleave or not in the next 6 months

Assignment Questions:

1) What is Normalization?
2) What is Standardization?
3) Explain Confusion Matrix ?
4) Define the following: Classification Accuracy, Misclassification Rate, Precision.
5) One Example of Confusion Matrix?

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B

ASSIGNMENT NO: 4

Title: Implement Gradient Descent Algorithm to find the local minima of a function. For example, find the local minima of the function $y=(x+3)^2$ starting from the point $x=2$.

Objective: Students should learn to implement Gradient Descent Algorithm.

Prerequisite:

1. Basic of Python Language
2. Concept of Gradient Descent Algorithm

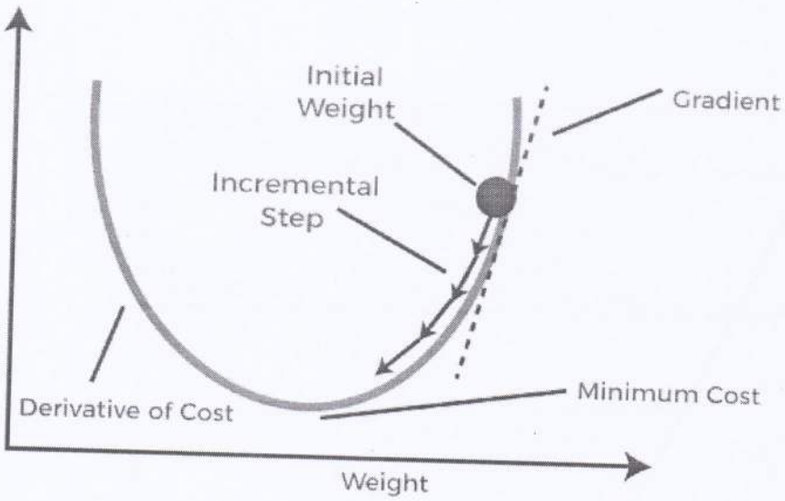
Theory:

Gradient descent was initially discovered by "Augustin-Louis Cauchy" in mid of 18th century. Gradient Descent is defined as one of the most commonly used iterative optimization algorithms of machine learning to train the machine learning and deep learning models. It helps in finding the local minimum of a function.

The best way to define the local minimum or local maximum of a function using gradient descent is as follows:

If we move towards a negative gradient or away from the gradient of the function at the current point, it will give the local minimum of that function.

Whenever we move towards a positive gradient or towards the gradient of the function at the current point, we will get the local maximum of that function.



This entire procedure is known as Gradient Ascent, which is also known as steepest descent. The main objective of using a gradient descent algorithm is to minimize the cost function using iteration.

Types of Gradient Descent

Based on the error in various training models, the Gradient Descent learning algorithm can be divided into **Batch gradient descent, stochastic gradient descent, and mini-batch gradient descent.** Let's understand these different types of gradient descent:

1. Batch Gradient Descent:

Batch gradient descent (BGD) is used to find the error for each point in the training set and update the model after evaluating all training examples. This procedure is known as the training epoch. In simple words, it is a greedy approach where we have to sum over all examples for each update.

Advantages of Batch gradient descent:

- It produces less noise in comparison to other gradient descent.
- It produces stable gradient descent convergence.
- It is Computationally efficient as all resources are used for all training samples.

2. Stochastic gradient descent

Stochastic gradient descent (SGD) is a type of gradient descent that runs one training example per iteration. Or in other words, it processes a training epoch for each example within a dataset and updates each training example's parameters one at a time. As it requires only one training example at a time, hence it is easier to store in allocated memory. However, it shows some computational efficiency losses in comparison to batch gradient systems as it shows frequent updates that require more detail and speed. Further, due to frequent updates, it is also treated as a noisy gradient. However, sometimes it can be helpful in finding the global minimum and also escaping the local minimum.

Advantages of Stochastic gradient descent:

In Stochastic gradient descent (SGD), learning happens on every example, and it consists of a few advantages over other gradient descent.

- It is easier to allocate in desired memory.
- It is relatively fast to compute than batch gradient descent.
- It is more efficient for large datasets.

3. MiniBatch Gradient Descent:

Mini Batch gradient descent is the combination of both batch gradient descent and stochastic gradient descent. It divides the training datasets into small batch sizes then performs the updates on those batches separately. Splitting training datasets into smaller batches make a balance to maintain the computational efficiency of batch gradient descent and speed of stochastic gradient descent. Hence, we can achieve a special type of gradient descent with higher computational efficiency and less noisy gradient descent.

Advantages of Mini Batch gradient descent:

- It is easier to fit in allocated memory.
- It is computationally efficient.
- It produces stable gradient descent convergence.

Here is the basic algorithm for Gradient Descent:

Gradient Descent Algorithm

Input:

- Initial parameters θ (often initialized randomly)
- Learning rate α (controls the step size)
- Cost function J(θ) (a function that you want to minimize)
- Convergence threshold ε (a small value that determines when to stop)

Output:

- Optimized parameters θ that minimize the cost function

Procedure:

1. Initialize parameters: Set θ to an initial value, often randomly. Initialize a variable to keep track of the previous cost, J_prev, with a large value (e.g., +∞).

2. Loop until convergence: a. Compute the gradient of the cost function with respect to the parameters: $\nabla J(\theta)$. b. Update the parameters θ: $\theta = \theta - \alpha * \nabla J(\theta)$ This update is performed for each parameter θ_i: $\theta_i = \theta_i - \alpha * \partial J(\theta) / \partial \theta_i$
3. Calculate the new cost: $J_{new} = J(\theta)$.
4. Check for convergence: If $|J_{new} - J_{prev}| < \varepsilon$, where ε is the convergence threshold, stop the algorithm. The algorithm has converged, and θ is the optimized parameter set. Otherwise, set $J_{prev} = J_{new}$ and go back to step 2.

Hyperparameters:

- Learning Rate (α): The learning rate controls the step size in each update. Choosing an appropriate learning rate is crucial for the convergence and stability of the algorithm. It may require some experimentation.
- Convergence Threshold (ε): The convergence threshold determines when to stop the algorithm. Setting it too low may result in longer training times, while setting it too high may result in suboptimal solutions.

Additional Considerations:

- Gradient Descent can be sensitive to the choice of the learning rate, and various techniques like learning rate schedules or adaptive learning rates (e.g., Adam, RMSprop) can be used to improve convergence.
- Mini-batch Gradient Descent and Stochastic Gradient Descent are variants of this algorithm that use subsets of the training data in each iteration, which can be more computationally efficient.
- Regularization terms can be added to the cost function to prevent overfitting.
- Make sure the cost function is differentiable with respect to the parameters θ for this algorithm to work.

Gradient Descent is a foundational optimization algorithm and serves as the basis for many advanced optimization techniques used in machine learning and deep learning.

Conclusion:

Hence by this way we have successfully implemented GDA.

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B

Assignment No : 5

Title of the Assignment: Implement K-Nearest Neighbors algorithm on diabetes.csv dataset. Compute confusion matrix, accuracy, error rate, precision and recall on the given dataset.

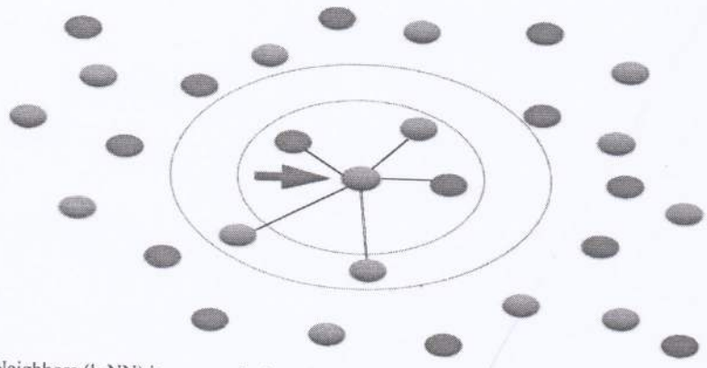
Dataset Description: We will try to build a machine learning model to accurately predict whether or not the patients in the dataset have diabetes or not?
The datasets consists of several medical predictor variables and one target variable, Outcome. Predictor variables includes the number of pregnancies the patient has had, their BMI, insulin level, age, and so on.

Link for Dataset: Diabetes predication system with KNN algorithm | Kaggle

Objective of the Assignment:
Students should be able to preprocess dataset and identify outliers, to check correlation and implement KNN algorithm and random forest classification models. Evaluate them with respective scores like confusion_matrix, accuracy_score, mean_squared_error, r2_score, roc_auc_score, roc_curve etc.

Prerequisite:

1. Basic knowledge of Python
2. Concept of Confusion Matrix
3. Concept of roc_auc curve.
4. Concept of Random Forest and KNN algorithms



k-Nearest-Neighbors (k-NN) is a supervised machine learning model. Supervised learning is when a model learns from data that is already labeled. A supervised learning model takes in a set of input objects and output values. The model then trains on that data to learn how to map the inputs to the desired output so it can learn to make predictions on unseen data.
k-NN models work by taking a data point and looking at the 'k' closest labeled data points. The data point is then assigned the label of the majority of the 'k' closest points.
For example, if k = 5, and 3 of points are 'green' and 2 are 'red', then the data point in question would be labeled 'green', since 'green' is the majority (as shown in the above graph).
Scikit-learn is a machine learning library for Python. In this tutorial, we will build a k-NN model using Scikit-learn to predict whether or not a patient has diabetes.
Reading in the training data

For our k-NN model, the first step is to read in the data we will use as input. For this example, we are using the diabetes dataset. To start, we will use Pandas to read in the data. I will not go into detail on Pandas, but it is a library you should become familiar with if you're looking to dive further into data science and machine learning.

```
import pandas as pd#read in the data using pandas
df = pd.read_csv('data/diabetes_data.csv')#check data has been read in properly
df.head()
```

	pregnancies	glucose	diastolic	triceps	insulin	bmi	dpf	age	diabetes
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1

Next, let's see how much data we have. We will call the 'shape' function on our dataframe to see how many rows and columns there are in our data. The rows indicate the number of patients and the columns indicate the number of features (age, weight, etc.) in the dataset for each patient. 1

```
#check number of rows and columns in dataset
df.shape
```

Op → (768,9)
We can see that we have 768 rows of data (potential diabetes patients) and 9 columns (8 input features and 1 target output).

Split up the dataset into inputs and targets

Now let's split up our dataset into inputs (X) and our target (y). Our input will be every column except 'diabetes' because 'diabetes' is what we will be attempting to predict. Therefore, 'diabetes' will be our target.

We will use pandas 'drop' function to drop the column 'diabetes' from our dataframe and store it in the variable 'X'. This will be our input.

```
#create a dataframe with all training data except the target column
X = df.drop(columns=['diabetes'])#check that the target variable has been removed
X.head()
```

	pregnancies	glucose	diastolic	triceps	insulin	bmi	dpf	age
0	6	148	72	35	0	33.6	0.627	50
1	1	85	66	29	0	26.6	0.351	31
2	8	183	64	0	0	23.3	0.672	32
3	1	89	66	23	94	28.1	0.167	21
4	0	137	40	35	168	43.1	2.288	33

We will insert the 'diabetes' column of our dataset into our target variable (y).

```
#separate target values
y = df['diabetes'].values#view target values
y[0:5]
```

```
array([1, 0, 1, 0, 1])
```

Split the dataset into train and test data

Now we will split the dataset into into training data and testing data. The training data is the data that the model will learn from. The testing data is the data we will use to see how well the model performs on unseen data.

Scikit-learn has a function we can use called 'train_test_split' that makes it easy for us to split our dataset into training and testing data.

```
from sklearn.model_selection import train_test_split#split dataset into train and test data
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=1, stratify=y)
```

'train_test_split' takes in 5 parameters. The first two parameters are the input and target data we split up earlier. Next, we will set 'test_size' to 0.2. This means that 20% of all the data will be used for testing, which leaves 80% of the data as training data for the model to learn from. Setting 'random_state' to 1 ensures that we get the same split each time so we can reproduce our results.

Setting 'stratify' to y makes our training split represent the proportion of each value in the y variable. For example, in our dataset, if 25% of patients have diabetes and 75% don't have diabetes, setting 'stratify' to y will ensure that the random split has 25% of patients with diabetes and 75% of patients without diabetes.

Building and training the model

Next, we have to build the model. Here is the code:

```
from sklearn.neighbors import KNeighborsClassifier# Create KNN classifier
knn = KNeighborsClassifier(n_neighbors = 3)# Fit the classifier to the data
knn.fit(X_train,y_train)
```

First, we will create a new k-NN classifier and set 'n_neighbors' to 3. To recap, this means that if at least 2 out of the 3 nearest points to an new data point are patients without diabetes, then the new data point will be labeled as 'no diabetes', and vice versa. In other words, a new data point is labeled with by majority from the 3 nearest points.

We have set 'n_neighbors' to 3 as a starting point. We will go into more detail below on how to better select a value for 'n_neighbors' so that the model can improve its performance.

Next, we need to train the model. In order to train our new model, we will use the 'fit' function and pass in our training data as parameters to fit our model to the training data.

Testing the model

Once the model is trained, we can use the 'predict' function on our model to make predictions on our test data. As seen when inspecting 'y' earlier, 0 indicates that the patient does not have diabetes and 1 indicates that the patient does have diabetes. To save space, we will only show print the first 5 predictions of our test set.

```
#show first 5 model predictions on the test data
knn.predict(X_test)[0:5]
```

```
array([0, 0, 0, 0, 1])
```

We can see that the model predicted 'no diabetes' for the first 4 patients in the test set and 'has diabetes' for the 5th patient.

Now let's see how our accurate our model is on the full test set. To do this, we will use the 'score' function and pass in our test input and target data to see how well our model predictions match up to the actual results.

```
#check accuracy of our model on the test data
knn.score(X_test, y_test)
```

```
0.6688311688311688
```

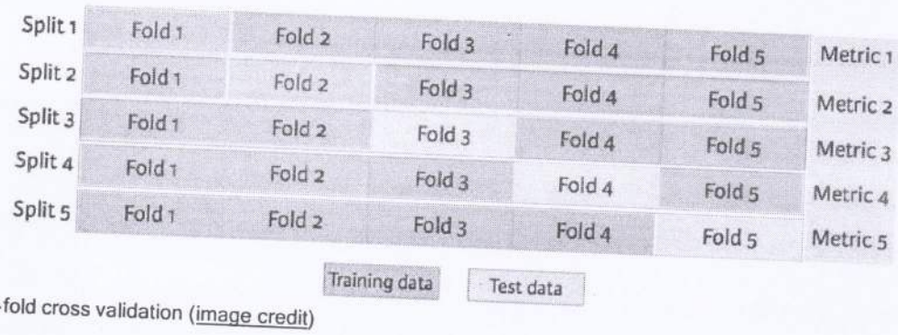
Our model has an accuracy of approximately 66.88%. It's a good start, but we will see how we can increase model performance below.

Congrats! You have now built an amazing k-NN model!

k-Fold Cross-Validation

Cross-validation is when the dataset is randomly split up into 'k' groups. One of the groups is used as the test set and the rest are used as the training set. The model is trained on the training set and scored on the test set. Then the process is repeated until each unique group as been used as the test set.

For example, for 5-fold cross validation, the dataset would be split into 5 groups, and the model would be trained and tested 5 separate times so each group would get a chance to be the test set. This can be seen in the graph below.



5-fold cross validation (image credit)

The train-test-split method we used in earlier is called 'holdout'. Cross-validation is better than using the holdout method because the holdout method score is dependent on how the data is split into train and test sets. Cross-validation gives the model an opportunity to test on multiple splits so we can get a better idea on how the model will perform on unseen data.

In order to train and test our model using cross-validation, we will use the 'cross_val_score' function with a cross-validation value of 5. 'cross_val_score' takes in our k-NN model and our data as parameters. Then it splits our data into 5 groups and fits and scores our data 5 seperate times, recording the accuracy score in an array each time. We will save the accuracy scores in the 'cv_scores' variable.

To find the average of the 5 scores, we will use numpy's mean function, passing in 'cv_score'. Numpy is a useful math library in Python.

```
from sklearn.model_selection import cross_val_score
import numpy as np#create a new KNN model
knn_cv = KNeighborsClassifier(n_neighbors=3)#train model with cv of 5
cv_scores = cross_val_score(knn_cv, X, y, cv=5)#print each cv score (accuracy) and average them
print(cv_scores)
print('cv_scores mean:{}'.format(np.mean(cv_scores)))
```

```
[ 0.68181818  0.69480519  0.75324675  0.75163399  0.68627451]
cv_scores mean:0.7135557253204311
```

Bharati Vidyapeeth's College Of Engineering Lavale Pune.

Using cross-validation, our mean score is about 71.36%. This is a more accurate representation of how our model will perform on unseen data than our earlier testing using the holdout method.

Hypertuning model parameters using GridSearchCV

When built our initial k-NN model, we set the parameter 'n_neighbors' to 3 as a starting point with no real logic behind that choice.

Hypertuning parameters is when you go through a process to find the optimal parameters for your model to improve accuracy. In our case, we will use GridSearchCV to find the optimal value for 'n_neighbors'.

GridSearchCV works by training our model multiple times on a range of parameters that we specify. That way, we can test our model with each parameter and figure out the optimal values to get the best accuracy results.

For our model, we will specify a range of values for 'n_neighbors' in order to see which value works best for our model. To do this, we will create a dictionary, setting 'n_neighbors' as the key and using numpy to create an array of values from 1 to 24.

Our new model using grid search will take in a new k-NN classifier, our param_grid and a cross-validation value of 5 in order to find the optimal value for 'n_neighbors'.

```
from sklearn.model_selection import GridSearchCV#create new a knn model
knn2 = KNeighborsClassifier()#create a dictionary of all values we want to test for n_neighbors
param_grid = {'n_neighbors': np.arange(1, 25)}#use gridsearch to test all values for n_neighbors
knn_gscv = GridSearchCV(knn2, param_grid, cv=5)#fit model to data
knn_gscv.fit(X, y)
```

After training, we can check which of our values for 'n_neighbors' that we tested performed the best.

To do this, we will call 'best_params_' on our model.

```
#check top performing n_neighbors value
knn_gscv.best_params_
```

```
{'n_neighbors': 14}
```

We can see that 14 is the optimal value for 'n_neighbors'. We can use the 'best_score_' function to check the accuracy of our model when 'n_neighbors' is 14. 'best_score_' outputs the mean accuracy of the scores obtained through cross-validation.

```
#check mean score for the top performing value of n_neighbors
knn_gscv.best_score_
```

```
0.7578125
```

By using grid search to find the optimal parameter for our model, we have improved our model accuracy by over 4%!

Code :- https://www.kaggle.com/code/shrutimechlearn/step-by-step-diabetes-classification-knn-detailed

Conclusion:

In this way we build a a neural network-based classifier that can determine whether they willleave or not in the next 6 months

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group B

Assignment No : 6

Title of the Assignment: Implement K-Means clustering/ hierarchical clustering on sales_data_sample.csv dataset. Determine the number of clusters using the elbow method.

Dataset Description: The data includes the following features:
1. Customer ID
2. Customer Gender
3. Customer Age
4. Annual Income of the customer (in Thousand Dollars)
5. Spending score of the customer (based on customer behavior and spending nature)

Objective of the Assignment:

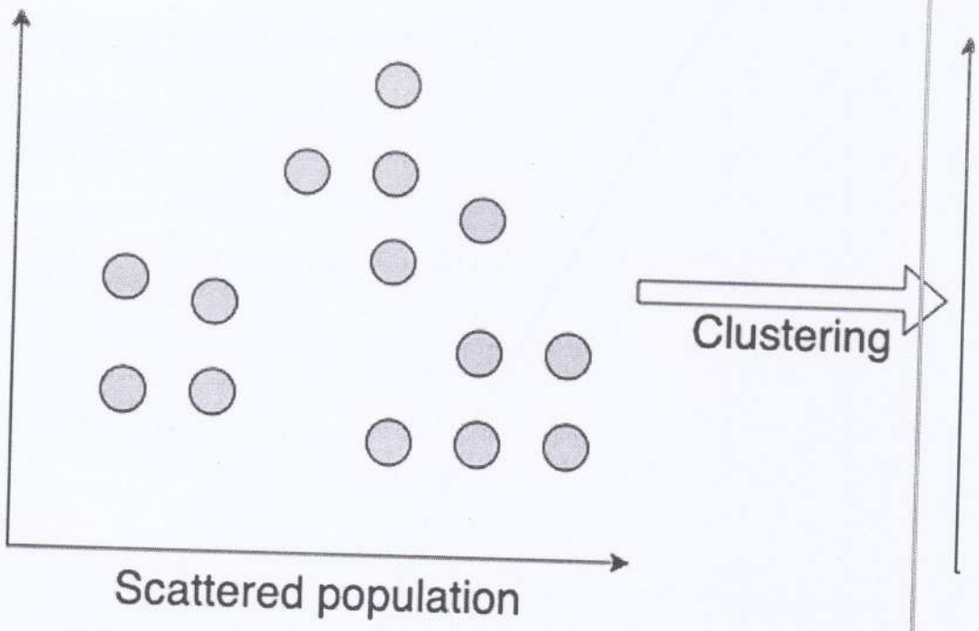
Students should able to understand how to use unsupervised learning to segment different-different clusters or groups and used to them to train your model to predict future things.

Prerequisite:

1. Knowledge of Python
2. Unsupervised learning
3. Clustering
4. Elbow method

Clustering algorithms try to find natural clusters in data, the various aspects of how the algorithms to cluster data can be tuned and modified. Clustering is based on the principle that items within the same cluster must be similar to each other. The data is grouped in such a way that related elements are close to each other.

Unsupervised Learning - C



Diverse and different types of data are subdivided into smaller groups.

Uses of Clustering

Marketing:

In the field of marketing, clustering can be used to identify various customer groups with existing customer data. Based on that, customers can be provided with discounts, offers, promo codes etc.

Real Estate:

Clustering can be used to understand and divide various property locations based on value and importance. Clustering algorithms can process through the data and identify various groups of property on the basis of probable price.

BookStore and Library management:

Libraries and Bookstores can use Clustering to better manage the book database. With proper book ordering, better operations can be implemented.

Document Analysis:

Often, we need to group together various research texts and documents according to similarity. And in such cases, we don't have any labels. Manually labelling large amounts of data is also not possible. Using clustering, the algorithm can process the text and group it into different themes.

These are some of the interesting use cases of clustering.

K-Means Clustering

K-Means clustering is an unsupervised machine learning algorithm that divides the given data into the given number of clusters. Here, the "K" is the given number of predefined clusters, that need to be created.

It is a centroid based algorithm in which each cluster is associated with a centroid. The main idea is to reduce the distance between the data points and their respective cluster centroid.

The algorithm takes raw unlabelled data as an input and divides the dataset into clusters and the process is repeated until the best clusters are found.

K-Means is very easy and simple to implement. It is highly scalable, can be applied to both small and large datasets. There is, however, a problem with choosing the number of clusters or K. Also, with the increase in dimensions, stability decreases. But, overall K Means is a simple and robust algorithm that makes clustering very easy.

```
#Importing the necessary libraries
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from mpl_toolkits.mplot3d import Axes3D
%matplotlib inline
```

The necessary libraries are imported.

```
#Reading the excel file
data=pd.read_excel("Mall_Customers.xlsx")
```

The data is read. I will share a link to the entire code and excel data at the end of the article.

The data has 200 entries, that is data from 200 customers.

```
data.head()
```

So let us have a look at the data.

	CustomerID	Gender	Age	Annual Income (k$)	Spending Score (1-100)
0	1	Male	19	15	39
1	2	Male	21	15	81
2	3	Female	20	16	6
3	4	Female	23	16	77
4	5	Female	31	17	40

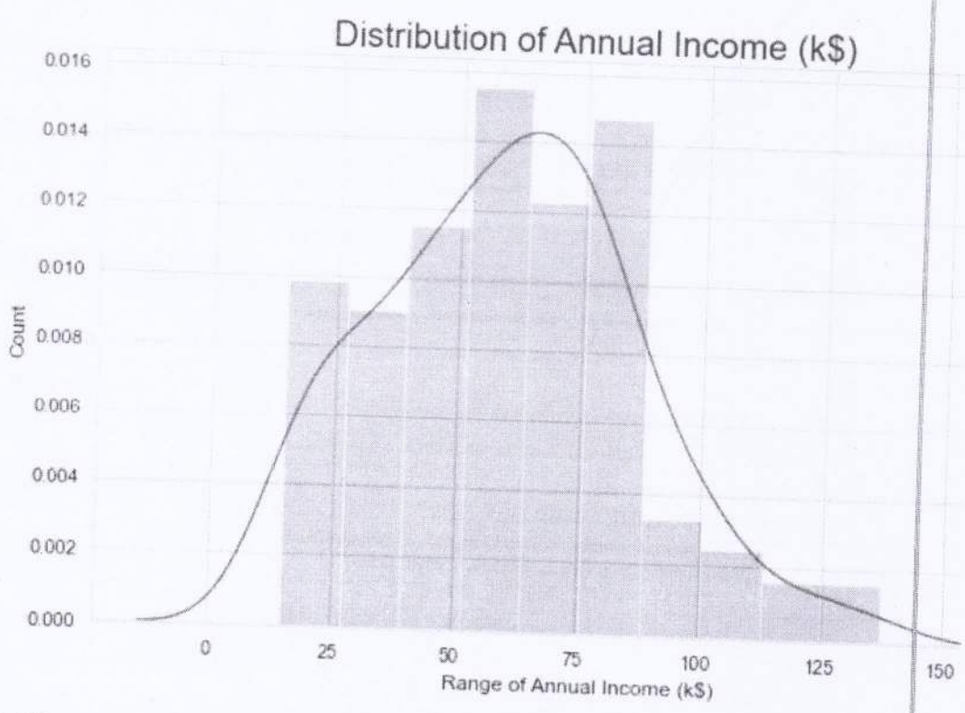
```
data.corr()
```

	CustomerID	Age	Annual Income (k$)	Spending Score (
CustomerID	1.000000	-0.026763	0.977548	0.013835
Age	-0.026763	1.000000	-0.012398	-0.327227
Annual Income (k$)	0.977548	-0.012398	1.000000	0.009903
Spending Score (1-100)	0.013835	-0.327227	0.009903	1.000000

The data seems to be interesting. Let us look at the data distribution.

Annual Income Distribution:

```
#Distribution of Annnual Income
plt.figure(figsize=(10, 6))
sns.set(style = 'whitegrid')
sns.distplot(data['Annual Income (k$)'])
plt.title('Distribution of Annual Income (k$)', fontsize = 20)
plt.xlabel('Range of Annual Income (k$)')
plt.ylabel('Count')
```



Most of the annual income falls between 50K to 85K.

Age Distribution:

```
#Distribution of age
plt.figure(figsize=(10, 6))
sns.set(style = 'whitegrid')
sns.distplot(data['Age'])
plt.title('Distribution of Age', fontsize = 20)
plt.xlabel('Range of Age')
plt.ylabel('Count')
```



There are customers of a wide variety of ages.

Spending Score Distribution:

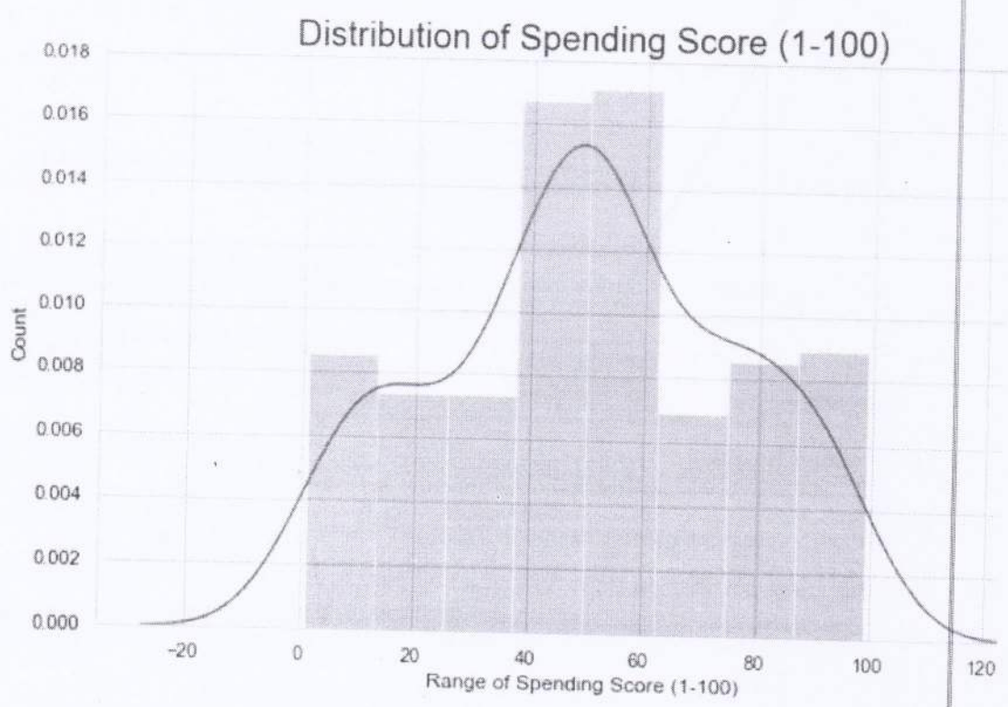
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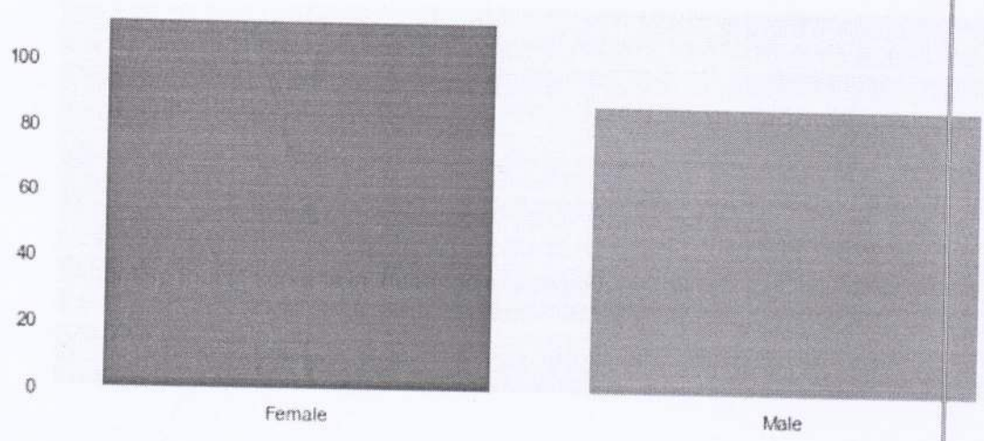
```
#Distribution of spending score
plt.figure(figsize=(10, 6))
sns.set(style = 'whitegrid')
sns.distplot(data['Spending Score (1-100)'])
plt.title('Distribution of Spending Score (1-100)', fontsize = 20)
plt.xlabel('Range of Spending Score (1-100)')
plt.ylabel('Count')
```



The maximum spending score is in the range of 40 to 60.

Gender Analysis:

```
genders = data.Gender.value_counts()
sns.set_style("darkgrid")
plt.figure(figsize=(10,4))
sns.barplot(x=genders.index, y=genders.values)
plt.show()
```



More female customers than male.

I have made more visualizations. Do have a look at the GitHub link at the end to understand the data analysis and overall data exploration.

Clustering based on 2 features

First, we work with two features only, annual income and spending score.

```
#We take just the Annual Income and Spending score
df1=data[["CustomerID","Gender","Age","Annual Income (k$)","Spending Score (1-100)"]]
X=df1[["Annual Income (k$)","Spending Score (1-100)"]]
#The input data
X.head()
```

	Annual Income (k$)	Spending Score (1-100)
0	15	39
1	15	81
2	16	6
3	16	77
4	17	40

```
#Scatterplot of the input data
plt.figure(figsize=(10,6))
sns.scatterplot(x = 'Annual Income (k$)',y = 'Spending Score (1-100)', data = X ,s = 60
)
plt.xlabel('Annual Income (k$)')
plt.ylabel('Spending Score (1-100)')
plt.title('Spending Score (1-100) vs Annual Income (k$)')
plt.show()
```

The data does seem to hold some patterns.

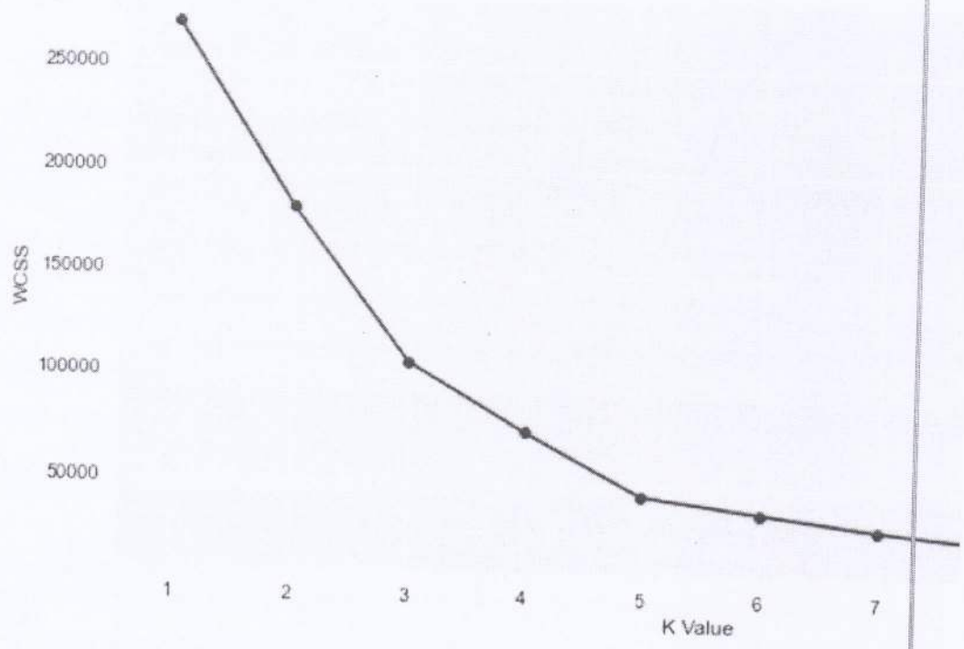



```
#Importing KMeans from sklearn
from sklearn.cluster import KMeans
```

Now we calculate the Within Cluster Sum of Squared Errors (WSS) for different values of k. Next, we choose the k for which WSS first starts to diminish. This value of K gives us the best number of clusters to make from the raw data.

```
wcss=[]
for i in range(1,11):
    km=KMeans(n_clusters=i)
    km.fit(X)
    wcss.append(km.inertia_)
#The elbow curve
plt.figure(figsize=(12,6))
plt.plot(range(1,11),wcss)
plt.plot(range(1,11),wcss, linewidth=2, color="red", marker ="8")
plt.xlabel("K Value")
plt.xticks(np.arange(1,11,1))
plt.ylabel("WCSS")
plt.show()
```

The plot:



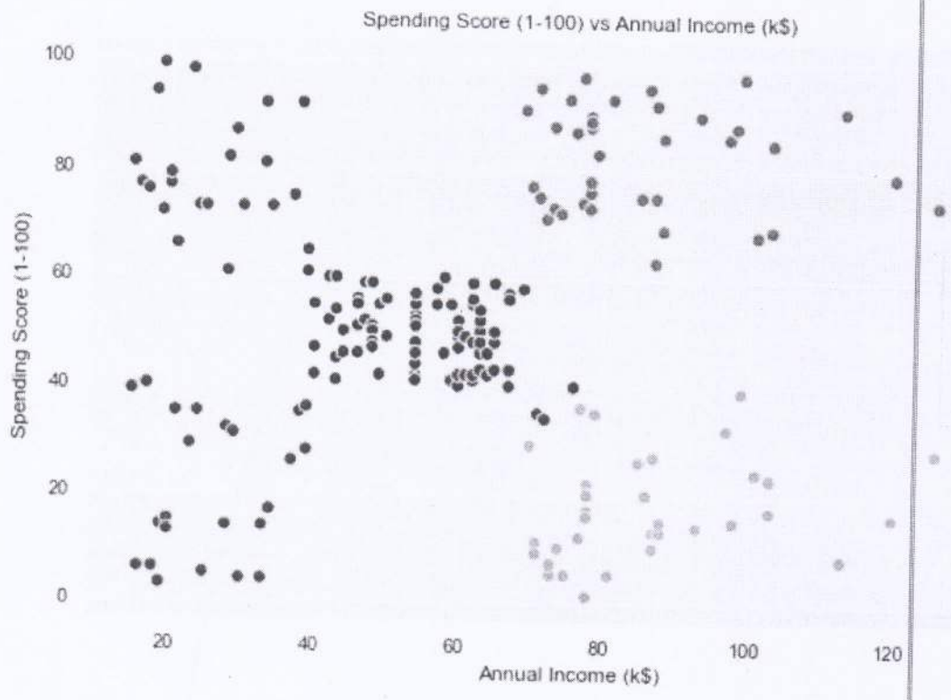
This is known as the elbow graph, the x-axis being the number of clusters, the number of clusters is taken at the elbow joint point. This point is the point where making clusters is most relevant as here the value of WCSS suddenly stops decreasing. Here in the graph, after 5 the drop is minimal, so we take 5 to be the number of clusters.

```
#Taking 5 clusters
km1=KMeans(n_clusters=5)
#Fitting the input data
km1.fit(X)
#predicting the labels of the input data
y=km1.predict(X)
#adding the labels to a column named label
df1["label"] = y
#The new dataframe with the clustering done
df1.head()
```

The labels added to the data.

	CustomerID	Gender	Age	Annual Income (k$)	Spending Score (1-100)	label
0	1	Male	19	15	39	4
1	2	Male	21	15	81	2
2	3	Female	20	16	6	4
3	4	Female	23	16	77	2
4	5	Female	31	17	40	4

```
#Scatterplot of the clusters
plt.figure(figsize=(10,6))
sns.scatterplot(x = 'Annual Income (k$)',y = 'Spending Score (1-100)',hue="label",
                palette=['green','orange','brown','dodgerblue','red'],
legend='full',data = df1  ,s = 60 )
plt.xlabel('Annual Income (k$)')
plt.ylabel('Spending Score (1-100)')
plt.title('Spending Score (1-100) vs Annual Income (k$)')
plt.show()
```



We can clearly see that 5 different clusters have been formed from the data. The red cluster is the customers with the least income and least spending score, similarly, the blue cluster is the customers with the most income and most spending score.

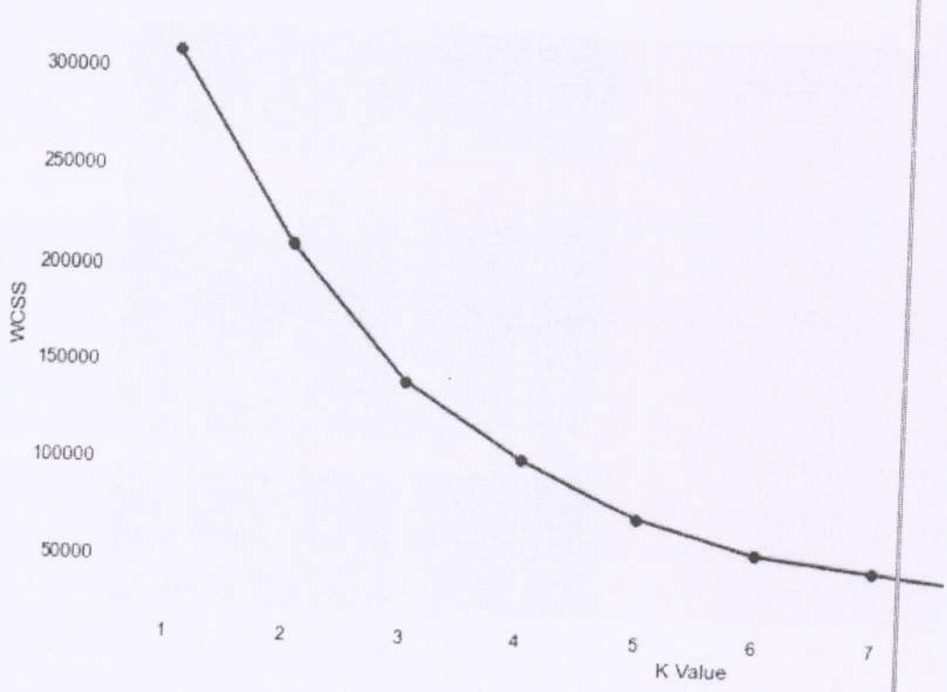
k-Means Clustering on the basis of 3D data

Now, we shall be working on 3 types of data. Apart from the spending score and

annual income of customers, we shall also take in the age of the customers.

```
#Taking the features
X2=df2[["Age","Annual Income (k$)","Spending Score (1-100)"]]
#Now we calculate the Within Cluster Sum of Squared Errors (WSS) for different values of
k.
wcss = []
for k in range(1,11):
    kmeans = KMeans(n_clusters=k, init="k-means++")
    kmeans.fit(X2)
    wcss.append(kmeans.inertia_)
plt.figure(figsize=(12,6))
plt.plot(range(1,11),wcss, linewidth=2, color="red", marker ="8")
plt.xlabel("K Value")
plt.xticks(np.arange(1,11,1))
plt.ylabel("WCSS")
plt.show()
```

The WCSS curve.



Here can assume that K=5 will be a good value.

```
#We choose the k for which WSS starts to diminish
km2 = KMeans(n_clusters=5)
y2 = km.fit_predict(X2)
df2["label"] = y2
#The data with labels
df2.head()
```

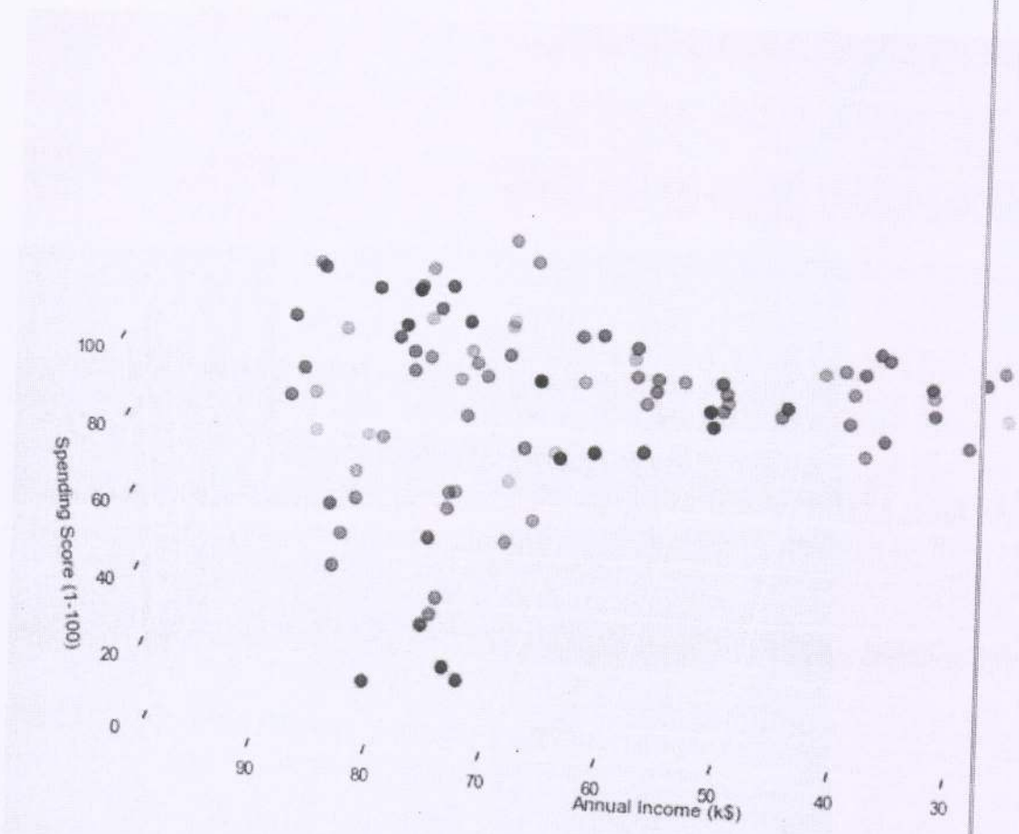
The data:

	CustomerID	Gender	Age	Annual Income (k$)	Spending Score (1-100)	label
0	1	Male	19	15	39	5
1	2	Male	21	15	81	3
2	3	Female	20	16	6	4
3	4	Female	23	16	77	3
4	5	Female	31	17	40	5

Now we plot it.

```
#3D Plot as we did the clustering on the basis of 3 input features
fig = plt.figure(figsize=(20,10))
ax = fig.add_subplot(111, projection='3d')
ax.scatter(df2.Age[df2.label == 0], df2["Annual Income (k$)"][df2.label == 0],
df2["Spending Score (1-100)"][df2.label == 0], c='purple', s=60)
ax.scatter(df2.Age[df2.label == 1], df2["Annual Income (k$)"][df2.label == 1],
df2["Spending Score (1-100)"][df2.label == 1], c='red', s=60)
ax.scatter(df2.Age[df2.label == 2], df2["Annual Income (k$)"][df2.label == 2],
df2["Spending Score (1-100)"][df2.label == 2], c='blue', s=60)
ax.scatter(df2.Age[df2.label == 3], df2["Annual Income (k$)"][df2.label == 3],
df2["Spending Score (1-100)"][df2.label == 3], c='green', s=60)
ax.scatter(df2.Age[df2.label == 4], df2["Annual Income (k$)"][df2.label == 4],
df2["Spending Score (1-100)"][df2.label == 4], c='yellow', s=60)
ax.view_init(35, 185)
plt.xlabel("Age")
plt.ylabel("Annual Income (k$)")
ax.set_zlabel('Spending Score (1-100)')
plt.show()
```

The output:



What we get is a 3D plot. Now, if we want to know the customer IDs, we can do that too.

```
cust1=df2[df2["label"]==1]
print('Number of customer in 1st group=', len(cust1))
print('They are -', cust1["CustomerID"].values)
print("-----------------------------------------")
cust2=df2[df2["label"]==2]
print('Number of customer in 2nd group=', len(cust2))
print('They are -', cust2["CustomerID"].values)
print("-----------------------------------------")
cust3=df2[df2["label"]==0]
print('Number of customer in 3rd group=', len(cust3))
print('They are -', cust3["CustomerID"].values)
print("-----------------------------------------")
cust4=df2[df2["label"]==3]
print('Number of customer in 4th group=', len(cust4))
print('They are -', cust4["CustomerID"].values)
print("-----------------------------------------")
cust5=df2[df2["label"]==4]
print('Number of customer in 5th group=', len(cust5))
print('They are -', cust5["CustomerID"].values)
```

```
print("-----------------------------------------------------------------")
```

The output we get:

```
Number of customer in 1st group= 24
They are - [129 131 135 137 139 141 145 147 149 151 153 155 157 159 161 163 165 167
169 171 173 175 177 179]

---------------------------------

Number of the customer in 2nd group= 29
They are - [ 47 51 55 56 57 60 67 72 77 78 80 82 84 86 90 93 94 97
99 102 105 108 113 118 119 120 122 123 127]

---------------------------------

Number of the customer in 3rd group= 28

They are - [124 126 128 130 132 134 136 138 140 142 144 146 148 150 152 154 156 158

160 162 164 166 168 170 172 174 176 178]

---------------------------------

Number of the customer in 4th group= 22
They are - [ 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 46]
--------------------------------------------------------------------------------
Number of customer in 5th group= 12
They are - [ 3 7 9 11 13 15 23 25 31 33 35 37]

---------------------------------
```

So, we used K-Means clustering to understand customer data. K-Means is a good clustering algorithm. Almost all the clusters have similar density. It is also fast and efficient in terms of computational cost.

MINI PROJECT 2

Problem Statement: - Build a machine learning model that predicts the type of people who survived the Titanic shipwreck using passenger data (i.e. name, age, gender, socio-economic class,etc.).

Objective: Students should learn to build a machine learning model.

Theory:

Here's a step-by-step guide on how to approach this problem using Python and some popular libraries:

1. **Data Collection and Understanding**:
    - Start by obtaining the Titanic dataset, which contains passenger information and survival labels. You can find datasets on websites like Kaggle.
2. **Data Pre-processing**:
    - Clean the data by handling missing values, outliers, and redundant features.
    - Perform feature engineering to create relevant features or transform existing ones.
    - Encode categorical variables into numerical format using techniques like one-hot encoding.
3. **Data Splitting**:
    - Split your dataset into a training set and a test set. This allows you to evaluate your model's performance on unseen data.
4. **Select a Machine Learning Algorithm**:
    - Choose a classification algorithm suitable for this problem. Common choices include Decision Trees, Random Forests, Logistic Regression, Support Vector Machines, or Gradient Boosting.
5. **Model Training**:
    - Fit your chosen algorithm to the training data. The model learns patterns from the data.
6. **Model Evaluation**:
    - Evaluate your model's performance using metrics like accuracy, precision, recall, F1-score, and the ROC-AUC score. Cross-validation can help in assessing how well the model generalizes to new data.
7. **Hyperparameter Tuning**:
    - Experiment with different hyperparameters to optimize your model's performance. Techniques like grid search or random search can be helpful.
8. **Model Interpretation**:
    - Understand the feature importance or coefficients of your model to interpret how different features affect survival.
9. **Prediction**:
    - Use your trained model to make predictions on new, unseen data or the test set.
10. **Post-processing**:

- You may need to further process the model's output, such as setting a threshold for classification.

Importing the Libraries

```
# linear algebra
import numpy as np

# data processing
import pandas as pd

# data visualization
import seaborn as sns
%matplotlib inline
from matplotlib import pyplot as plt
from matplotlib import style

# Algorithms
from sklearn import linear_model
from sklearn.linear_model import LogisticRegression
from sklearn.ensemble import RandomForestClassifier
from sklearn.linear_model import Perceptron
from sklearn.linear_model import SGDClassifier
from sklearn.tree import DecisionTreeClassifier
from sklearn.neighbors import KNeighborsClassifier
from sklearn.svm import SVC, LinearSVC
from sklearn.naive_bayes import GaussianNB
```

Getting the Data

```
test_df = pd.read_csv("test.csv")
train_df = pd.read_csv("train.csv")
```

Data Exploration/Analysis

```
train_df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 891 entries, 0 to 890
Data columns (total 12 columns):
PassengerId     891 non-null int64
Survived        891 non-null int64
Pclass          891 non-null int64
Name            891 non-null object
Sex             891 non-null object
Age             714 non-null float64
SibSp           891 non-null int64
Parch           891 non-null int64
Ticket          891 non-null object
Fare            891 non-null float64
Cabin           204 non-null object
Embarked        889 non-null object
dtypes: float64(2), int64(5), object(5)
memory usage: 83.6+ KB
```

The training-set has 891 examples and 11 features + the target variable (survived). 2 of the features are floats, 5 are integers and 5 areobjects. Below I have listed the features with a short description:

```
survival:    Survival
PassengerId: Unique Id of a passenger.
pclass:    Ticket class
sex:    Sex
Age:    Age in years
sibsp: # of siblings / spouses aboard the Titanic
parch: # of parents / children aboard the Titanic
ticket:  Ticket number
fare:   Passenger  fare
cabin:    Cabin number
embarked:    Port of Embarkationtrain_df.describe()
```

	PassengerId	Survived	Pclass	Age	SibSp	Parch	Fare
count	891.000000	891.000000	891.000000	714.000000	891.000000	891.000000	891.000000
mean	446.000000	0.383838	2.308642	29.699118	0.523008	0.381594	32.204208
std	257.353842	0.486592	0.836071	14.526497	1.102743	0.806057	49.693429
min	1.000000	0.000000	1.000000	0.420000	0.000000	0.000000	0.000000
25%	223.500000	0.000000	2.000000	20.125000	0.000000	0.000000	7.910400
50%	446.000000	0.000000	3.000000	28.000000	0.000000	0.000000	14.454200
75%	668.500000	1.000000	3.000000	38.000000	1.000000	0.000000	31.000000
max	891.000000	1.000000	3.000000	80.000000	8.000000	6.000000	512.329200

Above we can see that **38% out of the training-set survived the Titanic**. We can also see that the passenger ages range from 0.4 to 80. Ontop of that we can already detect some features, that contain missing values, like the „Age" feature.

train_df.head(8)

	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Embarked
				Harris								
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	C
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	S
3	4	1	1	Futrelle, Mrs. Jacques Heath (Lily May Peel)	female	35.0	1	0	113803	53.1000	C123	S
4	5	0	3	Allen, Mr. William Henry	male	35.0	0	0	373450	8.0500	NaN	S
5	6	0	3	Moran, Mr. James	male	NaN	0	0	330877	8.4583	NaN	Q
6	7	0	1	McCarthy, Mr. Timothy J	male	54.0	0	0	17463	51.8625	E46	S
7	8	0	3	Palsson, Master. Gosta Leonard	male	2.0	3	1	349909	21.0750	NaN	S
8	9	1	3	Johnson, Mrs. Oscar W (Elisabeth Vilhelmina Berg)	female	27.0	0	2	347742	11.1333	NaN	S

From the table above, we can note a few things. First of all, that we **need to convert a lot of features into numeric** ones later on, so that the machine learning algorithms can process them. Furthermore, we can see that the **features have widely different ranges**, that we will need to

convert into roughly the same scale. We can also spot some more features,that contain missing values (NaN = not a number), that wee need to deal with.

Let's take a more detailed look at what data is actually missing:

```
total = train_df.isnull().sum().sort_values(ascending=False)
percent_1 = train_df.isnull().sum()/train_df.isnull().count()*100
percent_2 = (round(percent_1, 1)).sort_values(ascending=False)
missing_data = pd.concat([total, percent_2], axis=1, keys=['Total',
'%'])
missing data.head(5)
```

	Total	%
Cabin	687	77.1
Age	177	19.9
Embarked	2	0.2
Fare	0	0.0
Ticket	0	0.0

The Embarked feature has only 2 missing values, which can easily be filled. It will be much more tricky, to deal with the „Age" feature, which has177 missing values. The „Cabin" feature needs further investigation, but it looks like that we might want to drop it from the dataset, since 77 % of it are missing.

```
train_df.columns.values
array(['PassengerId', 'Survived', 'Pclass', 'Name', 'Sex', 'Age', 'SibSp',
       'Parch', 'Ticket', 'Fare', 'Cabin', 'Embarked'], dtype=object)
```

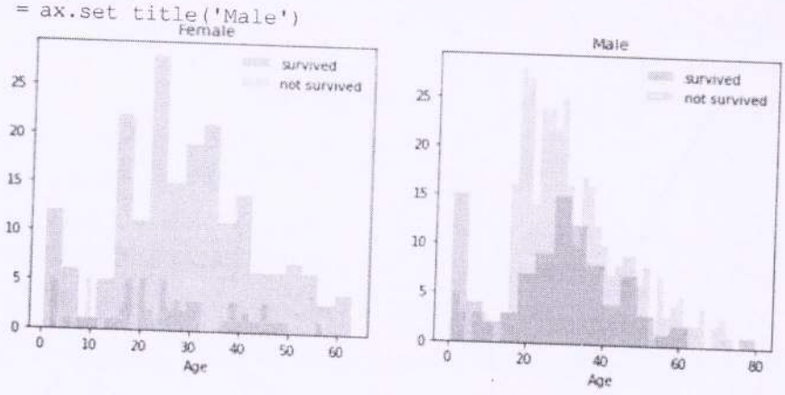
Above you can see the 11 features + the target variable (survived). **Whatfeatures could contribute to a high survival rate ?**

To me it would make sense if everything except „PassengerId", „Ticket" and„Name" would be correlated with a high survival rate.

1. Age and Sex:

```
survived = 'survived'
not_survived = 'not survived'
fig, axes = plt.subplots(nrows=1, ncols=2,figsize=(10, 4))
women = train_df[train_df['Sex']=='female']
men = train_df[train_df['Sex']=='male']
ax = sns.distplot(women[women['Survived']==1].Age.dropna(), bins=18,
label = survived, ax = axes[0], kde =False)
ax = sns.distplot(women[women['Survived']==0].Age.dropna(), bins=40,
label = not_survived, ax = axes[0], kde =False)
ax.legend()
ax.set_title('Female')
ax = sns.distplot(men[men['Survived']==1].Age.dropna(), bins=18, label
= survived, ax = axes[1], kde = False)
```

```
ax = sns.distplot(men[men['Survived']==0].Age.dropna(), bins=40, label
= not_survived, ax = axes[1], kde = False)
ax.legend()
 = ax.set_title('Male')
```



You can see that men have a high probability of survival when they are between 18 and 30 years old, which is also a little bit true for women butnot fully. For women the survival chances are higher between 14 and 40.

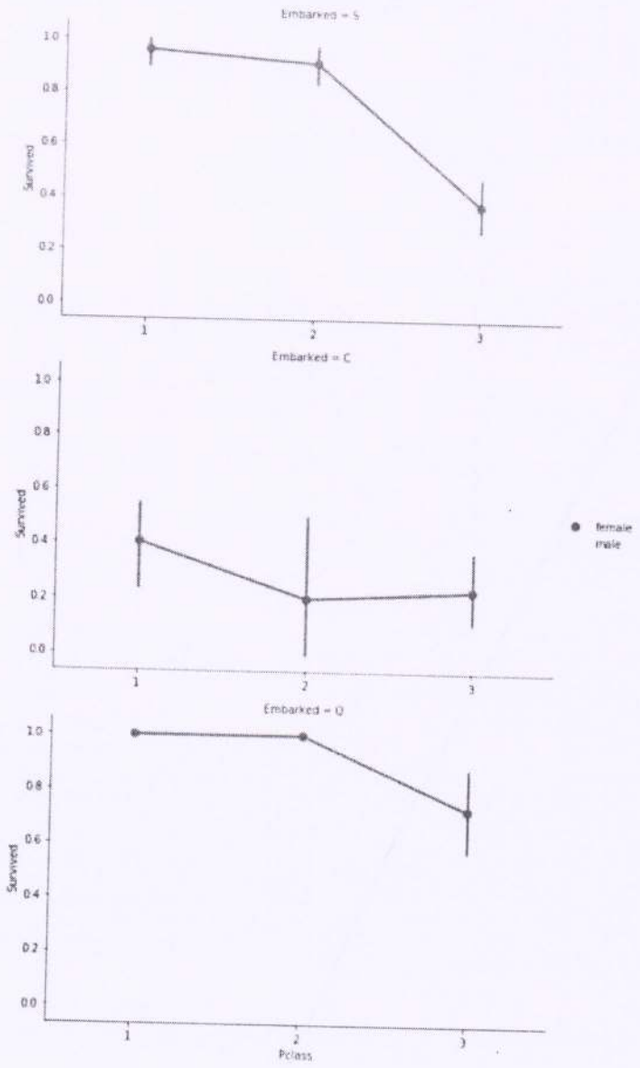
For men the probability of survival is very low between the age of 5 and 18,but that isn"t true for women. Another thing to note is that infants also have a little bit higher probability of survival.

Since there seem to be **certain ages, which have increased odds ofsurvival** and because I want every feature to be roughly on the same scale, I will create age groups later on.

3. Embarked, Pclass and Sex:

```
FacetGrid = sns.FacetGrid(train_df, row='Embarked', size=4.5,
aspect=1.6)
FacetGrid.map(sns.pointplot, 'Pclass', 'Survived', 'Sex',
palette=None, order=None, hue_order=None )
FacetGrid.add_legend()
```

```
<seaborn.axisgrid.FacetGrid at 0x10ba485c0>
```



Embarked seems to be correlated with survival, depending on the gender.

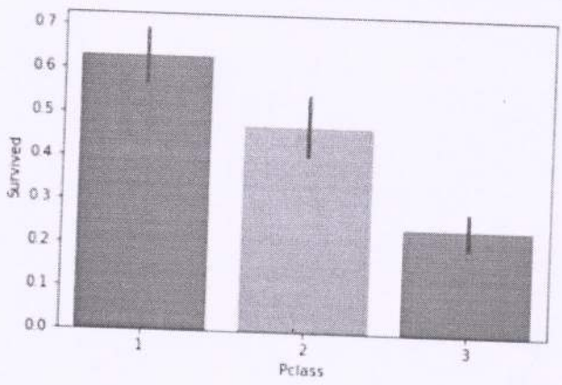
Women on port Q and on port S have a higher chance of survival. The inverse is true, if they are at port C. Men have a high survival probability ifthey are on port C, but a low probability if they are on port Q or S.

Pclass also seems to be correlated with survival. We will generate anotherplot of it below.

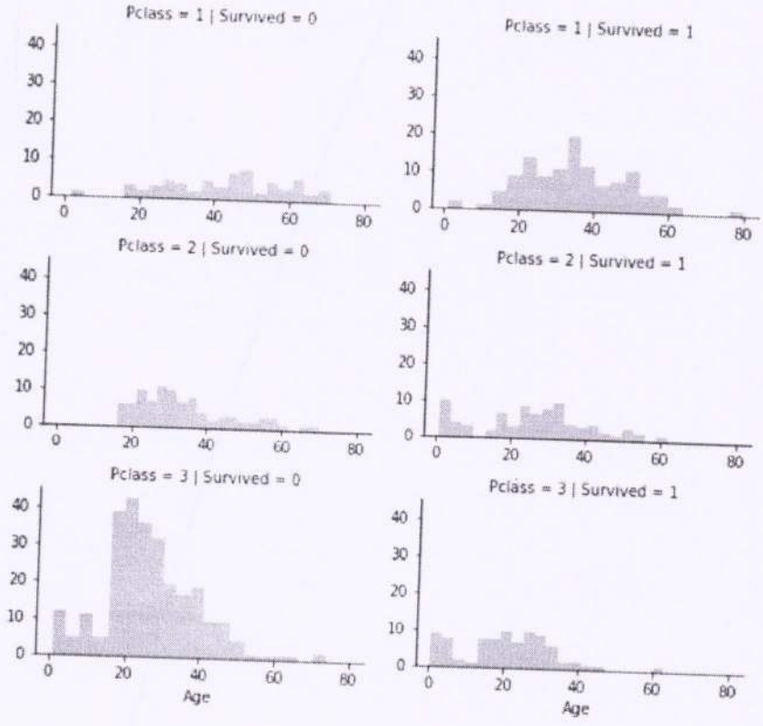
4. Pclass:

```
sns.barplot(x='Pclass', y='Survived', data=train_df)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x10d1dc7b8>
```



Here we see clearly, that Pclass is contributing to a persons chance of survival, especially if this person is in class 1. We will create another pclassplot below.



The plot above confirms our assumption about pclass 1, but we can alsospot a high probability that a person in pclass 3 will not survive.

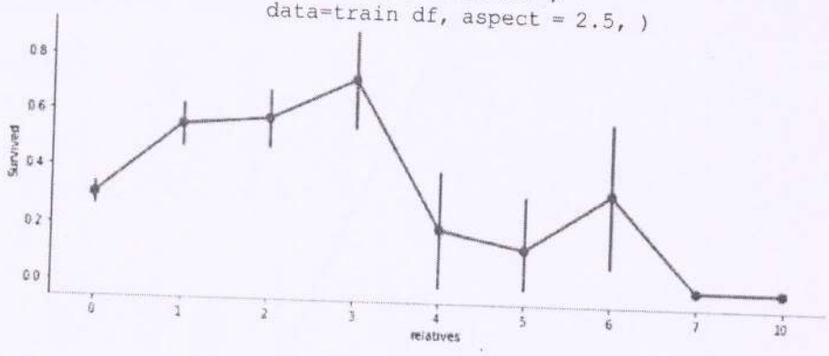
5. SibSp and Parch:

SibSp and Parch would make more sense as a combined feature, thatshows the total number of relatives, a person has on the Titanic. I willcreate it below and also a feature that sows if someone is not alone.

```
data = [train_df, test_df]
for dataset in data:
    dataset['relatives'] = dataset['SibSp'] + dataset['Parch']
    dataset.loc[dataset['relatives'] > 0, 'not_alone'] = 0
    dataset.loc[dataset['relatives'] == 0, 'not_alone'] = 1
    dataset['not_alone'] =
dataset['not alone'].astype(int)train df['not alone'].value counts()
```

```
1    537
0    354
Name: not_alone, dtype: int64
```

```
axes = sns.factorplot('relatives','Survived',
                      data=train df, aspect = 2.5, )
```



Here we can see that you had a high probabilty of survival with 1 to 3 realitves, but a lower one if you had less than 1 or more than 3 (except forsome cases with 6 relatives).

Data Preprocessing

First, I will drop „PassengerId" from the train set, because it does not contribute to a persons survival probability. I will not drop it from the testset, since it is required there for the submission.

```
train df = train df.drop(['PassengerId'], axis=1)
```

Missing Data:

Cabin:

As a reminder, we have to deal with Cabin (687), Embarked (2) and Age(177). First I thought, we have to delete the „Cabin" variable but then I

found something interesting. A cabin number looks like „C123" and

the **letter refers to the deck**. Therefore we"re going to extract these andcreate a new feature, that contains a persons deck. Afterwords we will convert the feature into a numeric variable. The missing values will be converted to zero. In the picture below you can see the actual decks of thetitanic, ranging from A to G.

```
import re
deck = {"A": 1, "B": 2, "C": 3, "D": 4, "E": 5, "F": 6, "G": 7, "U":
8}
data = [train_df, test_df]

for dataset in data:
    dataset['Cabin'] = dataset['Cabin'].fillna("U0")
    dataset['Deck'] = dataset['Cabin'].map(lambda x: re.compile("([a-
zA-Z]+)").search(x).group())
    dataset['Deck'] = dataset['Deck'].map(deck)
    dataset['Deck'] = dataset['Deck'].fillna(0)
    dataset['Deck'] = dataset['Deck'].astype(int)# we can now drop the
cabin feature
train_df = train_df.drop(['Cabin'], axis=1)
test_df = test_df.drop(['Cabin'], axis=1)
```

Age:

Now we can tackle the issue with the age features missing values. I will create an array that contains random numbers, which are computed basedon the mean age value in regards to the standard deviation and is_null.

```
data = [train_df, test_df]

for dataset in data:
    mean = train_df["Age"].mean()
    std = test_df["Age"].std()
    is_null = dataset["Age"].isnull().sum()
    # compute random numbers between the mean, std and is_null
    rand_age = np.random.randint(mean - std, mean + std, size =
is_null)
    # fill NaN values in Age column with random values generated
    age_slice = dataset["Age"].copy()
    age_slice[np.isnan(age_slice)] = rand_age
    dataset["Age"] = age_slice
    dataset["Age"] =
train df["Age"].astype(int)train df["Age"].isnull().sum()
```

0

Embarked:

Since the Embarked feature has only 2 missing values, we will just fillthese with the most common one.

```
train_df['Embarked'].describe()
```

```
count      889
unique       3
top          S
freq       644
Name: Embarked, dtype: object
```

```
common_value = 'S'
data = [train_df, test_df]

for dataset in data:
    dataset['Embarked'] = dataset['Embarked'].fillna(common_value)
```

Converting Features:

train_df.info()

```
RangeIndex: 891 entries, 0 to 890
Data columns (total 13 columns):
Survived      891 non-null int64
Pclass        891 non-null int64
Name          891 non-null object
Sex           891 non-null object
Age           891 non-null int64
SibSp         891 non-null int64
Parch         891 non-null int64
Ticket        891 non-null object
Fare          891 non-null float64
Embarked      891 non-null object
relatives     891 non-null int64
not_alone     891 non-null int64
Deck          891 non-null int64
dtypes: float64(1), int64(8), object(4)
memory usage: 90.6+ KB
```

Above you can see that „Fare" is a float and we have to deal with 4 categorical features: Name, Sex, Ticket and Embarked. Lets investigateand transfrom one after another.

Fare:

Converting "Fare" from float to int64, using the "astype()" function pandasprovides:

```
data = [train_df, test_df]

for dataset in data:
    dataset['Fare'] = dataset['Fare'].fillna(0)
    dataset['Fare'] = dataset['Fare'].astype(int)
```

Name:

We will use the Name feature to extract the Titles from the Name, so thatwe can build a new feature out of that.

```
data = [train_df, test_df]
titles = {"Mr": 1, "Miss": 2, "Mrs": 3, "Master": 4, "Rare": 5}

for dataset in data:
    # extract titles
```

```
    dataset['Title'] = dataset.Name.str.extract(' ([A-Za-z]+)\.',
expand=False)
    # replace titles with a more common title or as Rare
    dataset['Title'] = dataset['Title'].replace(['Lady',
'Countess','Capt', 'Col','Don', 'Dr',\
                                            'Major', 'Rev', 'Sir',
'Jonkheer', 'Dona'], 'Rare')
    dataset['Title'] = dataset['Title'].replace('Mlle', 'Miss')
    dataset['Title'] = dataset['Title'].replace('Ms', 'Miss')
    dataset['Title'] = dataset['Title'].replace('Mme', 'Mrs')
    # convert titles into numbers
    dataset['Title'] = dataset['Title'].map(titles)
    # filling NaN with 0, to get safe
    dataset['Title'] = dataset['Title'].fillna(0)train_df =
train_df.drop(['Name'], axis=1)
test df = test df.drop(['Name'], axis=1)
```

Sex:

Convert „Sex" feature into numeric.

```
genders = {"male": 0, "female": 1}
data = [train_df, test_df]

for dataset in data:
    dataset['Sex'] = dataset['Sex'].map(genders)
```

Ticket:

```
train df['Ticket'].describe()
count      891
unique     681
top       1601
freq         7
Name: Ticket, dtype: object
```

Since the Ticket attribute has 681 unique tickets, it will be a bit tricky toconvert them into useful categories. So we will drop it from the dataset.

```
train_df = train_df.drop(['Ticket'], axis=1)
test_df = test_df.drop(['Ticket'], axis=1)
```

Embarked:

Convert „Embarked" feature into numeric.

```
ports = {"S": 0, "C": 1, "Q": 2}
data = [train_df, test_df]

for dataset in data:
    dataset['Embarked'] = dataset['Embarked'].map(ports)
```

Creating Categories:

We will now create categories within the following features:

Age:

Now we need to convert the „age" feature. First we will convert it from floatinto integer. Then we will create the new „AgeGroup" variable, by categorizing every age into a group. Note that it is important to place attention on how you form these groups, since you don"t want for examplethat 80% of your data falls into group 1.

```
data = [train_df, test_df]
for dataset in data:
    dataset['Age'] = dataset['Age'].astype(int)
    dataset.loc[ dataset['Age'] <= 11, 'Age'] = 0
    dataset.loc[(dataset['Age'] > 11) & (dataset['Age'] <= 18), 'Age']
= 1
    dataset.loc[(dataset['Age'] > 18) & (dataset['Age'] <= 22), 'Age']
= 2
    dataset.loc[(dataset['Age'] > 22) & (dataset['Age'] <= 27), 'Age']
= 3
    dataset.loc[(dataset['Age'] > 27) & (dataset['Age'] <= 33), 'Age']
= 4
    dataset.loc[(dataset['Age'] > 33) & (dataset['Age'] <= 40), 'Age']
= 5
    dataset.loc[(dataset['Age'] > 40) & (dataset['Age'] <= 66), 'Age']
= 6
    dataset.loc[ dataset['Age'] > 66, 'Age'] = 6

# let's see how it's distributed train df['Age'].value counts()
4    165
6    158
5    147
3    129
2    124
1    100
0     68
Name: Age, dtype: int64
```

Fare:

For the „Fare" feature, we need to do the same as with the „Age" feature. Butit isn"t that easy, because if we cut the range of the fare values into a few equally big categories, 80% of the values would fall into the first category. Fortunately, we can use sklearn "qcut()" function, that we can use to see,

how we can form the categories.
train_df.head(10)

	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	relatives	not_alone	Deck	Title
0	0	3	0	2	1	0	7	0	1	0	8	1
1	1	1	1	5	1	0	71	1	1	0	3	3
2	1	3	1	3	0	0	7	0	0	1	8	2
3	1	1	1	5	1	0	53	0	1	0	3	3
4	0	3	0	5	0	0	8	0	0	1	8	1
5	0	3	0	4	0	0	8	2	0	1	8	1
6	0	1	0	6	0	0	51	0	0	1	5	1
7	0	3	0	0	3	1	21	0	4	0	8	4
8	1	3	1	3	0	2	11	0	2	0	8	3
9	1	2	1	1	1	0	30	1	1	0	8	3

```
data = [train_df, test_df]

for dataset in data:
    dataset.loc[ dataset['Fare'] <= 7.91, 'Fare'] = 0
    dataset.loc[(dataset['Fare'] > 7.91) & (dataset['Fare'] <=
14.454), 'Fare'] = 1
    dataset.loc[(dataset['Fare'] > 14.454) & (dataset['Fare'] <= 31),
'Fare']   = 2
    dataset.loc[(dataset['Fare'] > 31) & (dataset['Fare'] <= 99),
'Fare']   = 3
    dataset.loc[(dataset['Fare'] > 99) & (dataset['Fare'] <= 250),
'Fare']   = 4
    dataset.loc[ dataset['Fare'] > 250, 'Fare'] = 5
    dataset['Fare'] = dataset['Fare'].astype(int)
```

Creating new Features

I will add two new features to the dataset, that I compute out of otherfeatures.

1. Age times Class

```
data = [train_df, test_df]
for dataset in data:
    dataset['Age Class']= dataset['Age']* dataset['Pclass']
```

2. Fare per Person

```
for dataset in data:
    dataset['Fare_Per_Person'] =
dataset['Fare']/(dataset['relatives']+1)
    dataset['Fare_Per_Person'] =
dataset['Fare_Per_Person'].astype(int)# Let's take a last look at the
training set, before we start training the models.
train df.head(10)
```

	Survived	Pclass	Sex	Age	SibSp	Parch	Fare	Embarked	relatives	not_alone	Deck	Title	Age_Class	Fare_Per_Pers
0	0	3	0	2	1	0	0	0	1	0	8	1	6	0
1	1	1	1	5	1	0	3	1	1	0	3	3	5	1
2	1	3	1	3	0	0	0	0	0	1	8	2	9	0
3	1	1	1	5	1	0	3	0	1	0	3	3	5	1
4	0	3	0	5	0	0	1	0	0	1	8	1	15	1
5	0	3	0	4	0	0	1	2	0	1	8	1	12	1
6	0	1	0	6	0	0	3	0	0	1	5	1	6	3
7	0	3	0	0	3	1	2	0	4	0	8	4	0	0
8	1	3	1	3	0	2	1	0	2	0	8	3	9	0
9	1	2	1	1	1	0	2	1	1	0	8	3	2	1
10	1	3	1	0	1	1	2	0	2	0	7	2	0	0

Building Machine Learning Models

Now we will train several Machine Learning models and compare their results. Note that because the dataset does not provide labels for their testing-set, we need to use the predictions on the training set to comparethe algorithms with each other. Later on, we will use cross validation.

```
X_train = train_df.drop("Survived", axis=1)
Y_train = train_df["Survived"]
X_test  = test_df.drop("PassengerId", axis=1).copy()
```

Stochastic Gradient Descent (SGD):

```
sgd = linear_model.SGDClassifier(max_iter=5, tol=None)
sgd.fit(X_train, Y_train)
Y_pred = sgd.predict(X_test)

sgd.score(X_train, Y_train)

acc_sgd = round(sgd.score(X_train, Y_train) * 100, 2)
```

Random Forest:

```
random_forest = RandomForestClassifier(n_estimators=100)
random_forest.fit(X_train, Y_train)

Y_prediction = random_forest.predict(X_test)

random_forest.score(X_train, Y_train)
acc_random_forest = round(random_forest.score(X_train, Y_train) * 100,
2)
```

Logistic Regression:

```
logreg = LogisticRegression()
logreg.fit(X_train, Y_train)

Y_pred = logreg.predict(X_test)

acc_log = round(logreg.score(X_train, Y_train) * 100, 2)
```

K Nearest Neighbor:

```
# KNN knn = KNeighborsClassifier(n_neighbors = 3) knn.fit(X_train,
Y_train) Y_pred = knn.predict(X_test) acc_knn =
round(knn.score(X_train, Y_train) * 100, 2)
```

Gaussian Naive Bayes:

```
gaussian = GaussianNB() gaussian.fit(X_train, Y_train) Y_pred =
gaussian.predict(X_test) acc_gaussian = round(gaussian.score(X_train,
Y_train) * 100, 2)
```

Perceptron:

```
perceptron = Perceptron(max_iter=5)
perceptron.fit(X_train, Y_train)

Y_pred = perceptron.predict(X_test)

acc perceptron = round(perceptron.score(X train, Y train) * 100, 2)
```

Linear Support Vector Machine:

```
linear_svc = LinearSVC()
linear_svc.fit(X_train, Y_train)

Y_pred = linear_svc.predict(X_test)

acc linear svc = round(linear svc.score(X train, Y train) * 100, 2)
```

Decision Tree

```
decision_tree = DecisionTreeClassifier() decision_tree.fit(X_train,
Y_train) Y_pred = decision_tree.predict(X_test) acc_decision_tree =
round(decision_tree.score(X_train, Y_train) * 100, 2)
```

Which is the best Model ?

```
results = pd.DataFrame({
    'Model': ['Support Vector Machines', 'KNN', 'Logistic Regression',
              'Random Forest', 'Naive Bayes', 'Perceptron',
              'Stochastic Gradient Decent',
              'Decision Tree'],
    'Score': [acc_linear_svc, acc_knn, acc_log,
              acc_random_forest, acc_gaussian, acc_perceptron,
              acc_sgd, acc_decision_tree]})
result_df = results.sort_values(by='Score', ascending=False)
result_df = result_df.set_index('Score')
result_df.head(9)
```

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Score	Model
92.82	Random Forest
92.82	Decision Tree
87.32	KNN
81.14	Logistic Regression
80.81	Support Vector Machines
80.70	Perceptron
77.10	Naive Bayes
76.99	Stochastic Gradient Decent

As we can see, the Random Forest classifier goes on the first place. Butfirst, let us check, how random-forest performs, when we use cross validation.

K-Fold Cross Validation:

K-Fold Cross Validation randomly splits the training data into **K subsetscalled folds**. Let"s image we would split our data into 4 folds (K = 4). Ourrandom forest model would be trained and evaluated 4 times, using a different fold for evaluation everytime, while it would be trained on the remaining 3 folds.

The image below shows the process, using 4 folds (K = 4). Every row represents one training + evaluation process. In the first row, the model get"s trained on the first, second and third subset and evaluated on the fourth. In the second row, the model get"s trained on the second, third andfourth subset and evaluated on the first. K-Fold Cross Validation repeats this process till every fold acted once as an evaluation fold.

Training	Training	Training	Evaluation
1	2	3	4
2	3	4	1
3	4	1	2
4	1	2	3

The result of our K-Fold Cross Validation example would be an array thatcontains 4 different scores. We then need to compute the mean and the standard deviation for these scores.

The code below perform K-Fold Cross Validation on our random forestmodel, using 10 folds (K = 10). Therefore it outputs an array with 10 different scores.

```
from sklearn.model_selection import cross_val_score
rf = RandomForestClassifier(n_estimators=100)
scores = cross_val_score(rf, X_train, Y_train, cv=10, scoring =
"accuracy")print("Scores:", scores)
print("Mean:", scores.mean())
print("Standard Deviation:", scores.std())
```

```
Scores: [ 0.76666667  0.82222222  0.7752809   0.82022472  0.85393258  0.86516854
  0.83146067  0.76404494  0.85393258  0.85227273]
Mean: 0.820520655998
Standard Deviation: 0.0367313265466
```

This looks much more realistic than before. Our model has a average accuracy of 82% with a standard deviation of 4 %. The standard deviationshows us, how precise the estimates are .

This means in our case that the accuracy of our model can differ + — 4%.

I think the accuracy is still really good and since random forest is an easyto use model, we will try to increase it"s performance even further in the following section.

Random Forest

What is Random Forest ?

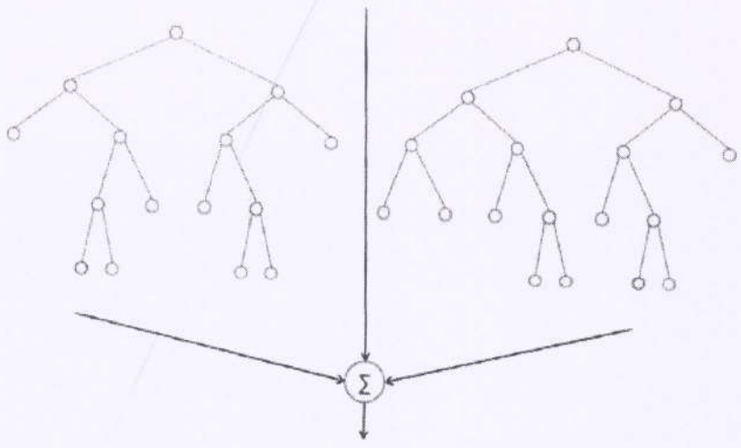
Random Forest is a supervised learning algorithm. Like you can already see from it"s name, it creates a forest and makes it somehow random. The
„forest" it builds, is an ensemble of Decision Trees, most of the time trained with the "bagging" method. The general idea of the bagging method is that a combination of learning models increases the overallresult.

To say it in simple words: Random forest builds multiple decision treesand merges them together to get a more accurate and stable prediction.

One big advantage of random forest is, that it can be used for both classification and regression problems, which form the majority of currentmachine learning systems. With a few exceptions a random-forest classifier has all the hyperparameters of a decision-tree classifier and alsoall the hyperparameters of a bagging classifier, to control the ensemble itself.

The random-forest algorithm brings extra randomness into the model, when it is growing the trees. Instead of searching for the best feature whilesplitting a node, it searches for the best feature among a random subset offeatures. This process creates a wide diversity, which generally results in abetter model. Therefore when you are growing a tree in random forest, only a random subset of the features is considered for splitting a node. Youcan even make trees more random, by using random thresholds on top of it, for each feature rather than searching for the best possible thresholds (like a normal decision tree does).

Below you can see how a random forest would look like with two trees:



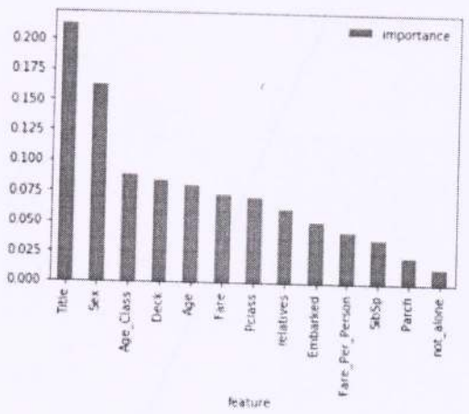
nodes, that use that

feature, reduce impurity on average (across all trees in the forest). It computes this score automaticall for each feature after training and scalesthe results so that the sum of all importances is equal to 1. We will acces this below:

```
importances =
pd.DataFrame({'feature':X_train.columns,'importance':np.round(random_f
orest.feature_importances_,3)})
importances =
importances.sort_values('importance',ascending=False).set_index('featu
re')importances.head(15)
```

	importance
feature	
Title	0.212
Sex	0.162
Age_Class	0.089
Deck	0.084
Age	0.080
Fare	0.073
Pclass	0.071
relatives	0.062
Embarked	0.051
Fare_Per_Person	0.043
SibSp	0.036
Parch	0.022
not_alone	0.013

```
<matplotlib.axes._subplots.AxesSubplot at 0x1a157c1e10>
```



Conclusion:

not_alone and Parch doesn"t play a significant role in our random forestclassifiers prediction process. Because of that I will drop them from thedataset and train the classifier again. We could also remove more or less

features, but this would need a more detailed investigation of the featureseffect on our model. But I think it"s just fine to remove only Alone and Parch.

```
train_df  = train_df.drop("not_alone", axis=1)
test_df  = test_df.drop("not_alone", axis=1)

train_df  = train_df.drop("Parch", axis=1)
test_df  = test_df.drop("Parch", axis=1)
```

Training random forest again:

```
# Random Forest

random_forest = RandomForestClassifier(n_estimators=100, oob_score =
True)
random_forest.fit(X_train, Y_train)
Y_prediction = random_forest.predict(X_test)

random_forest.score(X_train, Y_train)

acc_random_forest = round(random_forest.score(X_train, Y_train) * 100,
2)
print(round(acc random forest,2,), "%")
```

92.82%

Our random forest model predicts as good as it did before. A general ruleis that, **the more features you have, the more likely your model will suffer from overfitting** and vice versa. But I think our data looksfine for now and hasn't too much features.

There is also another way to evaluate a random-forest classifier, which is probably much more accurate than the score we used before. What I am talking about is the **out-of-bag samples** to estimate the generalization accuracy. I will not go into details here about how it works. Just note that out-of-bag estimate is as accurate as using a test set of the same size as thetraining set. Therefore, using the out-of-bag error estimate removes the need for a set aside test set.

oob score: 81.82 %

```
print("oob score:", round(random_forest.oob_score_, 4)*100, "%")
```

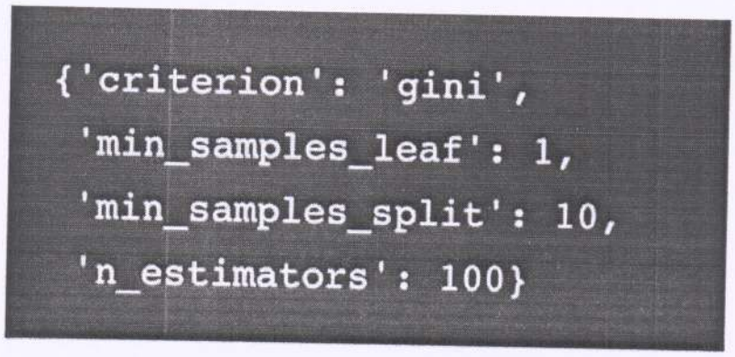
Now we can start tuning the hyperameters of random forest.

Hyperparameter Tuning

Below you can see the code of the hyperparamter tuning for the parameters criterion, min_samples_leaf, min_samples_split andn_estimators.

I put this code into a markdown cell and not into a code cell, because it takes a long time to run it. Directly underneeth it, I put a screenshot of thegridsearch's output.

```
param_grid = { "criterion" : ["gini", "entropy"], "min_samples_leaf" :
[1, 5, 10, 25, 50, 70], "min_samples_split" : [2, 4, 10, 12, 16, 18,
25, 35], "n_estimators": [100, 400, 700, 1000, 1500]}from
sklearn.model_selection import GridSearchCV, cross_val_scorerf =
RandomForestClassifier(n_estimators=100, max_features='auto',
oob_score=True, random_state=1, n_jobs=-1)clf =
GridSearchCV(estimator=rf, param_grid=param_grid, n_jobs=-
1)clf.fit(X_train, Y_train)clf.best_params
```



Test new Parameters:

```
# Random Forest
random_forest = RandomForestClassifier(criterion = "gini",
                                       min_samples_leaf = 1,
                                       min_samples_split = 10,
                                       n_estimators=100,
                                       max_features='auto',
                                       oob_score=True,
                                       random_state=1,
                                       n_jobs=-1)

random_forest.fit(X_train, Y_train)
Y_prediction = random_forest.predict(X_test)

random_forest.score(X_train, Y_train)

print("oob score:", round(random_forest.oob_score_, 4)*100, "%")
```

oob score: 83.05 %

Now that we have a proper model, we can start evaluating it"s performace in a more accurate way. Previously we only used accuracy and the oob score, which is just another form of accuracy. The problem is just, that it"smore complicated to evaluate a classification model than a regression model. We will talk about this in the following section.

Further Evaluation

Confusion Matrix:

```
from sklearn.model_selection import cross_val_predict
from sklearn.metrics import confusion_matrix
predictions = cross_val_predict(random_forest, X_train, Y_train, cv=3)
confusion_matrix(Y_train, predictions)
```

```
array([[488,  61],
       [ 95, 247]])
```

The first row is about the not-survived-predictions: **493 passengers were correctly classified as not survived** (called true negatives) and **56 where wrongly classified as not survived** (false positives).

The second row is about the survived-predictions: **93 passengers wherewrongly classified as survived** (false negatives) and **249 where correctly classified as survived** (true positives).

A confusion matrix gives you a lot of information about how well yourmodel does, but theres a way to get even more, like computing the classifiers precision:

Precision and Recall:

```
from sklearn.metrics import precision_score, recall_score

print("Precision:", precision_score(Y_train, predictions))
print("Recall:",recall_score(Y_train, predictions))
```

Precision: 0.801948051948

Recall: 0.722222222222

Our model predicts 81% of the time, a passengers survival correctly (precision). The recall tells us that it predicted the survival of 73 % of thepeople who actually survived.

F-Score

You can combine precision and recall into one score, which is called the F-score. The F-score is computed with the harmonic mean of precision and recall. Note that it assigns much more weight to low values. As a result of that, the classifier will only get a high F-score, if both recall and precision are high.

```
from sklearn.metrics import f1_score
f1_score(Y_train, predictions)
0.7599999999999
```

There we have it, a 77 % F-score. The score is not that high, because we have a recall of 73%. But unfortunately the F-score is not perfect, because it favors classifiers that have a similar precision and recall. This is a problem, because you sometimes want a high precision and sometimes a high recall. The thing is that an increasing precision, sometimes results inan decreasing recall and vice versa (depending on the threshold). This is called the precision/recall tradeoff. We will discuss this in the following section.

Precision Recall Curve

For each person the Random Forest algorithm has to classify, it computesa probability based on a function and it classifies the person as survived (when the score is bigger the than threshold) or as not survived (when thescore is smaller than the threshold). That"s why the threshold plays an important part.

We will plot the precision and recall with the threshold using matplotlib:

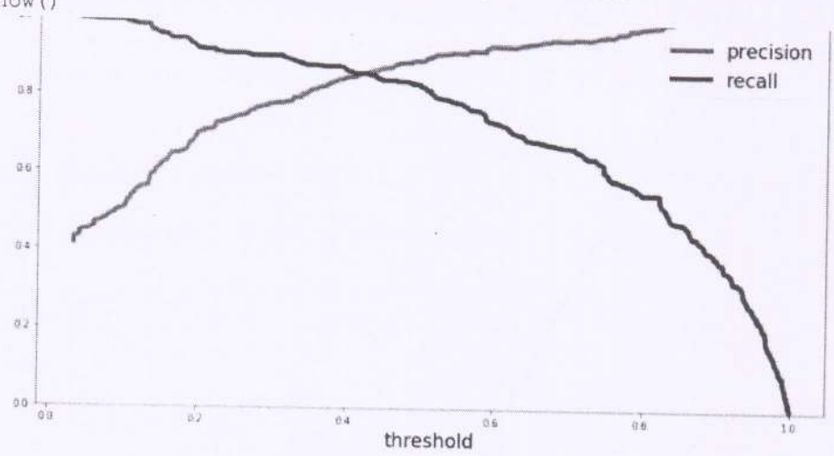
```
from sklearn.metrics import precision_recall_curve

# getting the probabilities of our predictions
y_scores = random_forest.predict_proba(X_train)
y_scores = y_scores[:,1]

precision, recall, threshold = precision recall curve(Y train,
```

```
y_scores)def plot_precision_and_recall(precision, recall, threshold):
    plt.plot(threshold, precision[:-1], "r-", label="precision",
linewidth=5)
    plt.plot(threshold, recall[:-1], "b", label="recall", linewidth=5)
    plt.xlabel("threshold", fontsize=19)
    plt.legend(loc="upper right", fontsize=19)
    plt.ylim([0, 1])

plt.figure(figsize=(14, 7))
plot_precision_and_recall(precision, recall, threshold)
plt.show()
```



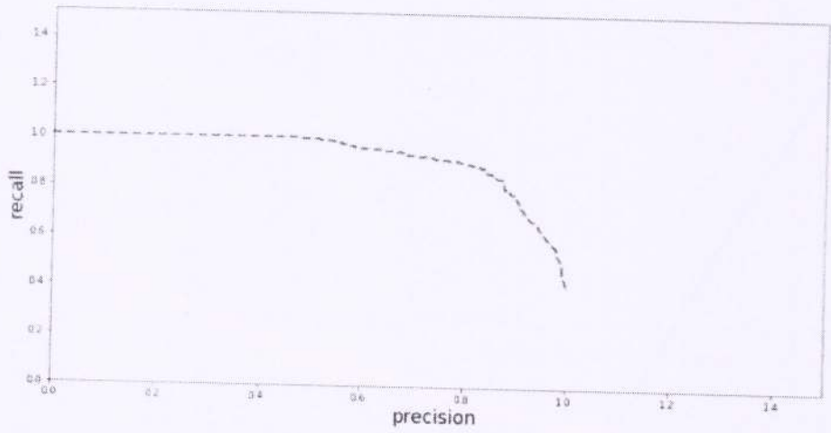
Above you can clearly see that the recall is falling of rapidly at a precision of around 85%. Because of that you may want to select the precision/recalltradeoff before that — maybe at around 75 %.

You are now able to choose a threshold, that gives you the best precision/recall tradeoff for your current machine learning problem. If youwant for example a precision of 80%, you can easily look at the plots and see that you would need a threshold of around 0.4. Then you could train a model with exactly that threshold and would get the desired accuracy.

Another way is to plot the precision and recall against each other:

```
def plot_precision_vs_recall(precision, recall):
    plt.plot(recall, precision, "g--", linewidth=2.5)
    plt.ylabel("recall", fontsize=19)
    plt.xlabel("precision", fontsize=19)
    plt.axis([0, 1.5, 0, 1.5])

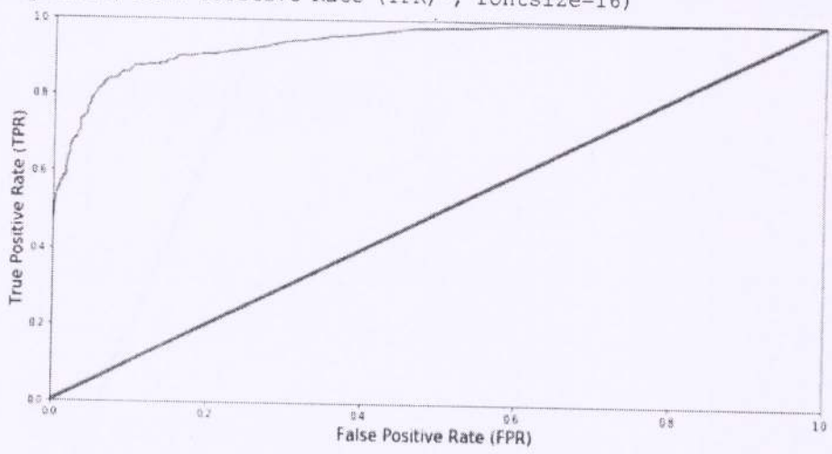
plt.figure(figsize=(14, 7))
plot_precision_vs_recall(precision, recall)
plt.show()
```



ROC AUC Curve

Another way to evaluate and compare your binary classifier is provided bythe ROC AUC Curve. This curve plots the true positive rate (also called recall) against the false positive rate (ratio of incorrectly classified negativeinstances), instead of plotting the precision versus the recall.

```
from sklearn.metrics import roc_curve
# compute true positive rate and false positive rate
false_positive_rate, true_positive_rate, thresholds =
roc_curve(Y_train, y_scores)# plotting them against each other
def plot_roc_curve(false_positive_rate, true_positive_rate,
label=None):
    plt.plot(false_positive_rate, true_positive_rate, linewidth=2,
label=label)
    plt.plot([0, 1], [0, 1], 'r', linewidth=4)
    plt.axis([0, 1, 0, 1])
    plt.xlabel('False Positive Rate (FPR)', fontsize=16)
    plt.ylabel('True Positive Rate (TPR)', fontsize=16)
```



The red line in the middel represents a purely random classifier (e.g a coin flip) and therefore your classifier should be as far away from it as possible.Our Random Forest model seems to do a good job.

Of course we also have a tradeoff here, because the classifier producesmore false positives, the higher the true positive rate is.

ROC AUC Score

The ROC AUC Score is the corresponding score to the ROC AUC Curve. Itis simply computed by measuring the area under the curve, which is calledAUC.

A classifiers that is 100% correct, would have a ROC AUC Score of 1 and a completely random classiffier would have a score of 0.5.

```
from sklearn.metrics import roc_auc_score
r_a_score = roc_auc_score(Y_train, y_scores)
print("ROC-AUC-Score:", r_a_score)
```

ROC_AUC_SCORE: 0.945067587

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Group C
Assignment No : 1

Title of the Assignment: Installation of MetaMask and study spending Ether per transaction

Objective of the Assignment: Students should be able to learn new technology such as metamask.Its application and implementations

Prerequisite:

1. Basic knowledge of cryptocurrency
2. Basic knowledge of distributed computing concept
3. Working of blockchain

Contents for Theory:

1. **Introduction Blockchain**
2. **Cryptocurrency**
3. **Transaction Wallets**
4. **Ether transaction**
5. **Installation Process of Metamask**

Introduction to Blockchain

- Blockchain can be described as a data structure that holds transactional records and while ensuring security, transparency, and decentralization. You can also think of it as a chain or records stored in the forms of blocks which are controlled by no single authority.
- A blockchain is a distributed ledger that is completely open to any and everyone on the network. Once an information is stored on a blockchain, it is extremely difficult to change or alter it.
- Each transaction on a blockchain is secured with a digital signature that proves its authenticity. Due to the use of encryption and digital signatures, the data stored on the blockchain is tamper-proof and cannot be changed.
- Blockchain technology allows all the network participants to reach an agreement, commonly known as consensus. All the data stored on a blockchain is recorded digitally and has a common history which is available for all the network participants. This way, the chances of any fraudulent activity or duplication of transactions is eliminated without the need of a third-party.

Blockchain Features

The following features make the revolutionary technology of blockchain stand out:

- **Decentralized**

  Blockchains are decentralized in nature meaning that no single person or group holds the authority of the overall network. While everybody in the network has the copy of the distributed ledger with them, no one can modify it on his or her own. This unique feature of blockchain allows transparency and security while giving power to the users.

- **Peer-to-Peer Network**

  With the use of Blockchain, the interaction between two parties through a peer-to-peer model is easily accomplished without the requirement of any third party. Blockchain uses P2P protocol which allows all the network participants to hold an identical copy of transactions, enabling approval through a machine consensus. For example, if you wish to make any transaction from one part of the world to another, you can do that with blockchain all by yourself within a few seconds. Moreover, any interruptions or extra charges will not be deducted in the transfer.

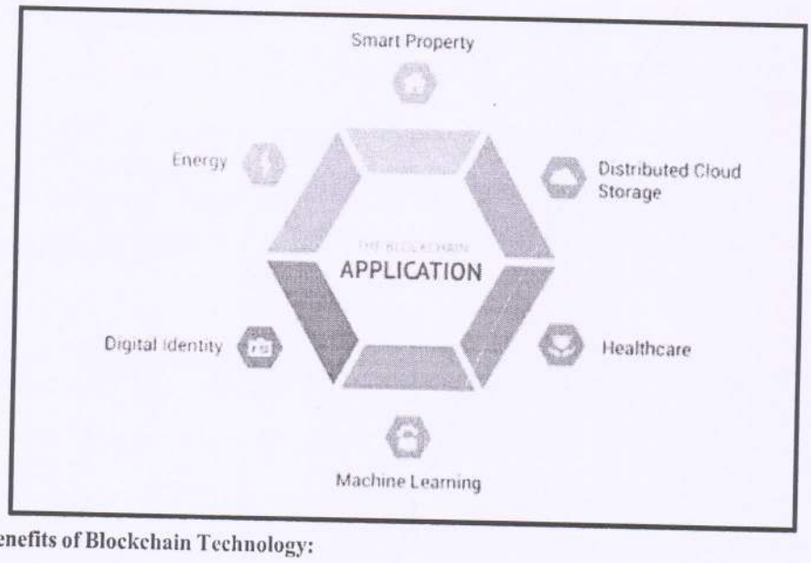
- **Immutable**

  The immutability property of a blockchain refers to the fact that any data once written on the blockchain cannot be changed. To understand immutability, consider sending email as an example. Once you send an email to a bunch of people, you cannot take it back. In order to find a way around, you'll have to ask all the recipients to delete your email which is pretty tedious. This is how immutability works.

- **Tamper-Proof**

  With the property of immutability embedded in blockchains, it becomes easier to detect tampering of any data. Blockchains are considered tamper-proof as any change in even one single block can be detected and addressed smoothly. There are two key ways of detecting tampering namely, hashes and blocks.

Popular Applications of Blockchain Technology



Benefits of Blockchain Technology:

- **Time-saving:** No central Authority verification needed for settlements making the process faster and cheaper.
- **Cost-saving:** A Blockchain network reduces expenses in several ways. No need for third-party verification. Participants can share assets directly. Intermediaries are reduced. Transaction efforts are minimized as every participant has a copy of shared ledger.
- **Tighter security:** No one can temper with Blockchain Data as it is shared among

millions of participants. The system is safe against cybercrimes and Fraud.

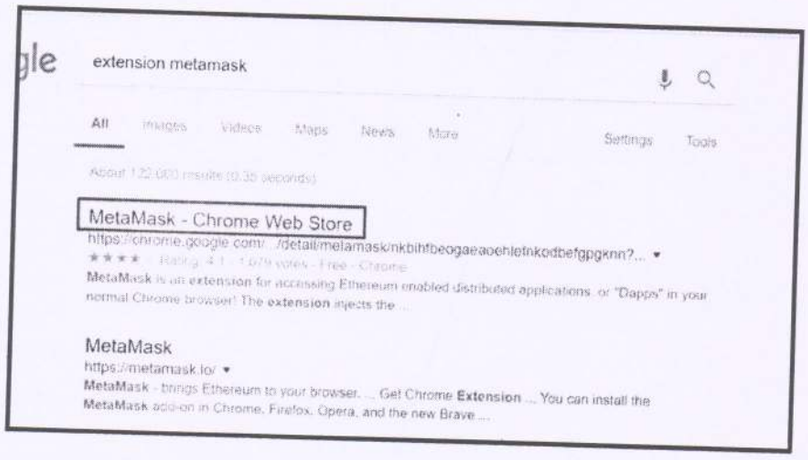
- In finance market trading, Fibonacci retracement levels are widely used in technical analysis.

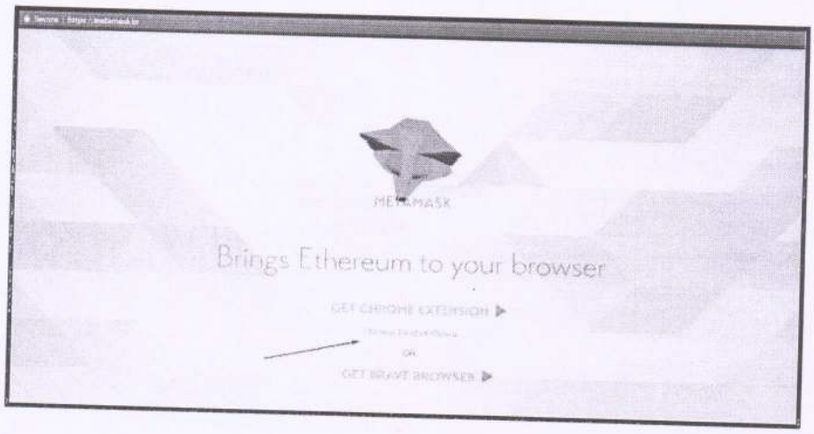
How to use MetaMask: A step by step guide

MetaMask is one of the most popular browser extensions that serves as a way of storing your Ethereum and other ERC-20 Tokens. The extension is free and secure, allowing web applications to read and interact with Ethereum's blockchain.

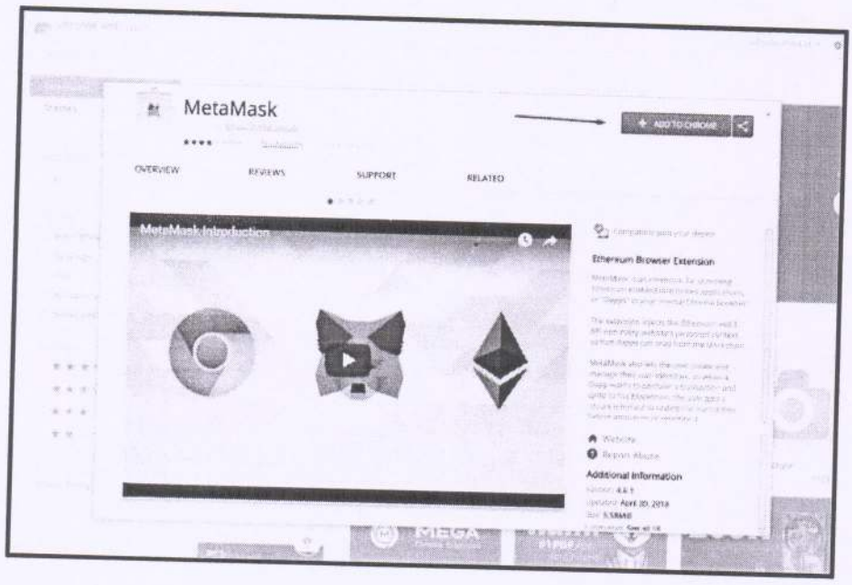
Step 1. Install MetaMask on your browser.

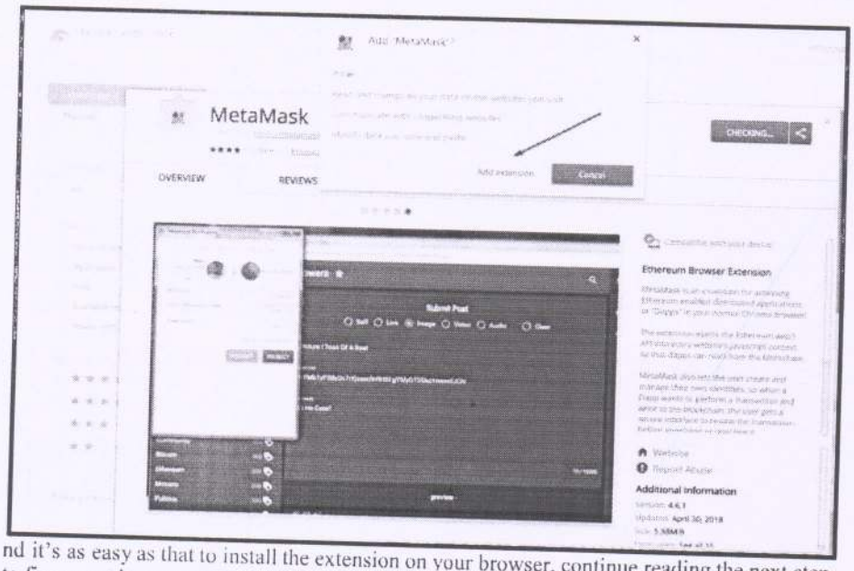
To create a new wallet, you have to install the extension first. Depending on your browser, there are different marketplaces to find it. Most browsers have MetaMask on their stores, so it's not that hard to see it, but either way, here they are Chrome, Firefox, and Opera.





- Click on **Install MetaMask** as a Google Chrome extension.
- Click **Add to Chrome**.
- Click **Add Extension**.

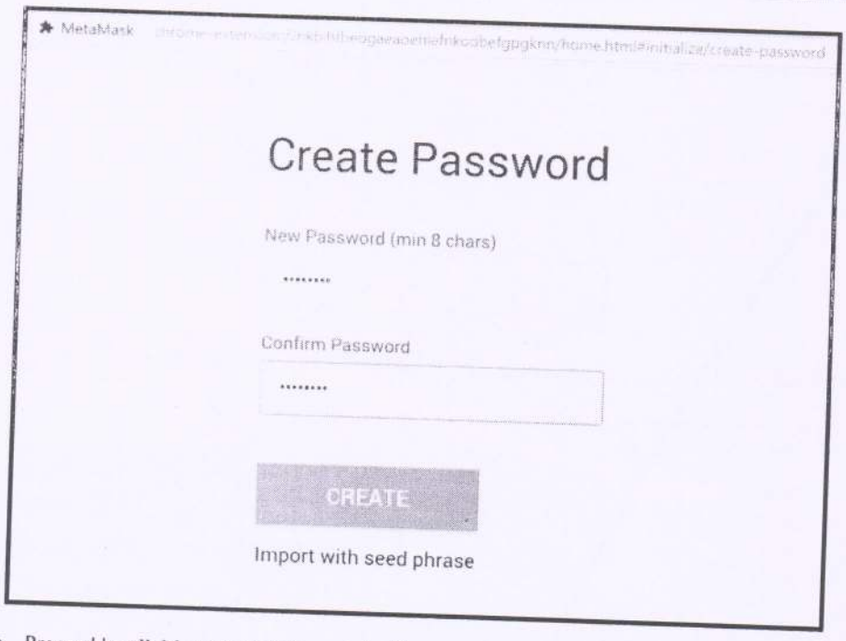




nd it's as easy as that to install the extension on your browser, continue reading the next step to figure out how to create an account.

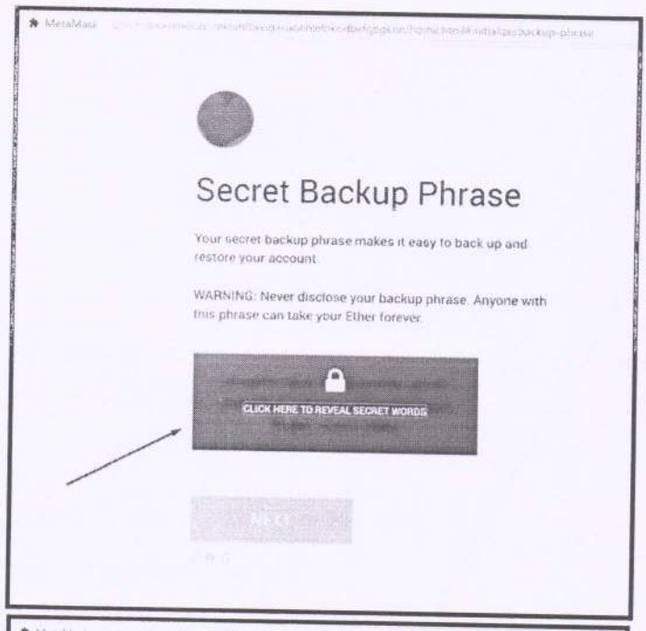
Step 2. Create an account.

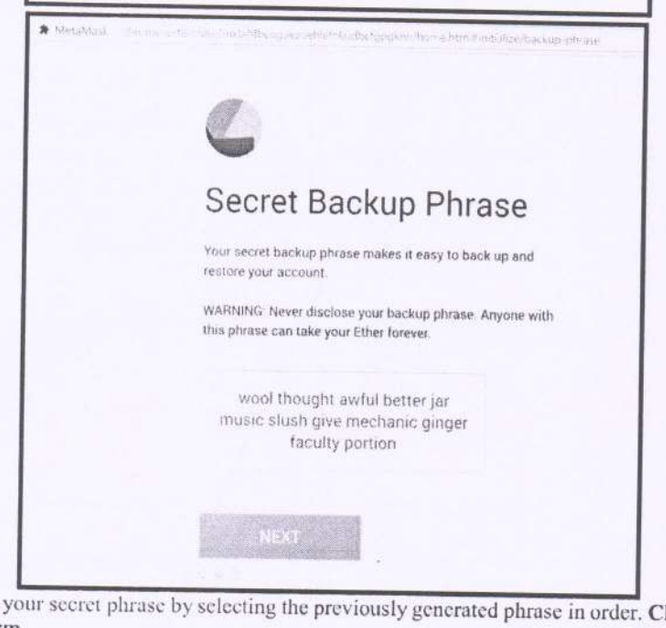
- Click on the extension icon in the upper right corner to open MetaMask.
- To install the latest version and be up to date, **click Try it now**.
- **Click Continue**.
- You will be prompted to create a new password. **Click Create**.



- Proceed by **clicking Next** and accept the Terms of Use.

Click Reveal Secret Words. There you will see a 12 words seed phrase. This is really important and usually not a good idea to store digitally, so take your time and write it down





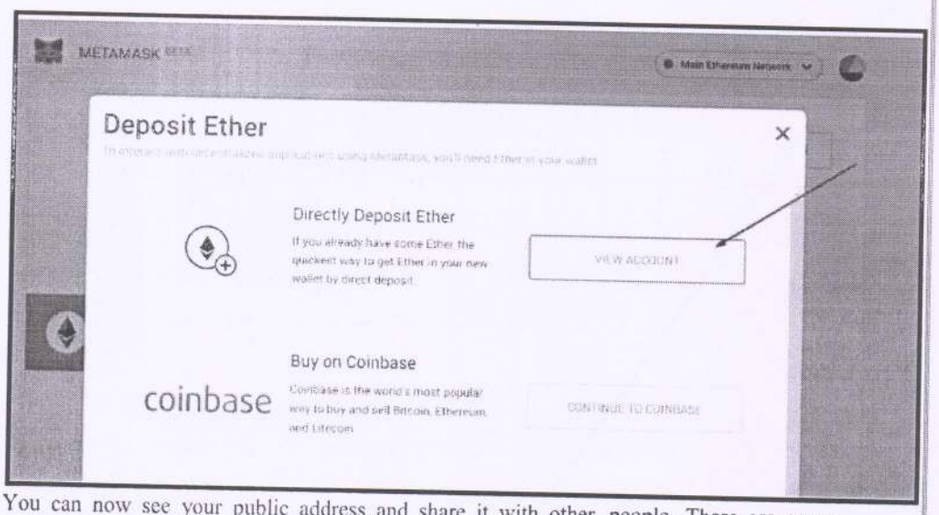
- Verify your secret phrase by selecting the previously generated phrase in order. **Click Confirm**.

And that's it; now you have created your MetaMask account successfully. A new Ethereum wallet

address has just been created for you. It's waiting for you to deposit funds, and if you want to learn how to do that, look at the next step below.

Step 3. Depositing funds.

- Click on **View Account**.



You can now see your public address and share it with other people. There are some methods to buy coins offered by MetaMask, but you can do it differently as well; you just need your address.

If you ever get logged out, you'll be able to log back in again by clicking the MetaMask icon, which will have been added to your web browser (usually found next to the URL bar).



You can now access your list of assets in the 'Assets' tab and view your transaction history in the 'Activity' tab.

- Sending crypto is as simple as clicking the 'Send' button, entering the recipient address and amount to send, and selecting a transaction fee. You can also manually adjust the transaction fee using the 'Advanced Options' button, using information from ETH Gas Station or similar platforms to choose a more acceptable gas price.
- After clicking 'Next', you will then be able to either confirm or reject the transaction on the subsequent page.



- To use MetaMask to interact with a dapp or smart contract, you'll usually need to find a 'Connect to Wallet' button or similar element on the platform you are trying to use. After clicking this, you should then see a prompt asking whether you want to let the dapp connect to your wallet.

What advantages does MetaMask have?

- **Popular** - It is commonly used, so users only need one plugin to access a wide range of dapps.
- **Simple** - Instead of managing private keys, users just need to remember a list of words, and transactions are signed on their behalf.
- **Saves space** - Users don't have to download the Ethereum blockchain, as MetaMask sends requests to nodes outside of the user's computer.
- **Integrated** - Dapps are designed to work with MetaMask, so it becomes much easier to send Ether in and out.

Conclusion- In this way we have explored Concept Blockchain and metamat wallet for transaction of digital currency

Assignment Question

1. **What Are the Different Types of Blockchain Technology?**
2. **What Are the Key Features/Properties of Blockchain?**
3. **What Type of Records You Can Keep in A Blockchain?**
4. **What is the difference between Ethereum and Bitcoin?**
5. **What are Merkle Trees? Explain their concept.**
6. **What is Double Spending in transaction operation**
7. **Give real-life use cases of blockchain.**

Reference link

- https://hackernoon.com/blockchain-technology-explained-introduction-meaning-and-applications-edbd6759a2b2
- https://levelup.gitconnected.com/how-to-use-metamask-a-step-by-step-guide-f380a3943fb1
- https://decrypt.co/resources/metamask

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

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Group C
Assignment No:2

Title: Create your own wallet using MetaMask for crypto transactions.

Objective: Understand and explore the working of Blockchain technology and its applications.

Course Outcome:

CO6:Interpret the basic concepts in Blockchain technology and its application.

Description:

MetaMask is a cryptocurrency wallet used to interact with the Ethereum Blockchain. It can be accessed through an app or through a browser extension.MetaMask is a popular cryptocurrency wallet known for its ease of use, availability on both desktops and mobile devices, the ability to buy, send, and receive cryptocurrency from within the wallet, and collect non-fungible tokens (NFTs) across two block chains. While experienced crypto users will appreciate the simplicity and fast transactions, those new in the space are at a higher risk of losing their tokens from lost secret phrases, malicious websites, and other cryptocurrency scams

Similarly, you"ll need a crypto wallet to transact with a Blockchain.

A wallet is your personal key to interact with the cryptographic world. It powers you to buy, sell or transfer assets on the Blockchain.

And MetaMask is a wallet for the most diverse Blockchain in existence–Ethereum. It"s your gateway to its DeFi ecosystem, non-fungible tokens (NFTs), ERC-20 tokens, and practically–everything Ethereum.

It"s available as an app for iOS and Android. In addition, you can use this as an extension with a few web browsers: Chrome, Firefox, Brave, and Edge.

Let"s take a look at some of the prominent features of this wallet:

Ease of use

Starting with MetaMask is easy, quick, and anonymous. You don"t even need an email address. Just set up a password and remember (and store) the secret recovery phrase, and you"re done.

Security

Your information is encrypted in your browser that nobody has access to. In the event of a lost password, you have the 12-word secret recovery phase (also called a seed phrase) for

recovery. Notably, it"s essential to keep the seed phrase safe, as even MetaMask has no information about it. Once lost, it can"t be retrieved.

Built-In Crypto Store

If you"re wondering, no, you can"t buy Bitcoin with MetaMask. It only supports Ether and other Ether-related tokens, including the famous ERC-20 tokens. Cryptocurrencies (excluding Ether) on Ethereum are built as ERC-20 tokens.

Backup and Restore

MetaMask stores your information locally. So, in case you switch browsers or machines, you can restore your MetaMask wallet with your secret recovery phrase.

Community Support

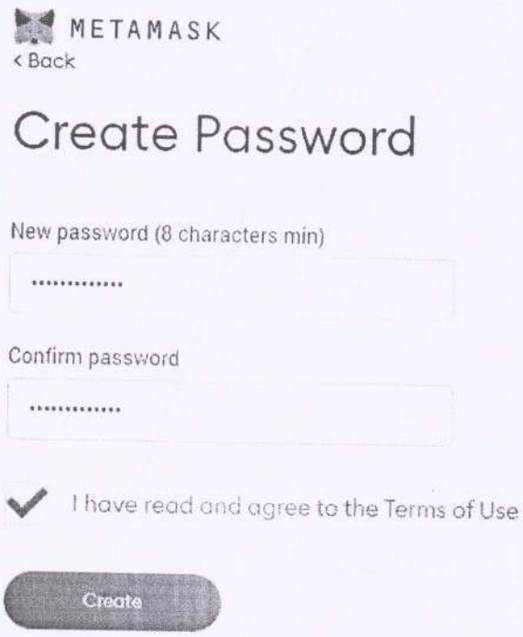
As of August 2021, MetaMask was home to 10 million monthly active users around the world. It"s simple and intuitive user interface keeps pushing these numbers with a recorded 1800% increase from July 2020.

Conclusively, try MetaMask if hot wallets are your pick. Let"s begin with the installation before moving to its use cases. Further sections entail the illustration for Chrome web browser and Android mobile platform.

Step 1: Click on the "Create a wallet".

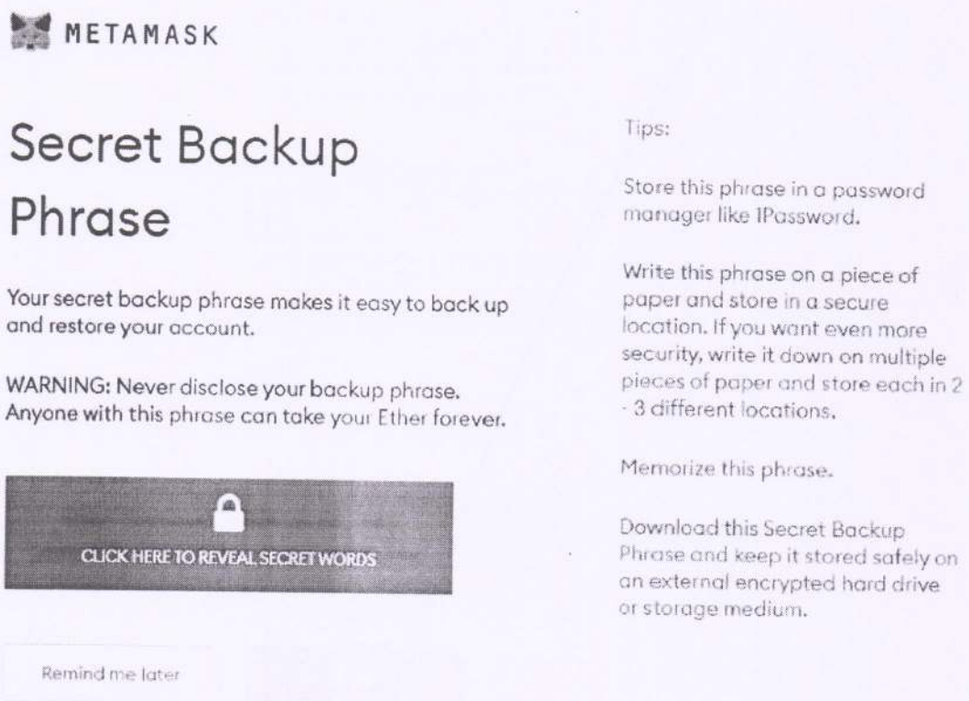


Step 2: Create a password for your wallet. This password is to be entered every time the browser is launched and wants to use MetaMask. A new password needs to be created if chrome is uninstalled or if there is a switching of browsers. In that case, go through the Import Wallet button. This is because MetaMask stores the keys in the browser. Agree to Terms of Use.



Step 3:Click on the dark area which says *Click here to reveal secret words* to get your secret phrase.

Step 4: This is the most important step. Back up your secret phrase properly. Do not store your secret phrase on your computer. Please read everything on this screen until you understand it completely before proceeding. The secret phrase is the only way to access your wallet if you forget your password. Once done click the Next button.

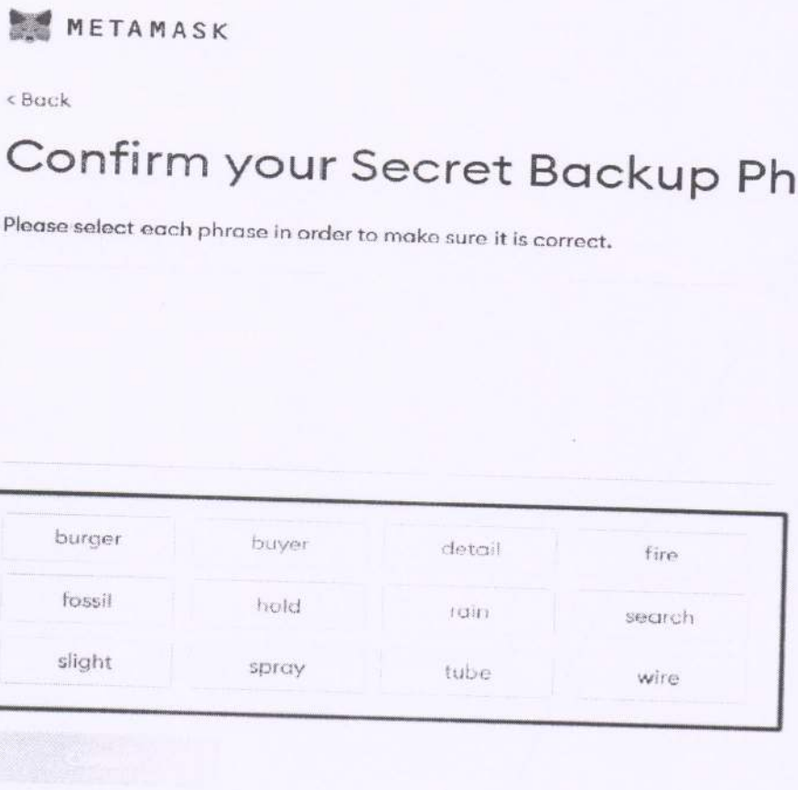


Step 5:

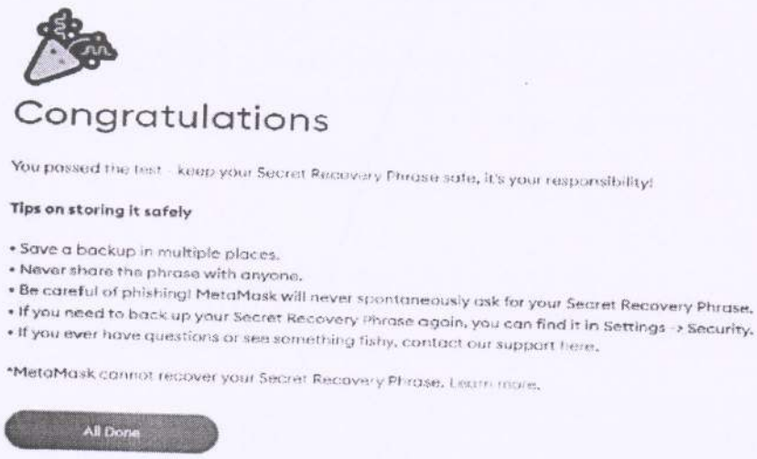
Securely store the seed phrase for your wallet Click on "Click here to reveal secret words" to show the seed phrase.

MetaMask requires that you store your seed phrase in a safe place. It is the only way to recover your funds should your device crash or your browser reset. We recommend you write it down. The most common method is to write your 12-word phrase on a piece of paper and store it safely in a place where only you have access. Note: if you lose your seed phrase, MetaMask can"t help you recover your wallet and your funds will be lost forever.

Never share your seed phrase or your private key to anyone or any site, unless you want them to have full control over your funds.



Step 6: Click the *Confirm* button. Please follow the tips mentioned.



Step 7: One can see the balance and copy the address of the account by clicking on the *Account 1* area.



Conclusion: Hence,wehavestudiedto create a wallet using Meta

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

Assignment No. 3

Title: Write a smart contract on a test network for Bank account of a customer for following operations.

- Deposit Money
- Withdraw Money
- Show Balance

Objective: Understand and explore the working of Blockchain technology and its applications.

Course Outcome:

CO6:Interpret the basic concepts in Blockchain technology and its application.

Description:

First of all, we need to understand the differences between a paper contract and a smart contract and the reason why smart contracts become increasingly popular and important in recent years. A contract, by definition, is a written or spoken (mostly written) law-enforced agreement containing the rights and duties of the parties. Because most of business contracts are complicated and tricky, the parties need to hire professional agents or lawyers for protecting their own rights. However, if we hire those professionals every time we sign contracts, it is going to be extremely costly and inefficient. Smart contracts perfectly solve this by working on „If-Then" principle and also as escrow services. All participants need to put their money, ownership right or other tradable assets into smart contracts before any successful transaction. As long as all participating parties meet the requirement, smart contracts will simultaneously distribute stored assets to recipients and the distribution process will be witnessed and verified by the nodes on Ethereum network.

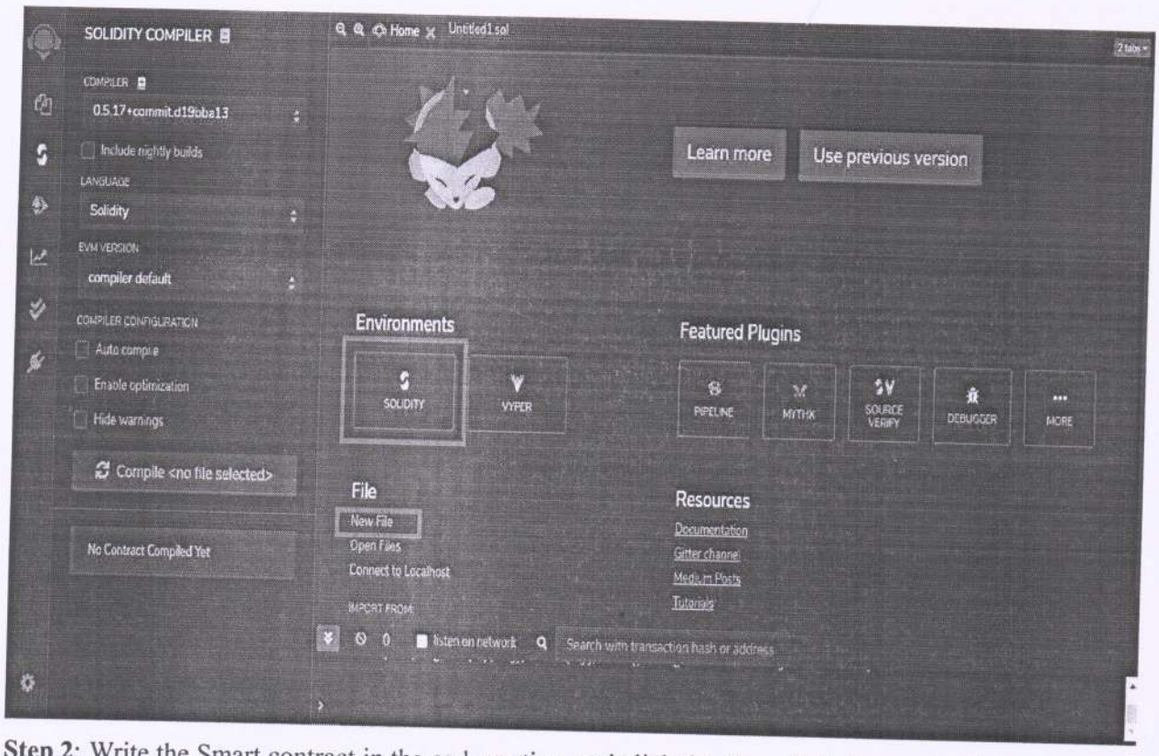
There are a couple of languages we can use to program smart contract. Solidity, an object-oriented and high-level language, is by far the most famous and well maintained one. We can use Solidity to create various smart contracts which can be used in different scenarios, including voting, blind auctions and safe remote purchase. In this lab, we will discuss the semantics and syntax of Solidity with specific explanation, examples and practices.

After deciding the coding language, we need to pick an appropriate compiler. Among various compilers like Visual Code Studio, we will use Remix IDE in this and following labs because it can be directly accessed from browser where we can test, debug and deploy smart contracts without any installation.

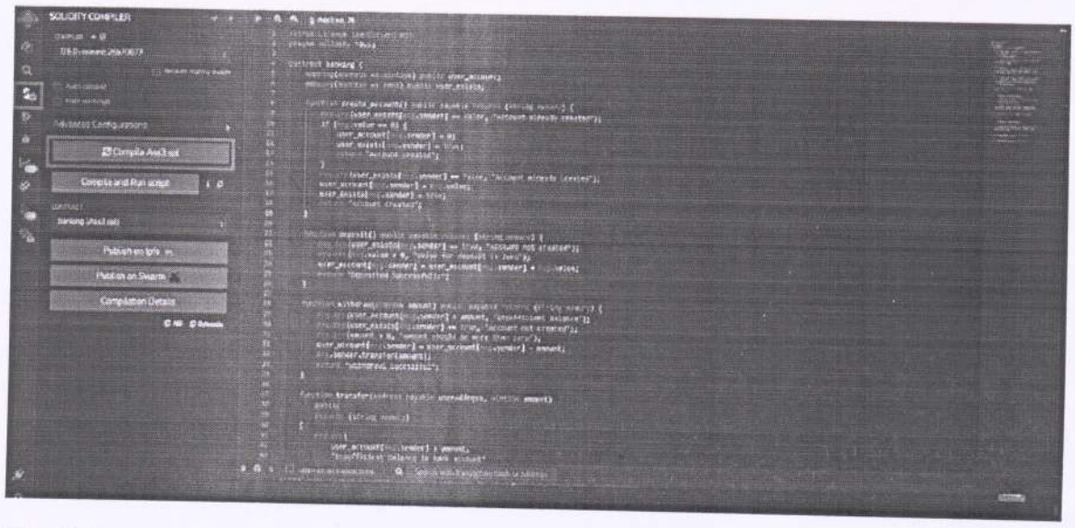
Steps to Execute Solidity Smart Contract using Remix IDE

Remix IDE is generally used to compile and run Solidity smart contracts. Below are the steps for the compilation, execution, and debugging of the smart contract.

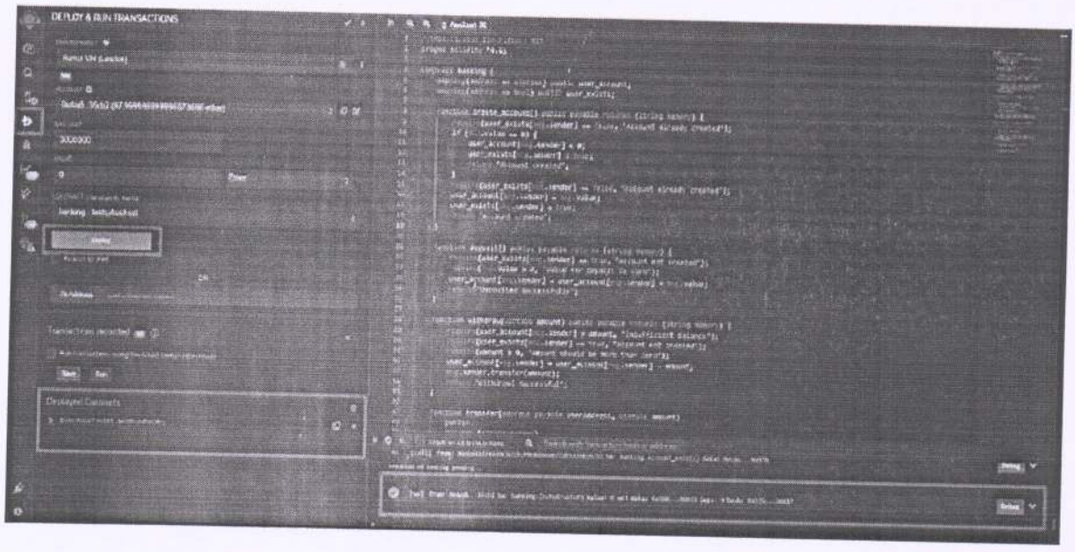
Step 1: Open Remix IDE on any of your browsers, select on the *New File* and click on *Solidity* to choose the environment.



Step 2: Write the Smart contract in the code section, and click the *Compile button* under the Compiler window to compile the contract.



Step 3: To execute the code, click on the *Deploy button* under Deploy and Run Transactions window. After deploying the code click on the drop-down on the console.



Code

```
//SPDX-License-Identifier: MIT
pragma solidity ^0.6;
```

```
contract banking
{
   mapping(address=>uint) public user_account;
   mapping(address=>bool) public user_exists;

   function create_account() public payable returns(string memory)
   {
      require(user_exists[msg.sender]==false,'Account already created');
      if(msg.value==0)
      {
user_account[msg.sender]=0;
user_exists[msg.sender]=true;
         return "Account created";
      }
      require(user_exists[msg.sender]==false,"Account already created");
user_account[msg.sender]=msg.value;
user_exists[msg.sender]=true;
      return "Account created";
   }

   function deposit() public payable returns(string memory)
   {
      require(user_exists[msg.sender]==true,"Account not created");
      require(msg.value>0,"Value for deposit is Zero");
user_account[msg.sender]=user_account[msg.sender]+msg.value;
      return "Deposited Successfully";
   }

   function withdraw(uint amount) public payable returns(string memory)
   {
```

```
        require(user_account[msg.sender]>amount,"Insufficient Balance");
        require(user_exists[msg.sender]==true,"Account not created");
        require(amount>0,"Amount should be more than zero");
 user_account[msg.sender]=user_account[msg.sender]-amount;
 msg.sender.transfer(amount);
        return "Withdrawl Successful";
    }

    function transfer(address payable userAddress, uint amount) public returns(string memory)
    {
        require(user_account[msg.sender]>amount,"Insufficient balance in Bank account");
        require(user_exists[msg.sender]==true,"Account is not created");
        require(user_exists[userAddress]==true,"Transfer account does not exist");
        require(amount>0,"Amount should be more than zero");
 user_account[msg.sender]=user_account[msg.sender]-amount;
 user_account[userAddress]=user_account[userAddress]+amount;
        return "Transfer Successful";
    }

    function send_amt(address payable toAddress, uint256 amount) public payable returns(string
 memory)
    {
        require(user_account[msg.sender]>amount,"Insufficeint balance in Bank account");
        require(user_exists[msg.sender]==true,"Account is not created");
        require(amount>0,"Amount should be more than zero");
 user_account[msg.sender]=user_account[msg.sender]-amount;
 toAddress.transfer(amount);
        return "Transfer Success";
    }

    function user_balance() public view returns(uint)
```

```
    {
        return user_account[msg.sender];
    }

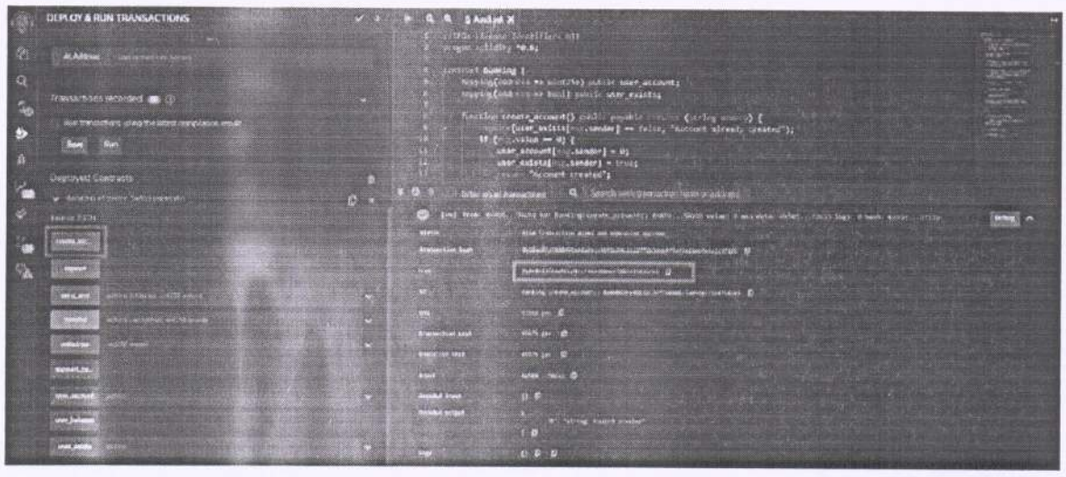
    function account_exist() public view returns(bool)
    {
        return user_exists[msg.sender];
    }
}
```

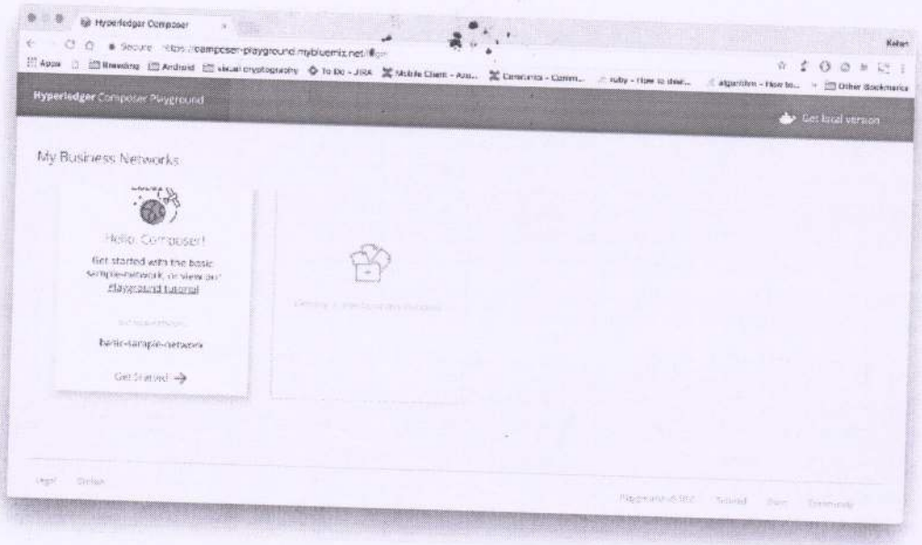
Sample Output

After deploying the contact successful you can observe following buttonscreate_account, deposit, send_amt, transfer, account_exist, user_account, user_balance and user_exists.

Refer the following output

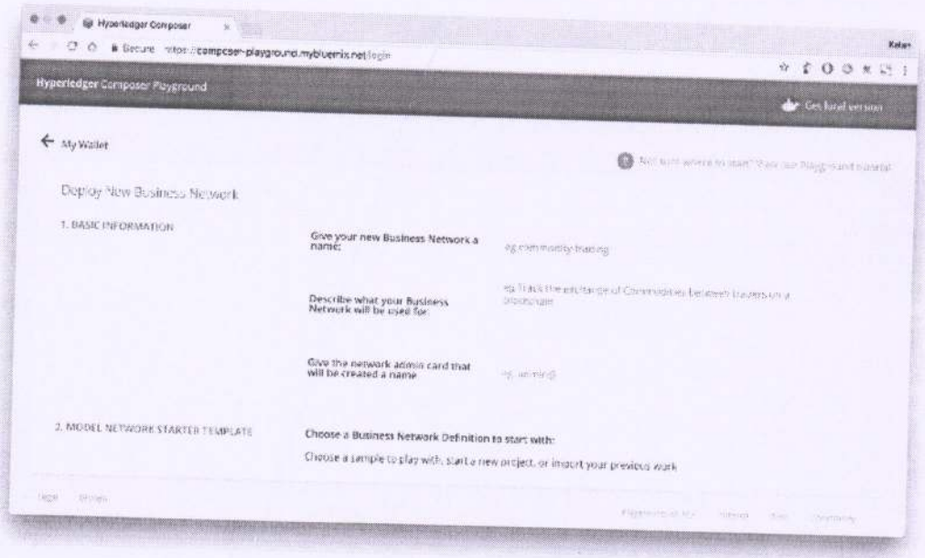
- Create account



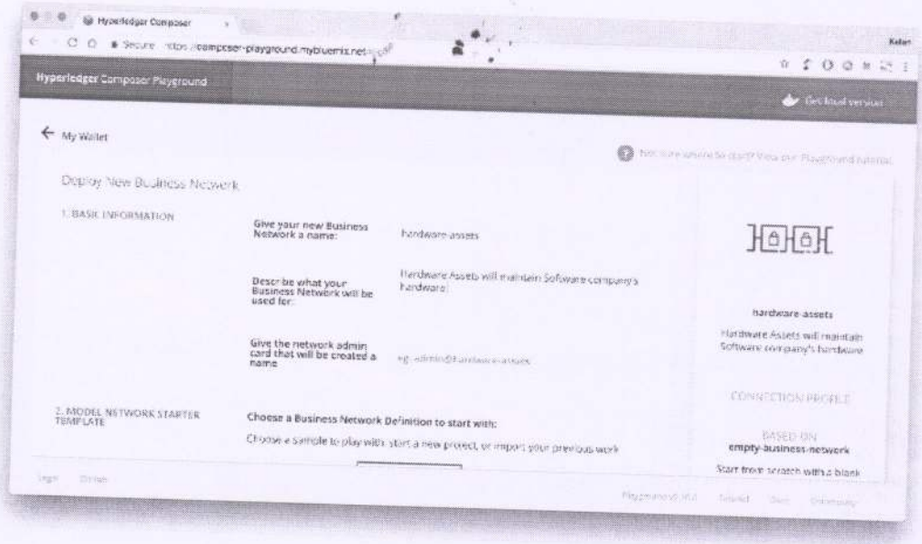


Hyperledger Composer Playground Online version

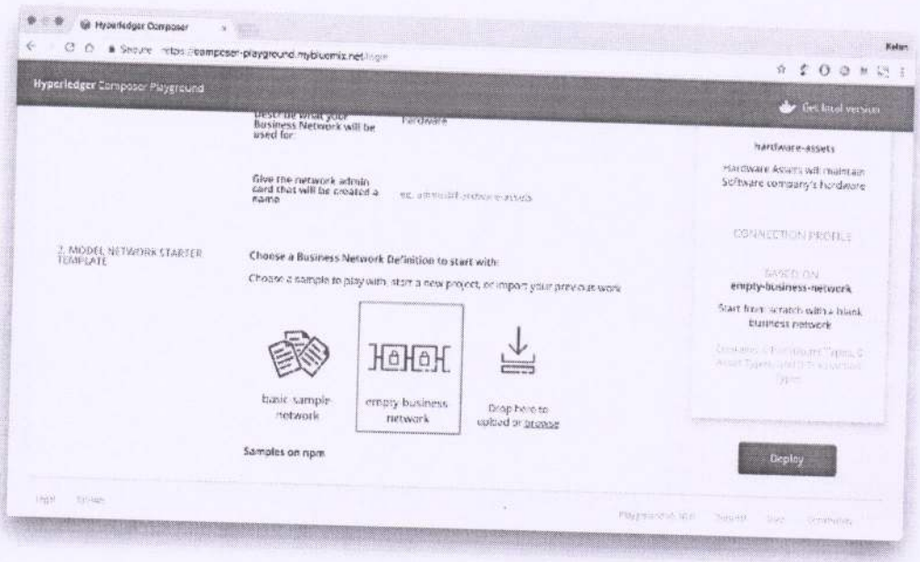
Step 2: Select empty business network



Step 3: Fill basic information, select empty business network and click "deploy" button from right pannel

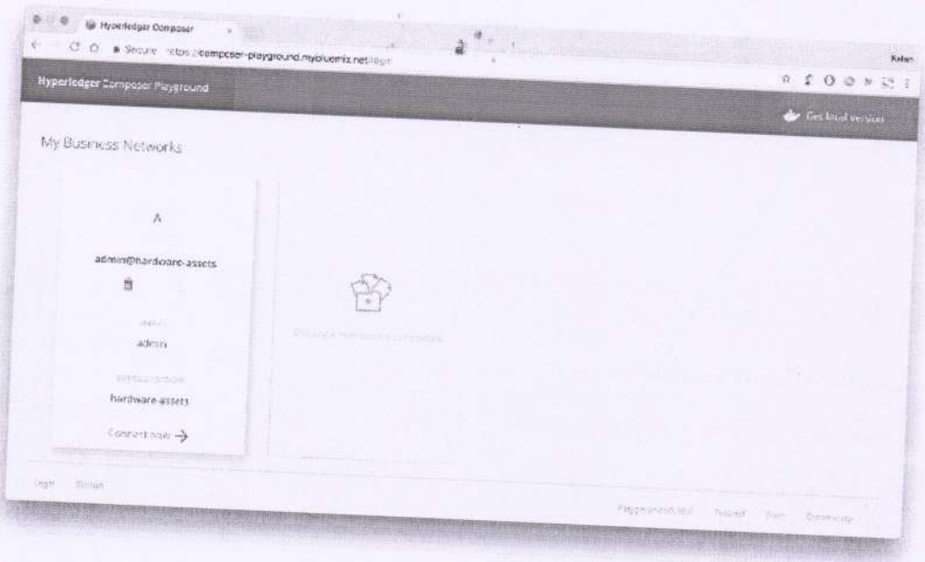


Fill basic information

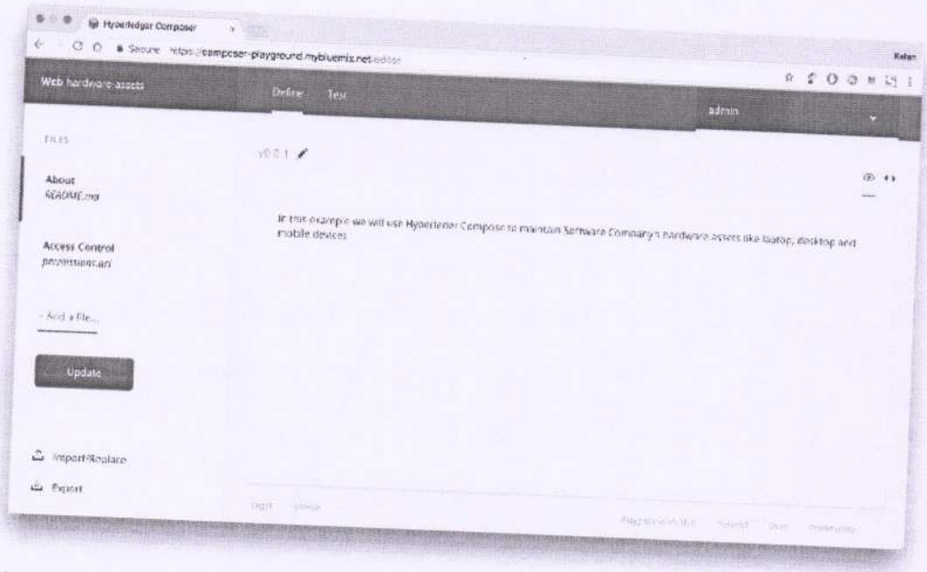


select empty business network

Step 4: Connect to "hardware-assets" business network that we have just deploied

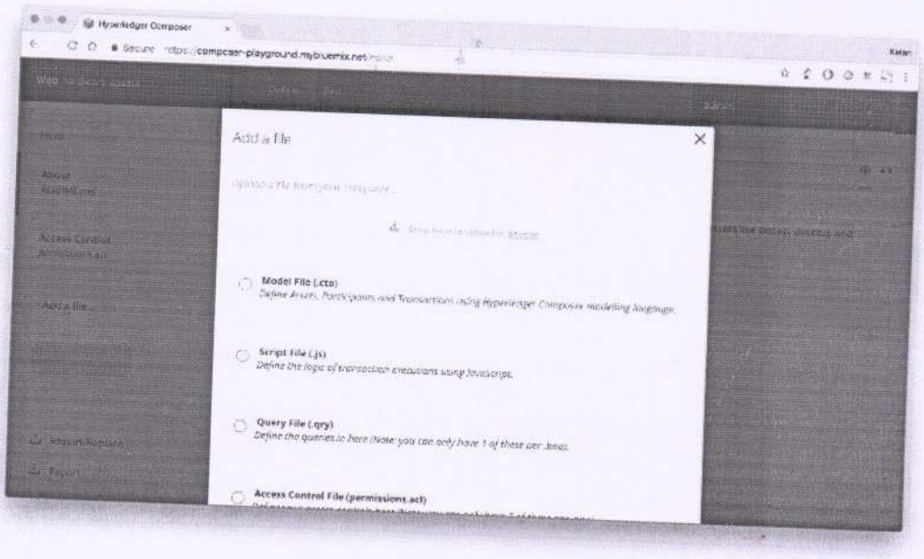


click on "connect now" button



Inside hardware-assets business network

Step 5: Click on "+Add a file..." from left panel and select "model file (.cto)"



Write following code in model file. Model file contain asset in our case it's hardware, participant in our case participants are employee of organisation and transaction as Allocate hardware to employee. Each model has extra properties. Make sure your have proper and unique namespace. In this example I am using "com.kpbird" as namespace. You can access all models using this namespace i.e. com.kpbird.Hardware,

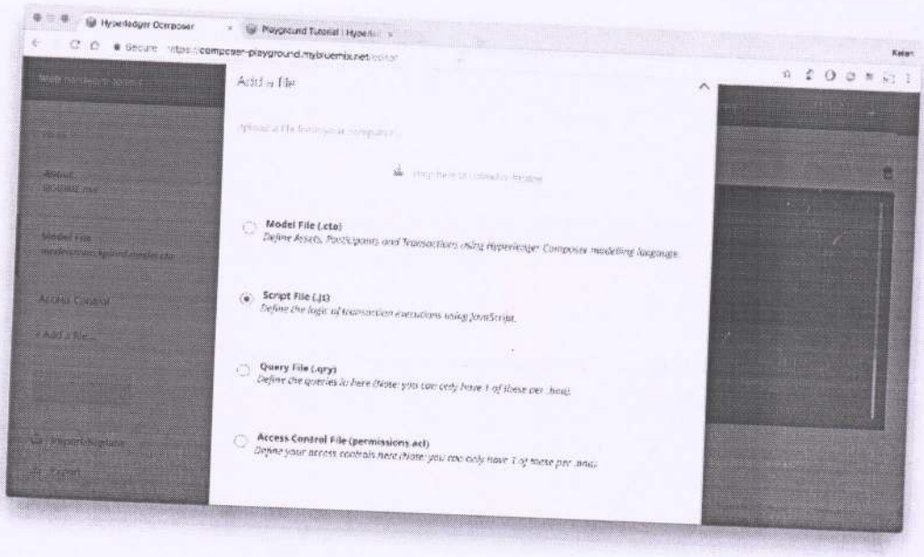
com.kpbird.Employee

```
/**
 * Hardware model
 */namespace com.kpbirdasset Hardware identified by hardwareId {
 o String hardwareId
 o String name
 o String type
 o String description
 o Double quantity
 → Employee owner
}
participant Employee identified by employeeId {
 o String employeeId
 o String firstName
 o String lastName
}
transaction Allocate {
 → Hardware hardware
 → Employee newOwner
}
```

Hyperledger modeling language

reference: https://hyperledger.github.io/composer/reference/cto_language.html

Step 6: Click on "+Add a file..." from left panel and select "script file (*.js)"



Write following code in Script File. In Script we can define transaction processing logic. In our case we want to allocate hardware to the employee so, we will update owner of hardware. Make sure about annotation above functions @params and @transaction

```
/**
 * Track the trade of a commodity from one trader to another
 * @param {com.kpbird.Allocate} trade – the trade to be processed
 * @transaction
 */
function allocateHardware(allocate) {
allocate.hardware.owner = allocate.newOwner;
return getAssetRegistry('com.kpbird.Hardware')
.then(function (assetRegistry) {
return assetRegistry.update(allocate.hardware);
});
}
```

Hyperledger Composer Script file reference: https://hyperledger.github.io/composer/reference/js_scripts.html

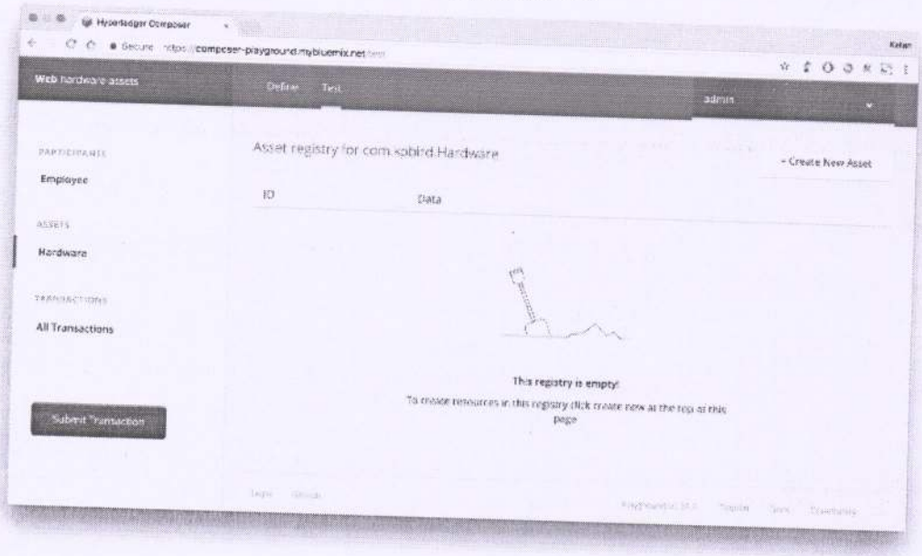
Step 7: permissions.acl file sample is already available, Add following code in permissions.acl file.

```
/**
 * New access control file
 */
rule AllAccess {
description: "AllAccess – grant everything to everybody."
participant: "ANY"
operation: ALL
resource: "com.kpbird.**"
action: ALLOW
}rule SystemACL{
description: "System ACL to permit all access"
participant: "org.hyperledger.composer.system.Participant"
operation: ALL
resource: "org.hyperledger.composer.system.**"
action: ALLOW
}
```

Hyperledger Composer Access Control Language

reference: https://hyperledger.github.io/composer/reference/acl_language.html

Step 8: Now, It's time to test our hardware assets business network. Hyperledger composer gives "Test" facility from composer panel it self. Click on "Test" tab from top panel



Test feature of Hyperledger Composer

Step 9: Create Assets. Click on "Hardware" from left panel and click "+ Create New Assets" from right top corner and add following code. We will create Employee#01 in next step. Click on "Create New" button

```
{
 "$class": "com.kpbird.Hardware",
 "hardwareId": "MAC01",
 "name": "MAC Book Pro 2015",
 "type": "Laptop",
 "description": "Mac Book Pro",
 "quantity": 1,
 "owner": "resource:com.kpbird.Employee#01"
}
```



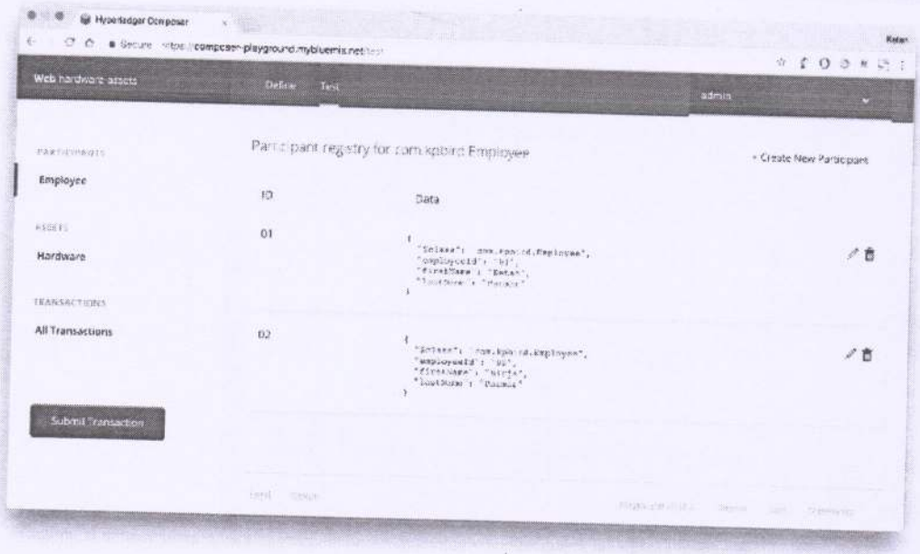
After adding Hardware assets

Steps 10: Let's create participants. Click "Employee" and click "+ Create New Participants" and add following code. We will add two employees

```
{
 "$class": "com.kpbird.Employee",
 "employeeId": "01",
 "firstName": "Ketan",
 "lastName": "Parmar"
}
```

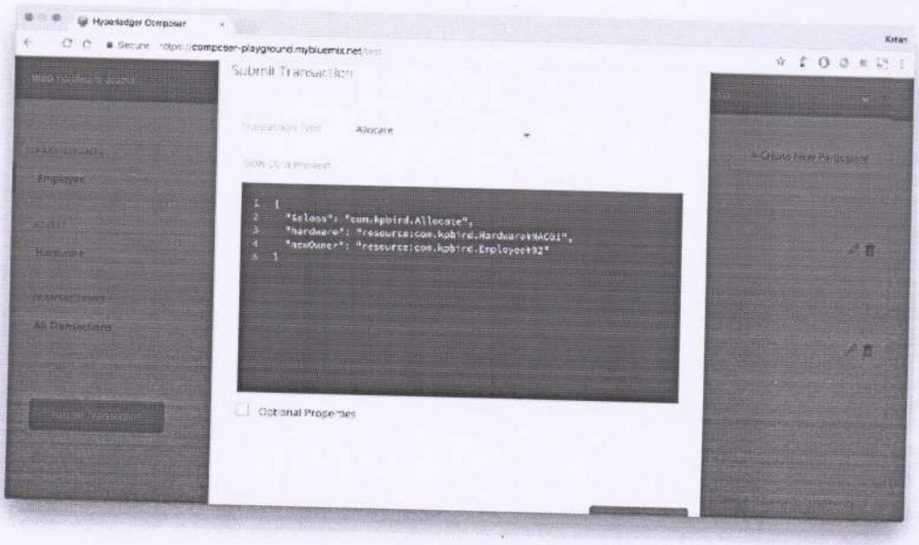
Click on "Create New" on dialog

```
{
"$class": "com.kpbird.Employee",
"employeeId": "02",
"firstName": "Nirja",
"lastName": "Parmar"
}
```



We have two employees

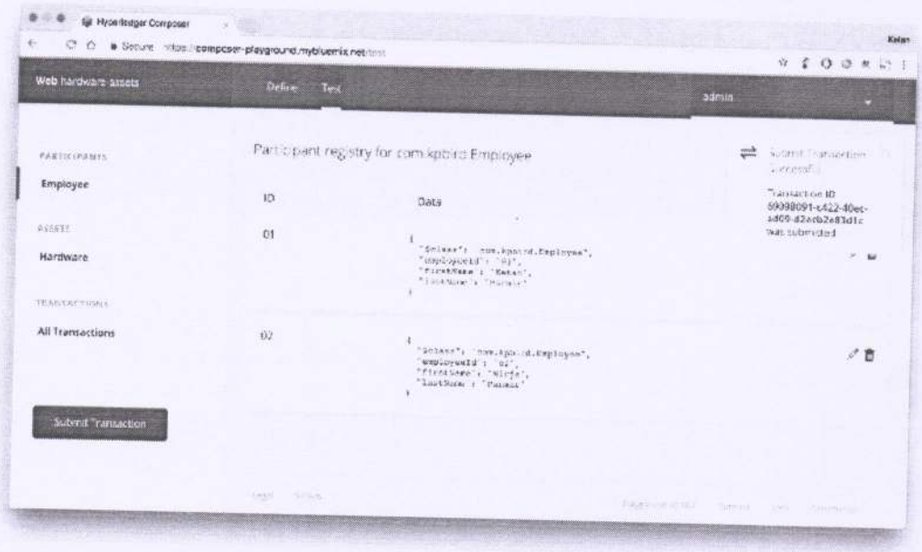
Step 11: It's time to do transaction, We will allocate Macbook Pro from Ketan (Employee#01) to Nirja (Employee#02). Click on "Submit Transaction" button from left panel. In Transaction dialog, We can see all transaction functions on top "Transaction Type" dropdown.



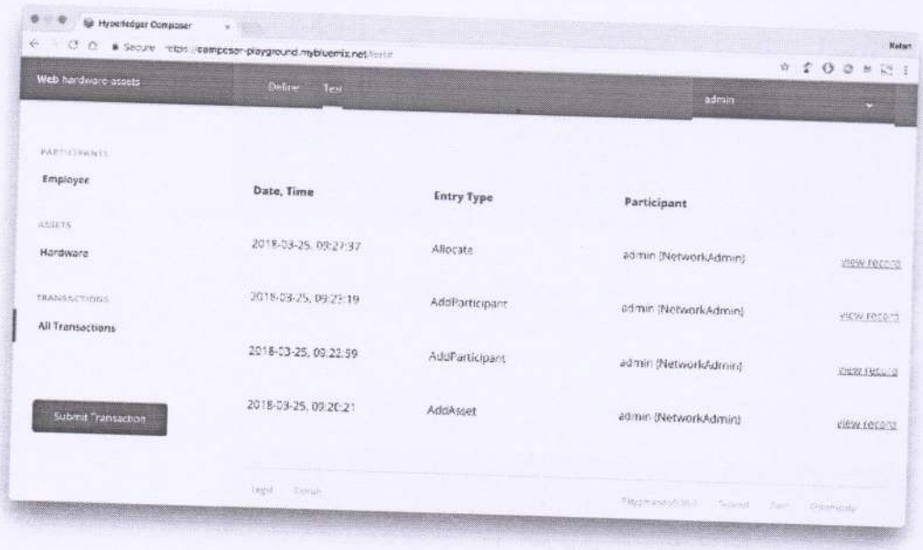
Submit Transaction Dialog

```
{
 "$class": "com.kpbird.Allocate",
 "hardware": "resource:com.kpbird.Hardware#MAC01",
 "newOwner": "resource:com.kpbird.Employee#02"
}
```

Now, We are allocating Mac01 to Employee 02. Click Submit button after update above JSON in Transaction Dialog. As soon as you hit submit button. Transaction processed and Transaction Id will generate.

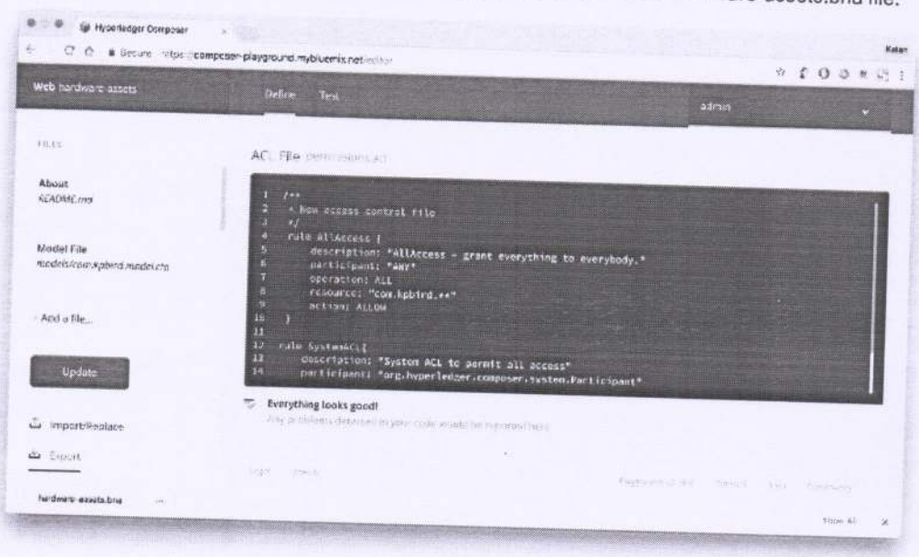


Step 12: Click on "All Transactions" from left panel to verify all transactions. In following screenshots you can see add assets, ass participants and allocation all operation are consider as transactions. "view records" will give us more information about transaction.



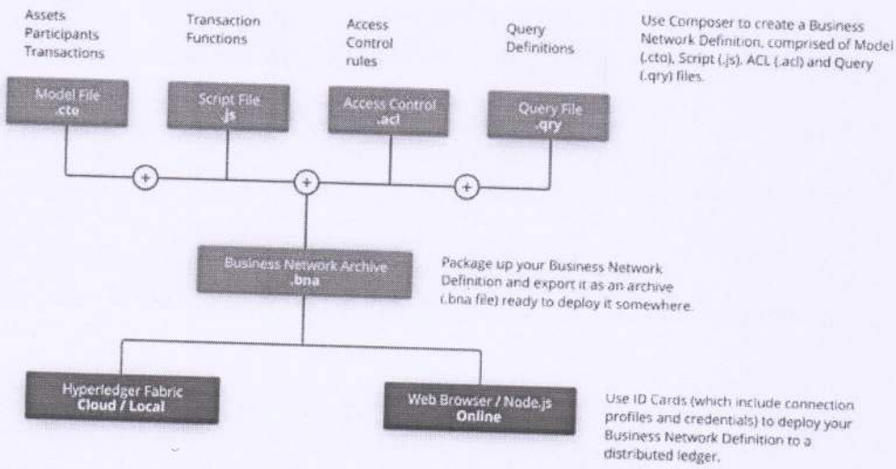
All Transactions

Step 13: Now, It's time to deploy "hardware-assets" business network to Hyperledger Fabric. Click on "Define" tab from top panel and click "Export" button from left panel. Export will create hardware-assets.bna file.



Download hardware-assets.bna file

.bna is Business Network Archive file which contains model, script, network access and query file



source: https://hyperledger.github.io/composer/introduction/introduction

Step 14: Start Docker and run following commands from ~/fabric-tools directory

Install business network to Hyperledger Fabric, If business network is already installed you can use "update" instead of "install"

$composer runtime install -c PeerAdmin@hlfv1 -n hardware-assets

```
Ketan-Parmar:fabric-tools ketan$ composer runtime install -c PeerAdmin@hlfv1 -n hardware-assets
✓ Installing runtime for business network hardware-assets. This may take a minute...

Command succeeded
```

Following command will deploy and start hardware-assets.bna file. Change hardware-assets.bna file before you execute following command. networkadmin.card file will generate in ~/fabric-tools directory from previous command.

$composer network start – card PeerAdmin@hlfv1 – networkAdmin admin – networkAdminEnrollSecret adminpw – archiveFile /Users/ketan/Downloads/hardware-assets.bna – file networkadmin.card

```
Ketan-Parmar:fabric-tools ketan$ composer network start --card PeerAdmin@hlfv1 --networkAdmin admin --networkAdminEnrollSecr
et adminpw --archiveFile /Users/ketan/Downloads/hardware-assets.bna --file networkadmin.card
Starting business network from archive: /Users/ketan/Downloads/hardware-assets.bna
Business network definition:
        Identifier: hardware-assets@0.0.1
        Description: Hardware Assets will maintain Software company's hardware

Processing these Network Admins:
        userName: admin

✓ Starting business network definition. This may take a minute...
Successfully created business network card:
        Filename: networkadmin.card

Command succeeded
```

To connect business network you need connection card. so we can import networkadmin.card using following command

$composer card import -f networkadmin.card

To make sure networkadmin.card successfully install you can list cards using following command

$composer card list

```
Ketan-Parmar:fabric-tools ketan$ composer card list
The following Business Network Cards are available:

Connection Profile: hlfv1
```

Card Name	UserId	Business Network
admin@hardware-assets	admin	hardware-assets
PeerAdmin@trade-network	PeerAdmin	trade-network
admin@trade-network	admin	trade-network
PeerAdmin@hlfv1	PeerAdmin	

```
Issue composer card list --name <Card Name> to get details a specific card

Command succeeded
```

Following command will make sure that our hardware-assets business network is successfully running in Hyperledger Fabric.

$composer network ping – card admin@hardware-assets

```
Ketan-Parmar:fabric-tools ketan$ composer network ping --card admin@hardware-assets
The connection to the network was successfully tested: hardware-assets
        version: 0.16.0
        participant: org.hyperledger.composer.system.NetworkAdmin#admin

Command succeeded
```

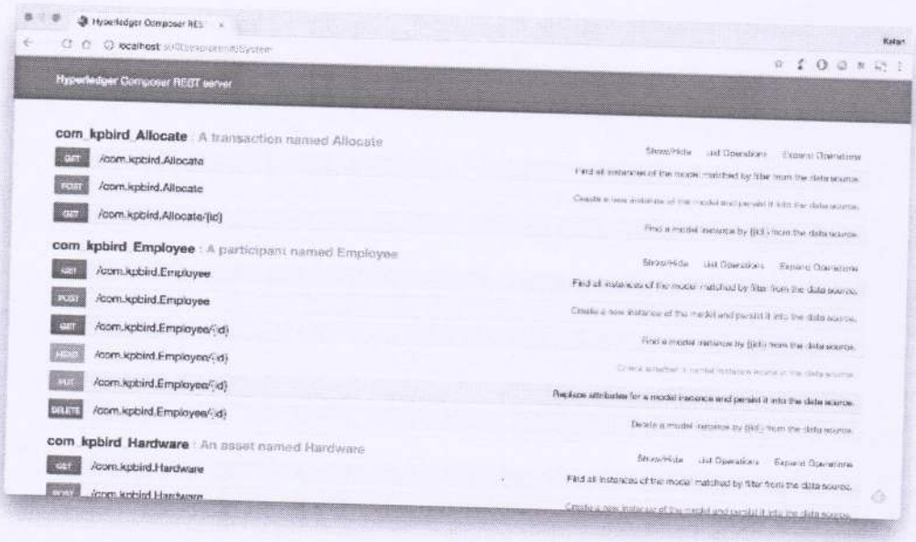
Now It's time to interact with REST API. To develop Web or Mobile Application we require REST API. you can run following command to generate REST API for hardware-assets business network.

```
$composer-rest-server
Ketan-Parmar:fabric-tools ketan$ composer-rest-server
? Enter the name of the business network card to use: admin@hardware-assets
? Specify if you want namespaces in the generated REST API: always use namespaces
? Specify if you want to enable authentication for the REST API using Passport: No
? Specify if you want to enable event publication over WebSockets: Yes
? Specify if you want to enable TLS security for the REST API: No

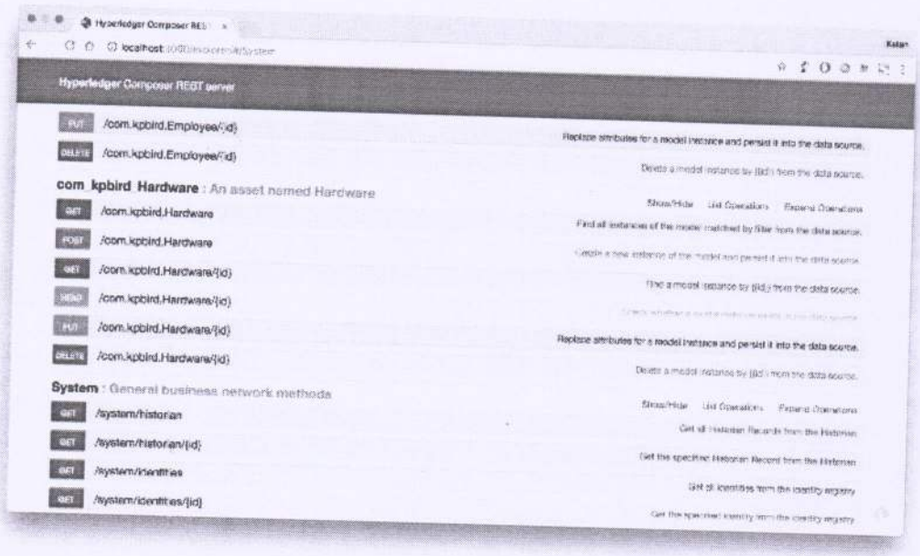
To restart the REST server using the same options, issue the following command:
   composer-rest-server -c admin@hardware-assets -n always -w true

Discovering types from business network definition ...
Discovered types from business network definition
Generating schemas for all types in business network definition ...
Generated schemas for all types in business network definition
Adding schemas for all types to Loopback ...
Added schemas for all types to Loopback
Web server listening at: http://localhost:3000
Browse your REST API at http://localhost:3000/explorer
```

rest server will ask few basic information before generate rest api



REST API for our hardware assets



REST API methods for all operations

Conclusion: In this way we have learnt about hyperledger and its use case in business world.

Write-up	Correctness of Program	Documentation of Program	Viva	Timely Completion	Total	Dated Sign of Subject Teacher
4	4	4	4	4	20	

Expected Date of Completion:..... Actual Date of Completion:.....

MINI PROJECT-3

Problem Statement: Develop a Blockchain based application dApp (de-centralized app) for evoting system.

Theory:

Blockchain is a technology that is rapidly gaining momentum in era of industry 4.0. With high security and transparency provisions, it is being widely used in supply chain management systems, healthcare, payments, business, IoT, voting systems, etc.

Why do we need it?

Current voting systems like ballot box voting or electronic voting suffer from various security threats such as DDoS attacks, polling booth capturing, vote alteration and manipulation, malware attacks, etc, and also require huge amounts of paperwork, human resources, and time. This creates a sense of distrust among existing systems.

Some of the disadvantages are:

- Long Queues during elections.
- Security Breaches like data leaks, vote tampering.
- Lot of paperwork involved, hence less eco-friendly and time-consuming.
- Difficult for differently-abled voters to reach polling booth.
- Cost of expenditure on elections is high.

Solution:

Using blockchain, voting process can be made more secure, transparent, immutable, and reliable. How? Let's take an example.

Suppose you are an eligible voter who goes to polling booth and cast vote using EVM (Electronic Voting Machine). But since it's a circuitry after all and if someone tampers with microchip, you may never know that did your vote reach to person for whom you voted or was diverted into another candidate's account?

Since there's no tracing back of your vote. But, if you use blockchain- it stores everything as a transaction that will be explained soon below; and hence gives you a receipt of your vote (in a form of a transaction ID) and you can use it to ensure that your vote has been counted securely.

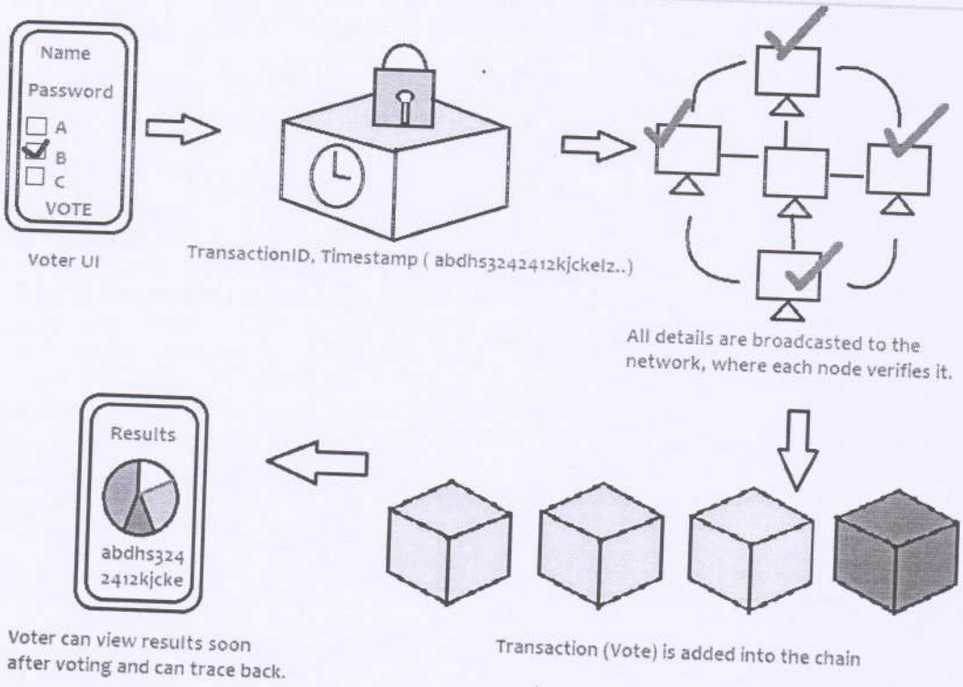
Now suppose a digital voting system (website/app) has been launched to digitize process and all confidential data is stored on a single admin server/machine, if someone tries to hack it or snoop over it, he/she can change candidate's vote count- from 2 to 22! You may never know that hacker installs malware or performs clickjacking attacks to steal or negate your vote or simply attacks central server.

To avoid this, if system is integrated with blockchain- a special property called immutability protects system. Consider SQL, PHP, or any other traditional database systems. You can insert, update, or delete votes. But in a blockchain you can just **insert data** but cannot update or delete. Hence when you insert something, it stays there forever and no one can manipulate it- Thus name immutable ledger.
But Building a blockchain system is not enough. It should be decentralized i.e if one server goes down or something happens on a particular node, other nodes can function normally and do not have to wait for victim node's recovery.

So a gist of advantages are listed below:

- You can vote anytime/anywhere (During Pandemics like COVID-19 where it's impossible to hold elections physically
- Secure
- Immutable
- Faster
- Transparent

Let's visualize process
It is always interesting to learn things if it's visually explained. Hence diagram given below explains how the blockchain voting works.



According to above diagram, voter needs to enter his/her credentials in order to vote. All data is then encrypted and stored as a transaction. This transaction is then broadcasted to every node in network, which in turn is then verified. If network approves transaction, it is stored in a block and added to chain. Note that once a block is added into chain, it stays there forever and can't be updated. Users can now see results and also trace back transaction if they want.

Since current voting systems don't suffice to security needs of modern generation, there is a need to build a system that leverages security, convenience, and trust involved in voting process. Hence voting systems make use of Blockchain technology to add an extra layer of security and encourage people to vote from any time, anywhere without any hassle and makes voting process more cost-effective and time-saving.

Code:

https://github.com/sherwyn11/E-Voting-App

Conclusion

Hence we have successfully made this mini project.

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Founder:
Dr. Patangrao Kadam
M.A., L.L.B., Ph.D.

BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.
Affiliated to Savitribai Phule Pune University.

Ref. No.BV/COEL/ /22-23

Dates: 15/ 04 /2023

Notice

Parents meeting is scheduled on 21/04/2023 at 11.00am in SE-E&TC classroom No.128. All parents are hereby informed to attend the meeting to know your wards performance.

- **Agenda:**
  - Wards attendance
  - Result of SE Sem-I
  - Discussion about irregular attendance of students

All students and concerned parents are hereby informed to treat this as formal invitation 10days before the day of meeting and attend the same.

Thanks.

Prof.Aishwarya S. Pathak
SE-GFM

Prof.A.B.Wani
H.O.D E&TC

Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115


Lalita
Girish
Aditya
Namdeo
Rajesh
Kusum Bapu Nar...
You
Vasude
26 others

24/03/2023

Name of Parent - Chhaganlal Bheraji Solanki
Name of Student - Suresh Chhaganlal Solanki

Today's visit to college and feedback about my ward and faculty that my ward is attending some lectures and he is absent in some lectures and practicals which was reviewed by his faculty of computer Department. I met the HOD of computer Department Dr. Uday Patkar sir, they said that student should study hard by their heart and we are trying our best to teach students discipline that they should study and attend all lectures.

Thank You!

C.B. Solanki
9518510429
24/03/2023

6/10/23

Name of ~~Parent~~ Student - Gosavi Rushikesh Parmeshwar
Name of Parent - Gosavi Parmeshwar Rambhau

Today is visit to college and feedback about To HOD meeting. ~~because~~ my first year is not clear. ~~the~~ My credit is less than 22. My parent is discuss. to some attending the lectures & the insem papers attend. Thank you sir ~~my~~ to teach my parent.
Thank you

R.P Gosavi
7776332105
6/10/23

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

25.10.2023

Name of parent : Bhagawan Chandrakant Patade

Name of Student: Sejal Bhagawan Patade.

I visited to college regarding improvement and academic progress of my daughter. The response from faculties and H.O.D. sir is so good. I appreciated them.

Sir said progress is good but not excellent. She should take efforts to improve herself. They should take actively part in any activities and program.

It was great meeting with H.O.D sir.

Name of Parents - Mangesh D. J

26/10/23

Name of Parents. Mangesh. D. Jagdhane.

Name of student. Shardul. M. Jagdhane. (2nd year) C.S.

Today I visited to college regarding Progess & improvement of my son.

The responce from facilities & H.O.D. sir is very good.

They said that student should study hard & work on Extra (other than theary study) courses, mini project.

It was great meeting to us.

Jagdhane

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

दिनांक - २६/११/२०२३

श्री. विनायक सदाशिव जाधव
दहिवडी (सातारा)

आज गुरुवार दि. २६/११/२०२३ रोजी श्री. पाटकर सर व कॉम्प्युटर डिपार्टमेंटच्या सर्व शिक्षकांची भेट घेतली. भेटीच्या दरम्यान माझी मुलगी कु. आकांक्षा जाधव हिच्याबाबत अभ्यास व इतर टेक्निकल कौशल्याबाबत चौकशी केली. सर्व शिक्षकांनी तिच्याबाबत योग्य व वास्तव माहिती दिली. यावेळी शिक्षकांची विद्यार्थ्यांच्या प्रति असलेली तळमळ दिसून आली.

सर्व शिक्षकांनी विद्यार्थ्यांच्या भविष्यातील अनेक उपक्रम हाती घेतलेले दिसून आले. तुलांना योग्यवेळी योग्य दिशा व मार्गदर्शन करीत असलेबाबतचे चर्चेदरम्यान आढळून आले.

असेच सर्व शिक्षकांनी विद्यार्थ्यांच्या प्रति प्रेम व आपुलकीची भावना भविष्यातही ठेवावी ही विनंती. विद्यार्थ्यांनीही आपल्या गुरु प्रति आदर राखावा.

पुढील योग्य त्या मार्गदर्शनासाठी पालक म्हणून सर्व शिक्षकांना शुभेच्छा व्यक्त करतो. धन्यवाद!

श्री. वि. स. जाधव.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

5/02/2020

Name of Parents – Pramod Singh
Name of student → Priyanshu Singh.
C.S. → IInd Year.

Today I visit vidyavidhan
P.H college Lavele Pune.
I meet Mr Patkar sir
for college and faculty staff
are discused and visit class
Room and I am satisfied.
College Rules and Regulatis

Thank all
Faculty Staff

Pramod Singh

3/03/2020

आज दि 3/03/2020 रोजी कॉलेजला भेट दिली व पाहणी केली सर्व सोयी सुविधांची माहिती घेतली व त्यांचे महत्व समजले. सर्व सोयी सुविधा उत्तम आहेत. सर्व शिक्षक वर्ग चांगले शिकवतात. सर्व शिक्षक वर्गाचे आभार मानतो

धन्यवाद

Kavi HM
हनुमंत महादेव पाटील
M.NO:- 9850747633

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering
Lavale, Pune - 412 115

28/08/2020

Name of Parents - Pramod Singh
Name of Student - Priyanshu Singh
C.S.E. III year

Today's feedback on visit and H.O.D meeting which went really well, where sir acknowledged all my doubts and concerns. clarified on topics of student's academic performance, attendance, final year placements and fees.

Thankyou

23/03/2025

Name of Parent:- Sardeep K. Khairnar.
Name of Student:- Khushali S. Khairnar
Computer Engg III yr. Roll-No-36.

plz note about today's feedback meeting with Mr. Potkar sir HOD of C.E. Dept got flash a lot of new things as well as drawbacks of students as well as my kid really a lot of new knowledge got updated which helps to grow my kid in more better way.

Thx Regs
Sardeep
9604877449.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Date : 18-02-2019/Monday.

Gaurav Shivaji Barade
SE Comp (18)

My Parent had visited the campus Today And They are totally satisfied by the greeting and way faculty interacted with them.

Barade

Date :- 23-02-2019 / Saturday

Sapan A. Bhore
SE comp (57)

My parent had visited the campus today and, they are totally satisfied by the greeting and way faculty interacted with them

Bhore

Ashok K. Bhore.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Date :- 23/03/2019

Manish Mathnikar
T.E Comp (32)

My parent has visited the campus today and they are totally ~~visited~~ satisfied by the greeting the faculties and HOD interacted with them

Lalita

(Lalita R. Mathnikar)

Date: 01/04/2019

Pradeep Kumar Bajpai
parents of Prateek Bajpai

I visited the capus today, know the current progress of my child, all the staff member are very supportive and fullfill all queries. Also they are motivate me for his future assignments.

Thanks to all.

Bajpai

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Date:- 29-7-19

मी,
नामराज देशी माझ्या मुलीच्या निकालाबाबत
विचारपुस करण्यासाठी आलो होतो.

धन्यवाद.

Date 7/9/2019

Student Name: Vrushali Hipparagi.

First of all I am very thankfull to Hod of Computer Science Mr. Patkar and Mr. Ingole. Who guided us for progress of my Daughter Vrushali. following points given feedback and suggestion to improve —

1) College Attendance
2) Internal Missing on Patent.
3) Project-drive.
4) General Accodamic intrative and its importance - outside environment and implepoerch.

I am very thankfull and appreciable to college and staff they are very eagerly doning the intrative for student progress and career.

I am assuring my word. Ms Vrushali will take active part and bring college name on respectable position.

With best regards.

Mr Hipparagi V.B. — H.T.K.E.

Mrs. Hipparagi Padmashree Hipparagi —

Head
Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

दिनांक 21/09/2019

College is doing very good work on students. I have Interacted with M.S. Uday Patkar Sir and got to know that there are lots of scholarship's available & college has given all facility & guidance to them but I saw that students are not interested & even not participating in Event or paper publication or any Scholarship.

At last I want to give 9 out of 10 to this college in terms of Academics / Internship / placement activities. At end it all depends on students.

Thanks you BVCOE for inviting us in Parent Meeting.

& Best Regards,

A.K. Vakal

21/09/2019

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Date.
01/09/2019

Thank you so much for organising the meeting. We got to know about our child, when is back and what needs to be done. Being Parent we will make sure in upcoming few months he will improved in studies as well as extra cumicular activities.

Even will assum you will give visit to college so that we also get to know what needs to be done and how he can improve in his curriculum.

Thanks & Regards

Kimbre Akshay G

Date 21/9/2019.

आज दिनांक 21/9/2019 रोजी कॉलेजमध्ये पालकभेट झाली. आम्हाला आज आमच्या पाल्याच्या शैक्षणिक कार्याबद्दल जाणून घेण्याची संधी मिळाली. आज त्यांच्या Attendance बद्दल कळाल तसेच त्यांच्या placement drive बद्दल कळाल. पाटकर सरांनी खूप गोष्टी समजून सांगितल्या तसेच त्यांच मार्गदर्शन पण खूप ~~आले~~ छान आहे. आम्ही देखील काही गोष्टी केल्या पाहिजे तसेच त्यांना कॉलेजला पाठवल पाहिजे आम्ही मिटिंगला आलो खूप गोष्टी समजल्या.

धन्यवाद.

अनुपमा सुर्वे. Survase.K

रामदास वळे. Rvale

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

Name : Shreyash Mohan Bagal
Roll no : 64

Date → 25-9-2019

My parents visited the college campus today. I am very much thankful to the H.O.D. of the computer Department Mr. Patkar.

I am very happy for ~~the~~ ~~Sir~~ the guidance which sir gave to my son Mr. Shreyash Bagal.

College has very passitive atmasphere for learing. Teaching staff is very helping and supporting.

College has provided bus facility to the each student is best. ~~which~~ which helps alot for the student who lives far from the college.

We meet ~~the~~ to H.O.D sir of the computer Department who has guided to my parent ~~to~~ and appriciated to ~~to~~ my son for his performance in the class.

Thanks & Regards,
~~Bagal~~.
Mahan D. Bagal.

26/9/19

आज दिनांक 26/9/19 रोजी
कालेजला एक दौरा झालाचे आहे.सर
तुमचा पत्र मिळाल्याबद्दल लगेच आलो
पाटकर सरांनी सर्व गोष्टी मुलाला समजावून
सांगितल्या. मी मुलाला घरी घेऊन जाताना
आलो. धन्य पाटकर व पवार सरांनी
समजावून सांगितले ~~मुलाला~~ मुलाचे डोके
उठले

कालेजचा आम्ही खुप आभारी
आहे, कालेज मुलासाठी खुप उपयुक्त
राहिल आहे
कालेज स्टाफ सरांचे आम्ही
खुप खुप आभारी आहोत

Mane
संगणक अभियांत्रिकी
MIS-212015

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Name:- Ashokrao Bhore

Son:- Sopan Bhore

Date:- 27/09/19.

Today Visted to College & Met Prof. Mr Patkar Sir. Very proud. to hear about Sopan that He is good in Education as well as other achivites.

College Enviornment is good lectures are good Explained Very well about How Student How He is behaving in College.

I appreciate the College staff for giving So much Supportive & Healthy enviornment to Students.

I belive that Sopan Bhore will get placed in good MNC.

Thanks & Regards

Ashokrao Bhore

Bhore

To

Name of Parents :- Rajan Sampat Abirelkar

Name of student :- Minesh Rajan Abirelkar

Roll No :- 3

Class :- BE

Today Visited to College and met Prof. Uday Patkar sir and Prof. Ajit Patil sir, on the call of prof. Ajit Patil sir.

Process of the Education was explained and the environment of the college was explained good.

I appreciate the Prof. and staff of our college for the support and Healthy envisonment to our ward.

I believe Minesh will do good and give his best in the college

Thanks & Regards

Rajan Abirelkar

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Date :- 9/7/2018.

SANJEEV ELLATH

P/o of Sneha Menon.

BE Comp.

Today had a meeting with Prof. Patkars.,
great exprience;

He had discussed & given information related to the Student benifits. also given information about the activity organising by the College & the development of Student.

Thanks for the HOD Computer dept & Professor taking care & focused to child Studies.

Suggestion :- official circular related Meeting to Student can be cc to Parents

Regards Sanjeev ellath@gmail.com,
Sanjeev Ellath.

Utkarsh Rokade's Parent's. दि. ९ ऑगस्ट २०१८

आज दिनांक ९ ऑगस्ट २०१८ ला कॉलेज ला भेट दिली. माझा मुलगा उत्कर्ष रोकडे हा computer Engineering च्या द्वितीय वर्षाला शिकत आहे त्यानिमीत्ताने त्याच्या वर्गातील प्राध्यापकांशी भेट झाली. त्यानंतर प्रा. पाटकर सरांची भेट झाली त्यांच्याशी मुलांच्या प्रगतीविषयी सविस्तर चर्चा झाली. पाटकर सरांनी उत्तम मार्गदर्शन केले. तसेच मुलांचे, अभ्यासाविषयी, वसतीगृहातील अभ्यासक्रमाविषयी सदुपदेशन केले. त्यांचे मुलांच्या सर्वांगीण विकासाच्या दृष्टीने कळकळीचे प्रयत्न दिसुन आले.

विजय दि. रोकडे
भोसरी
9423586386

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Anjali Kumari (SE. Computer)

Respected Sir / madam

Dear sir Today I visited the Comp. department for Parents Teacher meet. I got a call from the CFM Prof. Pratima Kadam.

As per discussion I am satisfied by the teacher guidance which is provided to my ward.

Kindly inform all the updates in the near future also.

Thankyou for the good guidance to my ward Anjali kumari.

Thankyou Prof. U.C. Patkar HOD. Computer dept.

Aarti

Aarti.

Anjali kumari Mother

7986844214

Prateek Srivastava's Parents. 12/10/18

Resp. Sir, Myself Pramod Srivastava F/o Prateek Srivastava, met today HOD. CS Sh. Patkar Sir regarding Studies and Other issues related with my ward. It has been discussed that the attendance of my ward is short for which patkar Sir taken very seriously and my ward assured that he will improve his attendance in coming days and attend all the Lectures regularly.

I Sincerly thanks Patkar Sir and Madam for their guidance & for further improvements in this regard.

As Suggested, I will also take care about his home town visits and return back to College well in time.

With Best Regards.

Pramod

(PRAMOD SRIVASTAVA)

9814992365

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

02/02/2019

श्री. एच. डी. सिसागर
सौ. ज्योती डी. सिसागर

आज दि. 02/02/2019 रोजी श्री पाटकर सर व टीचर यांना माझा मुलगा प्रथमेश याच्या प्रगती बाबत भेटण्यासाठी आले. सरांनी वृत्तपत्रात माहिती व संगीत सांगीतिकी क्षेत्रात विविध पुरस्कार व वैयक्तिक कार्यक्रम याबाबत माहिती दिली. विविध उपक्रमामध्ये मुलांना सहभागी करून त्याच्या क्षमतांना वाव देत असल्याबाबत त्यांना जागृत करत आहेत.

एच. डी. सिसागर

11/2/2018

आज सरांना भेटलो. मोहनी मोरयाचा प्रसाद दिला.

धन्यवाद.

12/02/2019

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING LAVALE, PUNE

Dept. of Computer Engineering

Class - BE COMP PARENT'S Day - SATURDAY Date 5/11/2022

Meeting No. 05 PARENT'S Students HOD/ Students GEM Meeting

ATTENDANCE AT THE MEETING

Sr. No	Roll No	Student's Name	Signature	Sr. No	Roll No	Student's Name	Signature

30/11/2022, 14:39 Mail - Patkar Uday Chandrakant - Outlook



Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Minutes of the Meeting

1) All Parents are welcome in the meeting.

2) Brief information regarding college & department was given in the meeting.

3) Regarding fees circular which was sent by AICTE was discussed. Only development charges may be reduced by the college as per norms i.e. 2250 max. Amount will be calculated by the college details was explain to every parents.

4) Regarding student's regular, practical attendance, Parents should take strict action against the students & ask them why not they are attending the practical & lectures regularly.

5) Scholarship information & Honors course information circulated in the meeting & details was explain by HOD.

6) College had created Placement portals for students information was shared to the parents.

7) Student's did not give us the communication skills response. Information was shared to the Parents.

8) As per suggestions of Parents all GFM will create the Google form & all classes will be circulated to the parents & information will be created.

9) Mr. Amitabha Roy appriciated that all lectures are recorded by the faculty members.

10) Admission Accepts will be shared by the Mr. Sandeep Jadhav whatever who want as per the requirements.

11) It has been decided that after every IT Test one GFM & one Hod meeting will be conducted by GFM & HOD for all Parents.

28/8/2017

GFM / H.O.D

Name ..PATIL A.U.....

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Minutes of the Meeting

1) welcome was given to all the respected Parents & there total number of students 221 & all departmental progress was given to all Parents.

2) For TE & BE computer students team work time Table was discuss which is starting from 31/11/22 to 7/11/22.

3) For TE & BE computer students external oral/practical examination Oct/Nov 22 will be conducted from 10/11/2022 To 25/11/2022. time table shared on whatsapp Groups.

4) TE computer students SIC subjects details was discussed and why Paper Publication is important was also discussed & give the feedback to the Parents.

5) Regarding one month internship for TE computer students, students db was discussed with their Parents that they will And their own Internship we all faculty members are ready to guide them.

6) For final year students project internship only 4 Groups are it & students are not doing their work properly for their Projects I requested & appl to all Parents to ask your ward for the same.

7). Regarding Students attendance, mid term review, Placement, Exam, NPTEL courses, Exam form filling, Exam & Learn Courses Scholarship Govt and Private, Startups. were discussed.

8) GRE, TOFEL, IELTES, MPSC, UPSC & various competative exam were discussed.

9) Regarding Endsem final examination, NSS, Mukti Portal, various courses were discussed.

10) At last with in one month Parents are requested to call Parent Class mentor.

11) Hon Padmashri Girishji Prabhunoni will visit & interact our Students on 14/11/2022

5/11/2022

GFM / H.O.D

Name Mrs. [illegible]

Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING LAVALE, PUNE

Dept. of ..Computer Engineering

Class - PARENT'S SE IT TE Computer. Day - Saturday PARENT'S Date ..28/01/2023..

Meeting No. ..12.. Students HOD/ Students GFM Meeting

1/28/23, 10:42 AM Mail - Patkar Uday Chandrakant - Outlook



Head
Dept. of Computer Engineering,
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Minutes of the Meeting

Divisionwise Parents were invited in this meeting on online mode today at 9:30 am to 10:30 am.

1. SE. 1/2/23, TE 2012/23 & BE. 2011/23. Asc. the date of commencement of the sem-II for the Academic year - 2022-2023.

2) Pratham Portal Activity is very important for the Students which is given by AICTE. This information shared with all Parents. 120/235 registered for this activity.

4) TE Internship is very important. It is having 100 marks as per SPPU syllabus. All TE Parents are requested to complete the Internship of your ward from 26/11/23 to 18/11/23.

5) All parents are also requested to please join college telegram, whatsApp & visit website

6) All Parents are also requested to motivate their ward to complete NPTEL certification, coursera exam, give GRE/TOFEL/ILTES Exams.

7) All Parents must visit to the college minimum one's in six months.

8) In-sem examination will be held by SPPU in march-2023. This is Tentative information.

9) Students of computer Engineering will conduct one program in the next coming 2 months to motivate our students.

10) Vote of thanks is given by Dr. U.L. PATKAR.

11) Parents are some many questions related to Internship & other activities. They got details from Dr. Patkar. No issues were present now from Parents.

12. Scholarship, Earn & Learn, MIS. activities students must join & do the accordingly for this Parents are requested to motivate to their ward respectively.

28/11/2023

GFM / H.O.D

Name ..Dr. U.L. PATKAR.....

Head
Dept. of Computer Engineering.
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Institute name:Bharati Vidyapeeth's College of Engineering,Lavale, Pune|

Sr. No.	Institute	Department	Group	Date & Time	Admission Number	ERP Id	First Name	Last Name
1	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22560	Yogiraj	Ahirrao
2	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22606	Yash	Supekar
3	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23150	Pranav	Bobade
4	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23146	Jayesh	Borse
5	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22655	Aakansha	Prasad
6	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22626	SUNIL	MANE
7	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22597	Pallavi	Jadhav
8	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22797	Gourang	WAIKAR
9	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22796	Rohan	Dhotre
10	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22587	Samruddhi	Shende
11	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22695	Sanket	Markad
12	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22686	Onkar	Zagade
13	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22795	Bharti	Jasud
14	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22696	Rupali	Singh
15	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22651	Ishaan	Tidke
16	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22680	ASHUTOSH	KALE
17	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22645	Sharada	Ghorpade
18	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22654	Kundan	Bhatkar
19	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22629	Sahil	Chaskar
20	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22675	ANJALI	AVASTHI
21	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22633	Dheeraj	Sathe
22	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22617	Manoj	Waykar
23	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22563	Darshan	Patil
24	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22664	Pranav	Kulkarni
25	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22595	Tushar	Mirkad
26	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22657	Sanchit	Kharade
27	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22618	Riya	Kothari
28	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22667	Ashwini	Kadam
29	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22600	Ayush	Deshmukh
30	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22599	Prathamesh	Dabhole

31	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22570	Janki	Palpattuwar
32	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22673	Shravani	Konnur
33	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22580	Nandini	Mahajan
34	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22787	Sanika	Deshmukh
35	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22636	Arya	Mokashi
36	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22571	Rehan	Attar
37	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22575	Shriram	Dhanasekaran
38	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22670	Aastha	Chelekar
39	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23153	Onkar	Kamble
40	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23152	Oankar	Pawar
41	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23151	Madansingh	Bayas
42	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23149	VAIBHAV	MALODE
43	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23148	Jayesh	Patil
44	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23147	akshath	Singh
45	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23145	Aviraj	Patil
46	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23144	Aaditya	Dhondkar
47	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23143	Sejal	Bhole
48	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE23142	Mayuri	Kamble
49	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22591	Sushant	Patil
50	BVCOE-Lavale	Computer Engineering	SE Sem II	23rd Jan, 2024 08:04 PM	-	STCOELPUNE22621	Rohit	Labade
51	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22569	Siddhesh	Nagarkar
52	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22610	DHANRAJ	MAHADIK
53	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22560	Yogiraj	Ahirrao
54	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22608	Tansi	Waghmare
55	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22797	Gourang	WAIKAR
56	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22655	Aakansha	Prasad
57	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22626	SUNIL	MANE
58	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22796	Rohan	Dhotre
59	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22686	Onkar	Zagade
60	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22587	Samruddhi	Shende
61	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22795	Bharti	Jasud
62	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22695	Sanket	Markad

63	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22651	Ishaan	Tidke
64	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22696	Rupali	Singh
65	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22606	Yash	Supekar
66	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22645	Sharada	Ghorpade
67	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22680	ASHUTOSH	KALE
68	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22640	Pragati	Shelke
69	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22654	Kundan	Bhatkar
70	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22629	Sahil	Chaskar
71	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22675	ANJALI	AVASTHI
72	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22617	Manoj	Waykar
73	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22633	Dheeraj	Sathe
74	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22602	Sakshi	Pawar
75	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22563	Darshan	Patil
76	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22664	Pranav	Kulkarni
77	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22618	Riya	Kothari
78	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22595	Tushar	Mirkad
79	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:13 PM	-	STCOELPUNE22657	Sanchit	Kharade
80	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22600	Ayush	Deshmukh
81	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22599	Prathamesh	Dabhole
82	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22667	Ashwini	Kadam
83	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22614	VISHAL	BHOSALE
84	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22580	Nandini	Mahajan
85	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22673	Shravani	Konnur
86	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22570	Janki	Palpattuwar
87	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22597	Pallavi	Jadhav
88	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22787	Sanika	Deshmukh
89	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22612	Kalyani	Tirthe
90	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22636	Arya	Mokashi
91	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22575	Shriram	Dhanasekaran
92	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22571	Rehan	Attar
93	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22643	Tanishka	Nanaware
94	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22670	Aastha	Chelekar

95	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22625	Shubha	Rawat
96	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22621	Rohit	Labade
97	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22579	Nisha	Lohar
98	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22628	Siddhant	Ingole
99	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22561	Shardul	Jagdhane
100	BVCOE-Lavale	Computer Engineering	SE Sem II	18th Jan, 2024 06:12 PM	-	STCOELPUNE22591	Sushant	Patil

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Parent Contact No.	SMS Status	SMS Content	SMS Gateway Response
8605233973	Sent from vmedulife	Dear Parent, Your Ward Yogiraj Ahirrao is absent i	4381466629-2024_01_23
7588079557	Sent from vmedulife	Dear Parent, Your Ward Yash Supekar is absent in	4381466638-2024_01_23
	Parent number not registered		
	Parent number not registered		
9231593222	Sent from vmedulife	Dear Parent, Your Ward Aakansha Prasad is absen	4381466609-2024_01_23
9921657909	Sent from vmedulife	Dear Parent, Your Ward SUNIL MANE is absent in t	4381466602-2024_01_23
9730574951	Sent from vmedulife	Dear Parent, Your Ward Pallavi Jadhav is absent in	4381466618-2024_01_23
9762869543	Sent from vmedulife	Dear Parent, Your Ward Gourang WAIKAR is absen	4381466587-2024_01_23
7709077169	Sent from vmedulife	Dear Parent, Your Ward Rohan Dhotre is absent in	4381466564-2024_01_23
6232276107	Sent from vmedulife	Dear Parent, Your Ward Samruddhi Shende is abse	4381466574-2024_01_23
9657034797	Sent from vmedulife	Dear Parent, Your Ward Sanket Markad is absent i	4381466537-2024_01_23
9578494444	Sent from vmedulife	Dear Parent, Your Ward Onkar Zagade is absent in	4381466556-2024_01_23
8459561062	Sent from vmedulife	Dear Parent, Your Ward Bharti Jasud is absent in t	4381466530-2024_01_23
9850292554	Sent from vmedulife	Dear Parent, Your Ward Rupali Singh is absent in t	4381466513-2024_01_23
7798635345	Sent from vmedulife	Dear Parent, Your Ward Ishaan Tidke is absent in t	4381466521-2024_01_23
9175989910	Sent from vmedulife	Dear Parent, Your Ward ASHUTOSH KALE is absent	4381466500-2024_01_23
7875482243	Sent from vmedulife	Dear Parent, Your Ward Sharada Ghorpade is abse	4381466489-2024_01_23
9921709669	Sent from vmedulife	Dear Parent, Your Ward Kundan Bhatkar is absent	4381466465-2024_01_23
9960243209	Sent from vmedulife	Dear Parent, Your Ward Sahil Chaskar is absent in	4381466482-2024_01_23
8830547956	Sent from vmedulife	Dear Parent, Your Ward ANJALI AVASTHI is absent	4381466455-2024_01_23
9420644119	Sent from vmedulife	Dear Parent, Your Ward Dheeraj Sathe is absent in	4381466436-2024_01_23
9404726057	Sent from vmedulife	Dear Parent, Your Ward Manoj Waykar is absent ir	4381466442-2024_01_23
9370631983	Sent from vmedulife	Dear Parent, Your Ward Darshan Patil is absent in	4381466430-2024_01_23
9767753265	Sent from vmedulife	Dear Parent, Your Ward Pranav Kulkarni is absent i	4381466410-2024_01_23
9834025453	Sent from vmedulife	Dear Parent, Your Ward Tushar Mirkad is absent ir	4381466419-2024_01_23
9604489814	Sent from vmedulife	Dear Parent, Your Ward Sanchit Kharade is absent	4381466389-2024_01_23
8668363973	Sent from vmedulife	Dear Parent, Your Ward Riya Kothari is absent in t	4381466399-2024_01_23
8010532655	Sent from vmedulife	Dear Parent, Your Ward Ashwini Kadam is absent i	4381466354-2024_01_23
7057516161	Sent from vmedulife	Dear Parent, Your Ward Ayush Deshmukh is absen	4381466371-2024_01_23
9922274877	Sent from vmedulife	Dear Parent, Your Ward Prathamesh Dabhole is ab	4381466365-2024_01_23

9422910514	Sent from vmedulife	Dear Parent, Your Ward Janki Palpattuwar is abser 4381466345-2024_01_23
7498115207	Sent from vmedulife	Dear Parent, Your Ward Shravani Konnur is absent 4381466321-2024_01_23
9860248664	Sent from vmedulife	Dear Parent, Your Ward Nandini Mahajan is absen 4381466330-2024_01_23
9422141163	Sent from vmedulife	Dear Parent, Your Ward Sanika Deshmukh is abser 4381466308-2024_01_23
9987124669	Sent from vmedulife	Dear Parent, Your Ward Arya Mokashi is absent in 4381466294-2024_01_23
7798729800	Sent from vmedulife	Dear Parent, Your Ward Rehan Attar is absent in th 4381466279-2024_01_23
7758064465	Sent from vmedulife	Dear Parent, Your Ward Shriram Dhanasekar is abs 4381466266-2024_01_23
9322163770	Sent from vmedulife	Dear Parent, Your Ward Aastha Chelekar is absent 4381466258-2024_01_23
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	Parent number not registered	
	Parent number not registered	
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	Parent number not registered	
9860272229	Sent from vmedulife	Dear Parent, Your Ward Sushant Patil is absent in t 4381466223-2024_01_23
	Parent number not registered	
9970516071	Sent from vmedulife	Dear Parent, Your Ward Siddhesh Nagarkar is abse 4374233384-2024_01_18
8459593388	Sent from vmedulife	Dear Parent, Your Ward DHANRAJ MAHADIK is abs 4374233392-2024_01_18
8605233973	Sent from vmedulife	Dear Parent, Your Ward Yogiraj Ahirrao is absent in 4374233375-2024_01_18
9130746563	Sent from vmedulife	Dear Parent, Your Ward Tansi Waghmare is absent 4374233367-2024_01_18
9762869543	Sent from vmedulife	Dear Parent, Your Ward Gourang WAIKAR is absen 4374233328-2024_01_18
9231593222	Sent from vmedulife	Dear Parent, Your Ward Aakansha Prasad is absent 4374233353-2024_01_18
9921657909	Sent from vmedulife	Dear Parent, Your Ward SUNIL MANE is absent in t 4374233339-2024_01_18
7709077169	Sent from vmedulife	Dear Parent, Your Ward Rohan Dhotre is absent in 4374233315-2024_01_18
9578494444	Sent from vmedulife	Dear Parent, Your Ward Onkar Zagade is absent in 4374233309-2024_01_18
6232276107	Sent from vmedulife	Dear Parent, Your Ward Samruddhi Shende is abse 4374233321-2024_01_18
8459561062	Sent from vmedulife	Dear Parent, Your Ward Bharti Jasud is absent in th 4374233293-2024_01_18
9657034797	Sent from vmedulife	Dear Parent, Your Ward Sanket Markad is absent in 4374233298-2024_01_18

7798635345 Sent from vmedulife	Dear Parent, Your Ward Ishaan Tidke is absent in t 4374233285-2024_01_18
9850292554 Sent from vmedulife	Dear Parent, Your Ward Rupali Singh is absent in tl 4374233269-2024_01_18
7588079557 Sent from vmedulife	Dear Parent, Your Ward Yash Supekar is absent in 4374233275-2024_01_18
7875482243 Sent from vmedulife	Dear Parent, Your Ward Sharada Ghorpade is abse 4374233227-2024_01_18
9175989910 Sent from vmedulife	Dear Parent, Your Ward ASHUTOSH KALE is absent 4374233236-2024_01_18
9370801476 Sent from vmedulife	Dear Parent, Your Ward Pragati Shelke is absent in 4374233244-2024_01_18
9921709669 Sent from vmedulife	Dear Parent, Your Ward Kundan Bhatkar is absent 4374233188-2024_01_18
9960243209 Sent from vmedulife	Dear Parent, Your Ward Sahil Chaskar is absent in 4374233211-2024_01_18
8830547956 Sent from vmedulife	Dear Parent, Your Ward ANJALI AVASTHI is absent 4374233176-2024_01_18
9404726057 Sent from vmedulife	Dear Parent, Your Ward Manoj Waykar is absent ir 4374233166-2024_01_18
9420644119 Sent from vmedulife	Dear Parent, Your Ward Dheeraj Sathe is absent in 4374233149-2024_01_18
9860515178 Sent from vmedulife	Dear Parent, Your Ward Sakshi Pawar is absent in 4374233138-2024_01_18
9370631983 Sent from vmedulife	Dear Parent, Your Ward Darshan Patil is absent in 4374233124-2024_01_18
9767753265 Sent from vmedulife	Dear Parent, Your Ward Pranav Kulkarni is absent i 4374233097-2024_01_18
8668363973 Sent from vmedulife	Dear Parent, Your Ward Riya Kothari is absent in tl 4374233084-2024_01_18
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9922274877 Sent from vmedulife	Dear Parent, Your Ward Prathamesh Dabhole is ab 4374233044-2024_01_18
8010532655 Sent from vmedulife	Dear Parent, Your Ward Ashwini Kadam is absent i 4374233022-2024_01_18
8329538827 Sent from vmedulife	Dear Parent, Your Ward VISHAL BHOSALE is absen 4374233030-2024_01_18
9860248664 Sent from vmedulife	Dear Parent, Your Ward Nandini Mahajan is absen 4374233006-2024_01_18
7498115207 Sent from vmedulife	Dear Parent, Your Ward Shravani Konnur is absent 4374232999-2024_01_18
9422910514 Sent from vmedulife	Dear Parent, Your Ward Janki Palpattuwar is abser 4374233013-2024_01_18
9730574951 Sent from vmedulife	Dear Parent, Your Ward Pallavi Jadhav is absent in 4374232990-2024_01_18
9422141163 Sent from vmedulife	Dear Parent, Your Ward Sanika Deshmukh is abser 4374232983-2024_01_18
9421388826 Sent from vmedulife	Dear Parent, Your Ward Kalyani Tirthe is absent in 4374232974-2024_01_18
9987124669 Sent from vmedulife	Dear Parent, Your Ward Arya Mokashi is absent in 4374232961-2024_01_18
7758064465 Sent from vmedulife	Dear Parent, Your Ward Shriram Dhanasekar is abs 4374232941-2024_01_18
7798729800 Sent from vmedulife	Dear Parent, Your Ward Rehan Attar is absent in tl 4374232949-2024_01_18
9850817324 Sent from vmedulife	Dear Parent, Your Ward Tanishka Nanaware is abs 4374232925-2024_01_18
9322163770 Sent from vmedulife	Dear Parent, Your Ward Aastha Chelekar is absent 4374232918-2024_01_18

8758054165	Sent from vmedulife Parent number not registered	Dear Parent, Your Ward Shubha Rawat is absent in 4374232908-2024_01_18
8007606105	Sent from vmedulife	Dear Parent, Your Ward Nisha Lohar is absent in th 4374232886-2024_01_18
8735056653	Sent from vmedulife	Dear Parent, Your Ward Siddhant Ingole is absent i 4374232843-2024_01_18
8087785331	Sent from vmedulife	Dear Parent, Your Ward Shardul Jagdhane is absen 4374232855-2024_01_18
9860272229	Sent from vmedulife	Dear Parent, Your Ward Sushant Patil is absent in t 4374232871-2024_01_18

Head
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Savitribai Phule Pune University

Examination Session 2023

Marks Inward System for Colleges

230623042 6172

2306230426172

6/23/2023

College Name	CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	7021919 - S.E.(2019 PAT.)(COMPUTER)	**Batch No**	202304006374
Subject Name	207003 - Engineering Mathematics III	**Exam Type**	IN OUT OF 30
Teacher Name	Kadam Prashant Shivaji (Mob. No.: 7709643821) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	Detained
75	73	2	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
S191114201	22	S191114227	19	S191114252	7
S191114202	19	S191114228	26	S191114253	7
S191114203	12	S191114229	0	S191114254	12
S191114204	3	S191114230	12	S191114255	20
S191114205	20	S191114231	16	S191114256	7
S191114206	12	S191114232	22	S191114257	6
S191114207	12	S191114233	7	S191114258	19
S191114208	17	S191114234	4	S191114259	13
S191114209	5	S191114235	17	S191114261	19
S191114210	25	S191114236	26	S191114262	6
S191114211	14	S191114237	3	S191114263	20
S191114212	20	S191114238	6	S191114264	12
S191114213	13	S191114239	13	S191114265	5
S191114214	9	S191114240	15	S191114266	22
S191114215	15	S191114241	19	S191114267	2
S191114216	20	S191114242	14	S191114268	25
S191114218	12	S191114243	7	S191114269	16
S191114219	14	S191114244	23	S191114270	12
S191114220	24	S191114245	28	S191114271	28
S191114221	19	S191114246	12	S191114272	16
S191114222	7	S191114247	7	S191114273	8
S191114223	16	S191114248	10	S191114274	26
S191114224	12	S191114249	18	S191114275	9
S191114225	12	S191114250	4	S191114279	(AB)
S191114226	9	S191114251	5	S191114280	(AB)

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Stamp & Authorized Signatory

Savitribai Phule Pune University

Examination Session 2023

Marks Inward System for Colleges

2306091123119

6/9/2023

College Name	CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	7031942 - T.E.(2019 PAT.)(COMPUTER)	**Batch No**	202304006422
Subject Name	310251 - DATA SCI & BIG DATA ANA.	**Exam Type**	IN OUT OF 30
Teacher Name	Chate Parinita Jagannath (Mob. No.: 9890089168) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	Detained
76	76	0	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
T191114201	21	T191114228	19	T191114256	21	T191114285	26
T191114203	23	T191114229	13	T191114258	20		
T191114204	21	T191114230	20	T191114259	20		
T191114205	22	T191114231	22	T191114260	19		
T191114206	26	T191114233	20	T191114261	17		
T191114207	13	T191114234	22	T191114262	27		
T191114208	24	T191114235	18	T191114263	26		
T191114210	14	T191114236	22	T191114264	19		
T191114211	22	T191114237	16	T191114265	16		
T191114212	20	T191114238	22	T191114267	20		
T191114213	21	T191114239	27	T191114268	26		
T191114214	20	T191114240	26	T191114269	25		
T191114215	20	T191114241	15	T191114270	24		
T191114216	17	T191114242	19	T191114271	17		
T191114217	27	T191114243	26	T191114273	15		
T191114218	23	T191114244	25	T191114274	23		
T191114219	16	T191114245	18	T191114275	13		
T191114220	18	T191114246	26	T191114276	19		
T191114221	21	T191114247	21	T191114277	27		
T191114222	27	T191114248	20	T191114278	25		
T191114223	21	T191114250	26	T191114280	26		
T191114224	17	T191114252	15	T191114281	23		
T191114225	25	T191114253	20	T191114282	22		
T191114226	14	T191114254	21	T191114283	12		
T191114227	22	T191114255	25	T191114284	14		

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115

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Savitribai Phule Pune University

Examination Session 2022

Marks Inward System for Colleges

230208094 3396

2302080943396

2/8/2023

College Name	CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	7021916 - S.E.(2019 PAT.)(ELECTRONICS & TELECOM)	**Batch No**	202210030464
Subject Name	204181 - Electronic Circuits	**Exam Type**	IN OUT OF 30
Teacher Name	Gawhale Swati Gopal (Mob. No.: 8308808421) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	Detained
73	72	1	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
S191113001	12	S191113026	16	S191113051	14
S191113002	10	S191113027	15	S191113052	20
S191113003	11	S191113028	17	S191113053	6
S191113004	17	S191113029	15	S191113054	14
S191113005	17	S191113030	22	S191113055	17
S191113006	13	S191113031	7	S191113056	11
S191113007	20	S191113032	12	S191113057	18
S191113008	12	S191113033	12	S191113058	21
S191113009	18	S191113034	15	S191113059	22
S191113010	26	S191113035	16	S191113060	15
S191113011	14	S191113036	10	S191113061	4
S191113012	(AB)	S191113037	9	S191113062	4
S191113013	22	S191113038	9	S191113063	9
S191113014	17	S191113039	10	S191113064	9
S191113015	18	S191113040	13	S191113065	11
S191113016	13	S191113041	17	S191113066	14
S191113017	10	S191113042	19	S191113067	14
S191113018	0	S191113043	13	S191113068	14
S191113019	18	S191113044	16	S191113069	13
S191113020	8	S191113045	15	S191113070	14
S191113021	15	S191113046	19	S191113071	6
S191113022	11	S191113047	4	S191113072	18
S191113023	16	S191113048	25	S191113073	12
S191113024	24	S191113049	11		
S191113025	16	S191113050	12		

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Head
Dept. of Electronics & Telecommunication Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Savitribai Phule Pune University

Examination Session 2021

Marks Inward System for Colleges

2107231257077

7/23/2021

College Name CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510

Pattern Name 7041576 - B.E.(2015 PAT.)(COMPUTER)

Batch No 202104045376

Subject Name 410250 - Machine Learning

Exam Type IN OUT OF 30

Teacher Name Patkar Uday Chandrakant (Mob. No.: 9766938249) - Internal Examiner

Total Students	Present Students	Absent Students	Not Applicable	Detained
66	66	0	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
B151114201	22	B151114226	29	B151114251	23
B151114202	24	B151114227	27	B151114252	16
B151114203	21	B151114228	19	B151114253	26
B151114204	28	B151114229	28	B151114254	27
B151114205	20	B151114230	27	B151114255	27
B151114206	26	B151114231	15	B151114256	22
B151114207	27	B151114232	25	B151114257	30
B151114208	25	B151114233	12	B151114258	17
B151114209	25	B151114234	26	B151114259	25
B151114210	18	B151114235	22	B151114260	29
B151114211	22	B151114236	24	B151114261	19
B151114212	19	B151114237	25	B151114262	25
B151114213	24	B151114238	20	B151114263	20
B151114214	12	B151114239	23	B151114264	28
B151114215	29	B151114240	26	B151114265	26
B151114216	19	B151114241	14	B151114266	27
B151114217	26	B151114242	13		
B151114218	27	B151114243	23		
B151114219	23	B151114244	21		
B151114220	20	B151114245	18		
B151114221	27	B151114246	30		
B151114222	26	B151114247	26		
B151114223	29	B151114248	28		
B151114224	17	B151114249	25		
B151114225	21	B151114250	23		

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Dept. of Computer Engineering,
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Savitribai Phule Pune University

Examination Session 2020

Marks Inward System for Colleges

2006160203025

College Name	CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	7041576 - B.E.(2015 PAT.)(COMPUTER)	**Batch No**	202004166988
Subject Name	410254 - LABORATORY PRACTICE III	**Exam Type**	TW OUT OF 50
Teacher Name	Patkar Uday Chandrakant (Mob. No.: 9850534525) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	CopyCase	Detained
54	54	0	0	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
B151114544	40	B151114569	43	B151114594	42
B151114545	43	B151114570	45	B151114595	45
B151114546	37	B151114571	42	B151114596	44
B151114547	40	B151114572	42	B151114597	45
B151114548	42	B151114573	45		
B151114549	40	B151114574	46		
B151114550	44	B151114575	46		
B151114551	43	B151114576	43		
B151114552	40	B151114577	42		
B151114553	39	B151114578	47		
B151114554	42	B151114579	47		
B151114555	44	B151114580	44		
B151114556	40	B151114581	46		
B151114557	42	B151114582	45		
B151114558	42	B151114583	46		
B151114559	47	B151114584	46		
B151114560	46	B151114585	40		
B151114561	40	B151114586	40		
B151114562	44	B151114587	41		
B151114563	42	B151114588	45		
B151114564	40	B151114589	43		
B151114565	42	B151114590	40		
B151114566	44	B151114591	42		
B151114567	42	B151114592	42		
B151114568	41	B151114593	43		

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Dept. of Computer Engineering,
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Savitribai Phule Pune University

Examination Session 2019

Marks Inward System for Colleges

1904270942229

4/27/2019

College Name	CEGP019690 - Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	7031542 - T.E.(2015 PAT.)(COMPUTER)	**Batch No**	201904104865
Subject Name	310252 - EMBED. SYS. & INET OF THINGS	**Exam Type**	IN OUT OF 30
Teacher Name	Kadam Pratima Mahadeo (Mob. No.: 9766834309) - Internal Examiner		

Total Students	Present Students	Absent Students	Not Applicable	Detained
59	58	1	0	0

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
T151114201	10	T151114226	24	T151114253	24
T151114202	22	T151114227	23	T151114254	27
T151114203	24	T151114228	18	T151114255	22
T151114204	15	T151114229	18	T151114256	17
T151114205	23	T151114230	20	T151114257	27
T151114206	25	T151114231	23	T151114258	11
T151114207	26	T151114232	25	T151114259	(AB)
T151114208	17	T151114233	18	T151114261	12
T151114209	27	T151114234	29	T151114270	21
T151114210	23	T151114235	29		
T151114211	20	T151114236	21		
T151114212	23	T151114237	26		
T151114213	19	T151114238	18		
T151114214	15	T151114239	24		
T151114215	25	T151114241	21		
T151114216	20	T151114242	18		
T151114217	19	T151114243	23		
T151114218	24	T151114244	23		
T151114219	19	T151114245	23		
T151114220	19	T151114246	27		
T151114221	20	T151114248	26		
T151114222	24	T151114249	21		
T151114223	14	T151114250	25		
T151114224	24	T151114251	15		
T151114225	21	T151114252	25		

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Dept. of Computer Engineering
Bharati Vidyapeeth's
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Lavale, Pune - 412 115.

Savitribai Phule Pune University

Examination Session OCT/NOV 2018
Marks Inward System for Colleges

1812061023383

12/6/2018

College Name	Bharati Vidyapeeth's College of Engineering, Lavale [PUNCODE : CEGP019690] Exam code: 510		
Pattern Name	T.E.(2015 PAT.)(COMPUTER)		
Subject Name	SW. ENGG. & PROJECT MGMT.	**Exam Type**	IN OUT OF 30
Teacher Name	Kadam Pratima Mahadeo		

Seat No	Marks/Grade	Seat No	Marks/Grade	Seat No	Marks/Grade
T151114201	16	T151114226	20	T151114251	14
T151114202	20	T151114227	24	T151114252	27
T151114203	20	T151114228	18	T151114253	19
T151114204	21	T151114229	24	T151114254	26
T151114205	19	T151114230	23	T151114255	21
T151114206	17	T151114231	20	T151114256	15
T151114207	18	T151114232	24	T151114257	25
T151114208	20	T151114233	18	T151114258	16
T151114209	26	T151114234	28	T151114270	21
T151114210	22	T151114235	25		
T151114211	15	T151114236	20		
T151114212	22	T151114237	26		
T151114213	16	T151114238	24		
T151114214	22	T151114239	24		
T151114215	25	T151114240	AB		
T151114216	18	T151114241	22		
T151114217	16	T151114242	18		
T151114218	19	T151114243	17		
T151114219	23	T151114244	22		
T151114220	17	T151114245	19		
T151114221	26	T151114246	24		
T151114222	21	T151114247	23		
T151114223	13	T151114248	20		
T151114224	16	T151114249	AB		
T151114225	20	T151114250	25		

Total Students	Absent Students	Present Students
59	2	57

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Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115.

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : B.E. COMPUTER Batch : A

Name of the subject : LP-III

Roll No.	Name of the student	Date	17/12/18	24/12/18	31/12/18	7/1/19	14/1/19	21/1/19	28/1/19	4/2/19	11/2/19	18/2/19	25/2/19	Expt. No. 1 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 2 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 3 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 4 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 5 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 6 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Total Marks	Marks out of 150	Exam. N
			1	2	3	4	5	6	7	8	9	10	11	12																																		
1.	BARAPATRE SANKET		0	0	1	1	2	2	2	2	3	4	5	6	17/12	4	5	9	18	31/12	4	6	10	20	14/01	4	5	9	18	22/1	4	6	9	19	4/2	4	6	10	20	11/2	4	6	11	21	116	150	27
2.	CHIRMADE AJAY.		0	0	0	0	0	0	0	0	0	0	0	0	17/12	4	4	5	13	31/12	4	6	10	20	14/01	4	5	9	18	22/1	4	6	9	19	4/2	4	6	10	20	11/2	4	6	11	21	111	150	
3.	CHOUDHARY KARAN		0	0	0	0	1	1	1	1	2	3	4	5	17/12	4	6	10	20	31/12	4	5	9	18	14/01	4	6	11	21	22/1	4	5	9	18	4/2	4	6	11	21	11/2	4	6	10	20	118	150	
4.	LAKHWANI RAT		0	0	0	1	1	1	2	3	4	5	6	7	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	6	10	20	4/2	4	6	11	21	11/2	4	6	10	20	123	150	
5.	LALE SAKSHI		1	1	1	2	3	4	5	6	7	8	9	10	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	10	20	22/1	4	5	9	18	4/2	4	6	10	20	11/2	4	6	10	20	119	150	
6.	PATIL SHUBHANGI		0	0	0	0	0	0	0	0	1	2	3	4	17/12	4	5	9	18	31/12	4	6	10	20	14/01	4	5	10	19	22/1	4	6	10	20	4/2	4	6	10	20	11/2	4	5	9	18	115	150	
7.	PATIL POOJA.		0	0	0	1	2	2	2	3	4	4	5	6	17/12	4	6	10	20	31/12	4	5	10	20	14/01	4	6	9	19	22/1	4	6	8	18	4/2	4	6	11	21	11/2	4	6	10	20	118	150	
8.	SINGH PRIYANKA		0	0	0	1	2	2	2	2	3	4	5	6	17/12	4	6	11	21	31/12	4	6	11	21	14/01	4	6	10	20	22/1	4	6	10	20	4/2	4	6	10	20	11/2	4	6	11	21	123	150	
9.	REDEKAR SHUBHAM.		0	1	1	2	3	3	4	5	6	7	8	9	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	6	10	20	4/2	4	6	10	20	11/2	4	6	11	21	123	150	
10.	SATAV SHUBHANGI		0	1	2	2	3	3	3	3	4	4	5	6	17/12	4	6	10	20	31/12	4	6	9	19	14/01	4	6	10	20	22/1	4	6	9	19	4/2	4	6	10	20	11/2	4	6	11	21	119	150	
11.	SAURYA SAURAV.		0	0	0	0	0	0	0	0	0	1	2	3	17/12	4	6	10	20	31/12	4	6	9	19	14/01	4	6	10	20	22/1	4	6	9	19	4/2	4	6	10	20	11/2	4	6	11	21	119	150	
12.	SHARMA AMANKUMAR		1	1	1	1	1	1	1	1	2	3	4	5	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	10	20	22/1	4	6	11	21	4/2	4	6	10	20	11/2	4	6	11	21	123	150	
13.	SHITOLE BHAGYASHREE		0	1	1	2	3	3	3	3	4	5	6	7	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	12	22	22/1	4	6	11	21	4/2	4	6	10	20	11/2	4	6	10	20	124	150	
14.	TELE SHRUNKHALA		1	1	1	2	3	4	4	5	6	7	8	9	17/12	4	6	10	20	31/12	4	6	9	19	14/01	4	6	10	20	22/1	4	6	10	20	4/2	4	6	11	21	11/2	4	6	10	20	120	150	
15.	BAMBHATE ASHWINI		0	0	0	0	0	0	0	0	0	0	0	0	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	5	9	18	4/2	4	6	10	20	11/2	4	6	10	20	120	150	
16.	PAWAR KARUNESH		0	0	0	0	0	0	0	0	0	0	0	0	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	6	10	20	4/2	4	5	9	19	11/2	4	6	10	20	121	150	
17.	KULKARNI DIPALI		0	0	0	0	0	0	0	0	0	0	0	0	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	6	10	20	4/2	4	5	9	18	11/2	4	6	10	20	121	150	
18.	MAHADIK RUSHIKESH.		1	1	1	1	1	1	1	1	1	1	1	1	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	11	21	22/1	4	6	10	20	4/2	4	6	10	20	11/2	4	6	10	20	122	150	
19.	SAMANI MUKUND.		1	2	2	2	3	3	3	4	5	6	7	8	17/12	4	6	10	20	31/12	4	6	11	21	14/01	4	6	10	20	22/1	4	4	10	18	4/2	4	6	10	20	11/2	4	6	11	21	120	150	

Signature of Faculty :-

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering
Lavale, Pune-412115

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : TE computer. Batch : A'

Name of the subject : CNL.

Roll No.	Name of the student	Date	28/8	28/8	19/9	21/9	30/9	2/10	7	8	9	10	11	12	Expt. No. 1 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 2 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 3 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 4 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 5 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 6 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Total Marks	Marks out of 150	Exam. N
		.1	2	3	4	5	6																																								
1.	Shubham Bharti.	0	0	1	1	2	2								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	12	22	29/8	4	6	10	20	29/8	4	6	11	21	19/9	4	6	12	22	126	150	
2	Samiral Shirsat.	0	0	1	1	1	2								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	11	21	29/8	4	6	10	20	19/9	4	5	9	18	19/9	4	6	10	20	107	150	
3	Swapnil Shreerame.	0	0	0	0	0	0								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	11	21	29/8	4	6	12	22	19/9	4	6	12	22	19/9	4	5	9	18	121	150	
4	Pratik Zimbre.	1	1	2	3	4	4								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	12	22	29/8	4	6	12	22	19/9	4	6	12	22	19/9	4	6	12	22	129	150	
5	Atharv Jangam.	0	0	0	0	0	0								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	10	20	29/8	4	5	9	18	19/9	4	6	10	20	19/9	4	6	10	20	119	150	
6	Shruti Kalhyap.	0	0	1	2	2	2								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	5	9	18	29/8	4	6	10	20	19/9	4	6	11	21	19/9	4	5	9	18	118	150	
7	Sandesh Kale.	0	0	0	0	0	0								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	11	21	29/8	4	6	11	21	19/9	4	6	10	20	19/9	4	6	11	21	124	150	
8	Jitendra Chaudhary.	0	0	1	2	3	3								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	11	21	29/8	4	6	11	21	19/9	4	6	10	20	19/9	4	6	11	21	124	150	
9	Shaikh Dilip Nikam	1	1	2	2	2	2								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	5	9	18	19/9	4	6	10	20	19/9	4	5	9	18	114	150	
10	Harshal Adarkar.	1	1	2	2	2	2								28/8	4	6	10	20	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	6	10	20	19/9	4	6	11	21	19/9	4	6	11	21	122	150	
11	Akshay Ankush Bavar	0	0	1	1	1	1								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	10	20	29/8	4	6	11	21	19/9	4	6	10	20	19/9	4	6	10	20	122	150	
12	Aushi Kaje Madake.	0	0	1	1	1	1								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	11	21	29/8	4	6	10	20	19/9	4	6	11	21	19/9	4	6	10	20	123	150	
13	SMKavya Reddy.	1	1	2	3	4	5								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	6	11	21	19/9	4	6	11	21	19/9	4	6	10	20	120	150	
14	Vaishnavi Nagare.	1	1	2	3	3	3								28/8	4	6	10	20	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	6	11	21	19/9	4	6	11	21	19/9	4	5	9	18	120	150	
15	Pooja Shitole.	1	1	2	3	3	3								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	11	21	29/8	4	6	12	22	19/9	4	5	9	18	19/9	4	6	10	20	119	150	
16	Ashlesha Ghare.	0	0	1	2	3	4								28/8	4	5	9	18	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	5	9	18	19/9	4	5	9	18	19/9	4	6	10	20	114	150	
17	Rajnandini Kukreja.	0	0	1	2	3	3								28/8	4	6	10	20	28/8	4	6	10	20	29/8	4	6	10	20	29/8	4	5	9	18	19/9	4	6	10	20	19/9	4	6	10	20	118	150	
18	Bhavesh Pardiya.	1	1	2	3	4	5								28/8	4	6	10	20	28/8	4	6	11	21	29/8	4	6	10	20	29/8	4	6	10	20	19/9	4	6	11	21	19/9	4	6	10	20	122	150	
AB 19	Prateek Rajput.	1	2	3	4	4	4								28/8	0	0	0	0	28/8	0	0	0	0	29/8	0	0	0	0	29/8	0	0	0	0	19/9	0	0	0	0	19/9	0	0	0	0	0	150	
20	Akshada Angane.	1	1	2	2	2	2								28/8	4	6	11	21	28/8	4	6	11	21	29/8	4	6	10	20	29/8	4	6	11	21	19/9	4	6	11	21	19/9	4	6	10	20	124	150	
	Signature of Faculty :-																																													

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : BE comp. Batch : A

Name of the subject : LP-III

Roll No.	Name of the student	Date	2/12	5/12	12/12	19/12	26/12	9/1	16/1	23/1	30/1	7/2	13/2	20/2
			1	2	3	4	5	6	7	8	9	10	11	12
1	Bishal Pal.		1	2	3	4	5	6	7	8	9	10	11	12
2	samiraj shirsat.		1	1	2	3	4	5	5	6	7	8	9	10
3	Afsana Gaud.		0	0	0	1	2	3	3	4	5	5	6	6
4	Sanket walcade.		1	2	3	3	4	5	6	7	8	9	10	10
5	Sweteek Shivastava.		1	2	3	4	5	5	6	7	8	9	10	11
6	Anjali Kuman		1	1	2	3	4	5	6	7	8	9	10	11
7	Pratik zimbre.		1	2	3	4	5	6	7	8	9	10	11	12
8	Pooja shitole.		1	2	3	4	5	6	7	8	9	10	11	12
9	Jitendra Chaudhary.		1	2	3	3	3	3	4	5	6	7	8	
10	Shubham birari		1	1	1	2	3	3	4	5	6	7	8	9
11	Bhavesh Bardiya		1	2	3	4	5	6	7	8	9	10	11	12
12	Utkarsh Rokade.		1	2	3	4	5	6	7	8	9	10	11	12
13	Shwetali Bhagwat.		1	2	3	3	4	5	6	6	7	8	9	10
14	Nikhil Neskar.		1	1	2	3	4	5	6	6	7	8	9	10
15	Saurabh Chavale.		1	2	3	4	5	6	7	8	9	10	11	12
16	Rushiraj Chavan.		1	2	3	4	4	5	6	7	8	9	10	11
17	Shweeta Bolke.		1	2	3	4	5	6	7	8	9	10	10	10
18	Saurabh Gupta.		1	2	3	4	5	6	7	8	9	10	11	12
19	Shruti Kashyap.		0	1	2	3	4	5	6	7	8	9	10	10
20	Yashasvi Ayane.		1	2	3	4	5	6	7	8	9	10	11	12
21	Gaurav Borade.		1	2	3	4	5	6	7	8	9	10	11	12
22	Ujjal Jadhav.		1	2	3	4	4	5	6	7	8	9	10	11
23	Sukanya Reddy.		1	2	3	3	4	5	6	7	8	9	10	11
	Signature of Faculty :-													

Roll No.	Expt. No. 1 Date of Perf.	Expt. No. 1 Assessment T.S.	Pres.	Und.	Marks	Expt. No. 2 Date of Perf.	Expt. No. 2 Assessment T.S.	Pres.	Und.	Marks	Expt. No. 3 Date of Perf.	Expt. No. 3 Assessment T.S.	Pres.	Und.	Marks	Expt. No. 4 Date of Perf.	Expt. No. 4 Assessment T.S.	Pres.	Und.	Marks	Expt. No. 5 Date of Perf.	Expt. No. 5 Assessment T.S.	Pres.	Und.	Marks	Expt. No. 6 Date of Perf.	Expt. No. 6 Assessment T.S.	Pres.	Und.	Marks	Total Marks	Marks out of.....	Exam. No
1	26/2	4	5	9	18	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	14	24			
2	26/2	4	5	9	18	5/3	4	5	9	18	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
3	26/2	4	6	10	20	5/3	4	5	9	18	12/3	4	6	9	19	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
4	26/2	4	5	9	18	5/3	4	5	9	18	12/3	4	5	9	18	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
5	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
6	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
7	26/2	4	5	9	18	5/3	4	5	9	18	12/3	4	6	10	20	19/3	4	6	11	21	26/3	4	6	11	21	9/4	4	6	12	22			
8	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	11	21	9/4	4	6	10	20			
9	26/2	4	5	9	18	5/3	4	5	9	18	12/3	4	5	9	18	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
10	26/2	4	6	10	20	5/3	4	5	9	18	12/3	4	6	10	20	19/3	4	6	11	21	26/3	4	6	10	20	9/4	4	6	10	20			
11	26/2	4	5	9	18	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	5	9	18			
12	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	14	24			
13	26/2	4	6	10	20	5/3	4	6	9	19	12/3	4	6	11	21	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
14	26/2	4	6	10	20	5/3	4	6	9	19	12/3	4	6	10	20	19/3	4	6	11	21	26/3	4	6	10	20	9/4	4	6	10	20			
15	26/2	4	5	9	18	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	10	20			
16	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	11	21	26/3	4	6	10	20	9/4	4	6	13	23			
17	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	11	21	26/3	4	6	10	20	9/4	4	6	10	20			
18	26/2	4	5	9	18	5/3	4	6	10	20	12/3	4	6	9	19	19/3	4	6	11	21	26/3	4	6	10	20	9/4	4	6	10	20			
19	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	10	20	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			
20	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	14	24			
21	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	14	24			
22	26/2	4	6	10	20	5/3	4	6	11	21	12/3	4	6	11	21	19/3	4	6	12	22	26/3	4	6	13	23	9/4	4	6	14	24			
23	26/2	4	6	10	20	5/3	4	6	10	20	12/3	4	6	11	21	19/3	4	6	10	20	26/3	4	6	10	20	9/4	4	6	10	20			

Head
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Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : B.E COMPUTER Batch : A

Name of the subject : LP-III

Roll No.	Name of the student	Date	Expt. No. 1					Expt. No. 2					Expt. No. 3					Expt. No. 4					Expt. No. 5					Expt. No. 6					Total Marks	Marks out of 150	Exam. N
			17/1/22	24/1/22	31/1/22	7/2/22	14/2/22	21/2/22	28/2/22	7/3/22	14/3/22	21/3/22	28/3/22	4/4/22																						
			1	2	3	4	5	6	7	8	9	10	11	12																						
			Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks	Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks	Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks	Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks	Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks	Date of Perf.	Assessment T.S.	Assessment Pres.	Assessment Und.	Marks			
1	Rohit mane.		17/1	4	5	15	24	24/1	4	5	9	18	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	122	150	
2	Ratik Bajpai		17/1	4	5	15	24	24/1	4	6	10	20	3/2	4	5	9	18	21/2	4	5	9	18	28/2	4	6	10	20	7/3	4	6	10	20	111	150	
3	Omkar Babhale.		17/1	4	5	15	24	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	124	150	
4	Riya makade.		17/1	4	5	15	24	24/1	4	5	9	18	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	11	21	7/3	4	6	10	20	123	150	
5	Shubham Bhavar		17/1	4	5	15	24	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	125	150	
6	Harshit Panle.		17/1	4	5	9	18	24/1	4	6	10	20	3/2	4	6	11	21	21/2	4	6	10	20	28/2	4	6	11	21	7/3	4	6	10	20	120	150	
7	chandanmani Pandey		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	121	150	
8	Pem Tethaing		17/1	4	5	9	18	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	5	9	18	28/2	4	6	10	20	7/3	4	6	10	20	116	150	
9	Priyanshu Singh.		17/1	4	5	9	18	24/1	4	5	9	18	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	116	150	
10	Harsh Shrivastav.		17/1	4	5	9	18	24/1	4	6	10	20	3/2	4	6	11	21	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	119	150	
11	Nikhil suryawanshi		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	11	21	7/3	4	6	10	20	121	150	
12	Tushar Sharma.		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	120	150	
13	vaibhav kaushik.		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	120	150	
14	Huzaif anjawar		17/1	4	5	9	18	24/1	4	5	9	18	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	11	21	7/3	4	6	10	20	117	150	
15	Utkarsh Shinde.		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	11	21	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	121	150	
16	sanskar maske.		17/1	4	6	10	20	24/1	4	5	9	18	3/2	4	6	11	21	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	120	150	
17	sankalp Pawar.		17/1	4	6	11	21	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	122	150	
18	Rahul Katare.		17/1	4	5	9	18	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	119	150	
19	Gaurav Jadavanti		17/1	4	6	10	20	24/1	4	6	11	21	3/2	4	6	11	21	21/2	4	6	11	21	28/2	4	5	9	18	7/3	4	6	11	21	122	150	
20	Rushikesh Thombare		17/1	4	6	10	20	24/1	4	6	10	20	3/2	4	6	10	20	21/2	4	6	11	21	28/2	4	6	10	20	7/3	4	6	10	20	121	150	
21	Vanshika Shrivastava		17/1	4	6	10	20	24/1	4	5	9	18	3/2	4	6	11	21	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	121	150	
22	Nilcita Jamadar		17/1	4	5	9	18	24/1	4	6	10	20	3/2	4	6	11	21	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	11	21	120	150	
23	Rushikesh megade		17/1	4	6	10	20	24/1	4	6	11	21	3/2	4	6	10	20	21/2	4	6	10	20	28/2	4	6	10	20	7/3	4	6	10	20	121	150	
	Signature of Faculty :-																																	

Head
Dept. of Computer Engineering
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Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : BE computer Batch : A

Name of the subject : LP-III.

Roll No.	Name of the student	Date	Expt. No. 1					Expt. No. 2					Expt. No. 3					Expt. No. 4					Expt. No. 5					Expt. No. 6					Total Marks	Marks out of 150	Exam.
			Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Date of Perf.	Assessment T.S.	Pres.	Und.	Marks			
			25/7/22	4	6	10	20	28/7/22	4	5	9	18	11/8/22	4	6	10	20	18/8/22	4	6	10	20	18/8/22	4	6	10	20	22/8/22	4	6	10	20			
1	Tejas Langote		25/7	4	6	10	20	28/7	4	5	9	18	11/8	4	6	10	20	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	118	150	
2	Aditya Dhisadi		25/7	4	5	9	18	28/7	4	6	10	20	11/8	4	6	10	20	18/8	4	6	11	21	18/8	4	6	11	21	22/8	4	6	11	21	121	150	
3	Tanesh Patil		25/7	4	6	10	20	28/7	4	5	9	18	11/8	4	6	11	21	18/8	4	6	10	20	18/8	4	6	11	21	22/8	4	6	10	20	120	150	
4	Darshan Amritkar		25/7	4	6	10	20	28/7	4	6	10	20	11/8	4	6	12	22	18/8	4	6	10	20	18/8	4	6	12	22	22/8	4	5	9	18	122	150	
5	Siddhi Soni		25/7	4	6	10	20	28/7	4	6	10	20	11/8	4	5	9	18	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	118	150	
6	Abhishek Kent		25/7	4	5	10	19	28/7	4	6	10	20	11/8	4	6	10	20	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	119	150	
7	Aryan Nair		25/7	4	6	12	22	28/7	4	6	10	20	11/8	4	6	10	20	18/8	4	5	9	18	18/8	4	6	11	21	22/8	4	6	11	21	122	150	
8	Tushar Bhosale		25/7	4	6	10	20	28/7	4	6	9	19	11/8	4	6	11	21	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	11	21	121	150	
9	Saurabh Bhalerao		25/7	4	6	11	21	28/7	4	6	9	19	11/8	4	6	12	22	18/8	4	5	9	18	18/8	4	6	11	21	22/8	4	6	10	20	122	150	
10	Kaustubh Pardhi		25/7	4	5	9	18	28/7	4	6	9	19	11/8	4	6	12	22	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	119	150	
11	Mayur Mahajan		25/7	4	5	9	18	28/7	4	6	10	20	11/8	4	6	11	21	18/8	4	6	11	21	18/8	4	6	10	20	22/8	4	6	11	21	118	150	
12	Omkar Katule		25/7	4	5	9	18	28/7	4	6	11	21	11/8	4	6	10	20	18/8	4	6	11	21	18/8	4	6	10	20	22/8	4	6	12	22	122	150	
13	Avinash Dhakane		25/7	4	6	10	20	28/7	4	6	11	21	11/8	4	6	11	21	18/8	4	6	12	22	18/8	4	6	10	20	22/8	4	6	10	20	124	150	
14	Ruthikesh Bagavkar		25/7	4	6	10	20	28/7	4	6	10	20	11/8	4	6	12	22	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	11	21	123	150	
15	Pushkar Bafanwar		25/7	4	6	10	20	28/7	4	6	11	21	11/8	4	6	10	20	18/8	4	6	11	21	18/8	4	6	11	21	22/8	4	6	12	22	125	150	
16	Shubham Sonawane		25/7	4	6	11	21	28/7	4	6	10	20	11/8	4	6	11	21	18/8	4	6	12	22	18/8	4	6	11	21	22/8	4	6	11	21	125	150	
17	Harshikesh Kathmade		25/7	4	6	10	20	28/7	4	6	11	21	11/8	4	6	10	20	18/8	4	6	11	21	18/8	4	6	10	20	22/8	4	6	10	20	122	150	
18	Aditya Chandhare		25/7	4	5	9	18	28/7	4	6	10	20	11/8	4	6	10	20	18/8	4	6	11	21	18/8	4	6	10	20	22/8	4	6	10	20	117	150	
19	Ketan Sonawane		25/7	4	6	9	19	28/7	4	6	10	20	11/8	4	6	11	21	18/8	4	6	11	21	18/8	4	6	10	20	22/8	4	6	11	21	122	150	
20	Sonali Patil		25/7	4	6	10	20	28/7	4	6	11	21	11/8	4	6	11	21	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	122	150	
21	Sanjyoshi Pathrabe		25/7	4	6	10	20	28/7	4	6	10	20	11/8	4	6	11	21	18/8	4	6	11	21	18/8	4	6	11	21	22/8	4	6	11	21	124	150	
22	Shraddha Shinde		25/7	4	6	10	20	28/7	4	6	10	20	11/8	4	6	11	21	18/8	4	6	10	20	18/8	4	6	10	20	22/8	4	6	10	20	121	150	
23	Damini Borude		25/7	4	5	9	18	28/7	4	6	11	21	11/8	4	6	10	20	18/8	4	6	10	20	18/8	4	6	11	21	22/8	4	6	10	20	120	150	
	Signature of Faculty :-																																	

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
Lavale, Pune - 412 115

Short form	Meaning	Evaluation out of
T.S.	Timely Submission	04
Pres.	Presentation	06
Und.	Understanding	15

COLLEGE OF ENGINEERING, LAVALE

CONTINUOUS ASSESSMENT OF TERM - WORK

Class : SE Batch : B2

Name of the subject : Strength of Material

Roll No.	Name of the student	Date	2/9	5/9	13/10	19/10	26/10	7/11	7	8	9	10	11	12	Expt. No. 1 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 2 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 3 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 4 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 5 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Expt. No. 6 Date of Perf.	Assessment T.S.	Pres.	Und.	Marks	Total Marks	Marks out of.....	Exam. No.
			1	2	3	4	5	6																																							
24	Nilanje Ankush		1	7	2	2	3	4							2/9	4	5	13	22	12/9	4	6	12	22	12/9	3	5	13	21	26/9	4	6	12	22	3/9	4	6	15	25	3/10	4	5	13	22	134	150	857
25	Jadhav Atish		1	2	3	4	5	6							2/9	4	5	15	24	5/9	4	6	13	23	12/9	3	6	12	21	19/9	4	6	12	22	26/9	4	6	15	25	3/10	3	6	13	22	137	150	833
26	Mangalpawar N.		1	2	3	4	5	6							2/9	4	5	15	24	5/9	4	6	14	24	12/9	2	6	13	21	19/9	3	6	12	21	26/9	4	4	14	22	3/10	4	6	15	25	137	150	848
27	Shaikh Mahmd		1	2	3	4	5	6							2/9	3	4	15	22	5/9	4	4	15	23	12/9	3	6	15	22	19/9	4	6	13	23	26/9	3	6	15	24	3/10	4	6	15	25	140	150	880
28	Shirse Onkar		1	1	2	2	3	4							2/9	3	6	14	25	12/9	2	5	10	17	19/9	3	5	12	20	26/9	2	5	13	20	26/9	4	6	10	14	3/10	4	6	12	22	116	150	882
29	Mirjave yogesh		-	1	1	2	3	4							5/9	3	6	12	21	5/9	4	6	15	25	12/9	4	5	15	24	19/9	5	5	14	23	26/9	4	4	13	21	3/10	4	6	14	24	138	150	851
30	Shere Balaji		-	1	2	3	4	5							5/9	2	6	12	20	5/9	4	6	15	25	12/9	4	6	15	25	19/9	4	4	14	22	26/9	3	4	14	21	3/10	3	6	14	23	136	150	881
31	Dongre Rajesh		-	1	2	3	4	5							5/9	2	5	13	20	5/9	4	6	14	24	12/9	4	6	14	24	19/9	3	3	15	21	26/9	3	4	15	22	3/10	3	6	14	23	134	150	823
32	Devshette Ganesh		-	1	2	3	4	5							5/9	2	5	14	21	5/9	4	4	13	23	12/9	4	6	15	25	19/9	4	2	15	21	24/9	3	5	15	23	3/10	2	6	14	22	135	150	820
33	Patil Rahul		1	1	1	1	1	1							2/9	3	4	7	14	—	2	3	5	10	—	2	3	0	5	—	0	2	4	6	—	0	4	5	9	—	0	5	7	12	56	150	861
34	Bongale Gaurav		1	2	3	4	5	6							2/9	4	3	15	22	5/9	4	3	14	21	12/9	4	6	15	25	19/9	4	1	15	20	26/9	2	5	14	21	3/10	4	6	14	24	133	150	825
35	Narkhede Avikit		-	1	2	3	4	5							5/9	4	4	8	16	5/9	5	4	9	17	12/9	3	5	10	18	19/9	4	4	8	16	26/9	5	0	12	16	3/10	4	5	9	18	102	150	859
36	Kolby Altaf		-	1	2	3	4	5							5/9	3	5	15	23	5/9	4	4	15	23	12/9	4	6	14	24	19/9	3	3	15	21	26/9	2	5	15	22	3/10	3	6	14	23	136	150	843
37	Engole Milind		1	2	3	4	5	6							2/9	4	5	15	24	5/9	4	4	15	23	12/9	4	6	14	24	19/9	2	3	15	20	26/9	2	4	15	21	3/10	3	6	13	22	134	150	850
38	Tat Shreyash		-	1	2	3	4	5							5/9	4	6	15	25	5/9	3	5	15	23	12/9	4	6	14	24	19/9	2	3	15	20	26/9	0	3	14	17	3/10	3	6	13	22	131	150	886
39	Sailumar Boini		-	1	2	3	4	5							5/9	3	6	15	24	5/9	2	5	15	22	12/9	4	6	15	25	19/9	3	2	14	19	26/9	3	4	13	20	3/10	3	5	15	23	133	150	815
40	Sadhansh Pulcale		1	2	3	4	5	6							2/9	2	6	15	23	5/9	2	4	14	20	12/9	4	5	15	24	19/9	4	2	14	20	26/9	2	3	14	19	3/10	2	4	15	21	127	150	858
41	Niralkar D		1	2	3	4	5	6							2/9	2	6	15	23	5/9	3	6	13	22	12/9	4	6	15	25	19/9	4	3	14	21	26/9	3	4	15	22	3/10	4	5	15	24	137	150	859
42	Ichedkar Sanket		1	2	3	4	5	6							2/9	2	3	14	19	5/9	4	5	12	21	12/9	4	6	15	25	19/9	4	3	13	20	26/9	4	3	15	22	3/10	4	5	15	24	131	150	841
43	Shirade Dhaval		-	1	2	3	4	5							5/9	3	5	13	21	5/9	3	4	13	20	12/9	3	6	14	23	19/9	3	3	14	20	26/9	4	4	15	23	3/10	4	6	15	25	132	150	853
44	Redkar Faroz		-	1	2	3	4	4							5/9	4	6	13	23	5/9	3	3	8	14	12/9	4	4	12	20	19/9	3	5	12	21	26/9	3	5	10	18	3/10	3	4	12	21	118	150	870
45	Sawant Hemant		1	2	3	4	5	6							5/9	3	6	12	21	5/9	2	5	15	22	12/9	4	5	13	22	19/9	3	5	13	21	26/9	4	3	14	21	3/10	3	6	14	23	134	150	878
46	Tonde Pratik		1	2	3	4	5	6							2/9	4	6	12	22	5/9	4	4	14	22	12/9	4	5	12	21	19/9	4	3	14	21	26/9	4	4	13	21	3/10	4	5	12	21	130	150	883
	Signature of Faculty :-																																														

M.E.D.
Mechanical Engineering
Bharati Vidyapeeth's
College Of Engineering, Lavale Pune

Founder:
Dr. Patangrao Kadam
M.A., L.L.B., Ph.D.

Department of Computer Engineering,
BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.
Affiliated to Savitribai Phule Pune University.

ACTIVITY CALENDAR SEM I (AY 2022-23)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching(TE,BE)	18/7/2022	18/7/2022
2.	HOD Meeting	02/08/2022	08/08/2022
3.	Commencement of Teaching(TE,BE)	17/8/2022	17/8/2022
4.	Teachers Day Celebration	5/9/2022	7/9/2022
5.	GFM Meeting	13/08/2022	18/08/2022
6.	My story Motivational session by succeessful Entrepreneur/ Start-up Founder	19/09/2022	19/09/2022
7.	GFM Meeting	17/09/2022	21/09/2022
8.	HOD Meeting	25/11/2023	30/11/2022
9.	Session on Entrepreneurship and innovation as career opportunity	22/09/2022	22/09/2022
10.	Engineer's Day	22/09/2022	22/09/2022
11.	HOD Meeting	09/10/2022	14/10/2022
12.	Indian Samridhi and Science Tradition	14/10/2022	14/10/2022
13.	HOD Meeting (Parent)	01/11/2022	05/11/2022
14.	Term Work Submission (S.E.TE,BE)		1/11/2023 TO 7/11/2023
15.	Conclusion of Teaching(TE,BE)	5/11/2022	5/11/2022
16.	HOD Meeting	26/11/2022	30/11/2022
17.	GFM Meeting	26/11/2022	30/11/2022
18.	Conclusion of Teaching(SE)	10/12/2022	10/12/2022
19.	Practical /Oral/Project Examination	20/12/2022 Onwards*	S.E. 26/12/2022 TO 31/12/2022
		10/12/2022 Onwards*	T.E. & B.E. 10/11/2022 TO 19/11/2022
20.	University Theory Examination	1/12/2022 To 30/12/2022*	1/12/2022 To 30/12/2022*

Head,
Department of Computer Engineering,
Bharati Vidyapeeth's College of Engineering, Lavale, Pune.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering
Lavale, Pune - 412 115

Department of Electronics and Telecommunication Engineering,
BHARATI VIDYAPEETH'S
COLLEGE OF ENGINEEERING, LAVALE, PUNE 412 115.
Recognized by AICTE, New Delhi & DTE Mumbai.
Affiliated to Savitribai Phule Pune University.

Founder:
Dr. Patangrao Kadam
M.A., L.L.B., Ph.D.

ACTIVITY CALENDAR SEM I (AY 2022-23)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching (TE ,BE)	18/07/2022	18/07/2022
2.	Social Activity: Computer Awareness Program in school	12/08/2022	12/08/2022
3.	Commencement of Teaching (SE)	17/08/2022	17/08/2022
4.	SE -GFM Meeting	22/08/2022	-
5.	TE -GFM Meeting	23/08/2022	24/08/2022
6.	BE -GFM Meeting	24/08/2022	25/08/2022
7.	Session on IPR and IP management for startup	25/08/2022	25/08/2022
8.	Teachers Day Celebration	05/09/2022	05/09/2022
9.	SE -GFM Meeting	12/09/2022	-
10.	TE -GFM Meeting	13/09/2022	-
11.	BE -GFM Meeting	14/09/2022	16/09/2022
12.	TE,BE Sem-I Insem Exam	Oct 2022*	03/10/2022-10/10/2022
13.	TE -GFM Meeting	17/10/2022	18/10/2022
14.	SE -GFM Meeting	21/10/2022	-
15.	Webinar-PLC & SCADA programming & Hardware	26/11/2022	26/11/2022
16.	SE -GFM Meeting	28/11/2022	29/11/2022
17.	Conclusion Of Teaching (TE,BE)	05/11/2022	05/11/2022
18.	BE -GFM Meeting	05/11/2022	-
19.	TE -GFM Meeting	05/11/2022	-
20.	SE -GFM Meeting	29/11/2022	29/11/2022

21.	TE, BE OR/PR Exam	Nov 2022*	04/11/2022- 14/11/2022
22.	Conclusion Of Teaching (SE)	10/12/2022	10/12/2022
23.	OR/PR Exam	Dec 2022*	15/12/2023- 25/12/2023
24.	SE,TE & BE Sem-I Endsem	Dec 2022*	10/01/2023- 07/02/2023
25.	SE Insem Exam	Jan 2023*	16/01/2023- 20/01/2023

Head,
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College of Engineering,
Lavale, Pune - 412 115

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M.A., L.L.B., Ph.D.

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ACTIVITY CALENDAR SEM II (AY 2022-23)

Sr. No.	Activity	Planned Date	Actual Date
1.	Dr. Patangrao Kadam Jayanti	10/01/2023	10/01/2023
2.	Commencement of Teaching(BE)	23/01/2023	23/01/2023
3.	HOD (Parent's) Meeting	22/01/2023	28/01/2023
4.	Cyber Security Jan 2023 Quiz	31/01/2023	31/01/2023
5.	Commencement of Teaching	6/2/2023	6/2/2023
6.	Commencement of Teaching	20/2/2023	20/2/2023
7.	HOD Meeting	16/02/2023	20/02/2023
8.	GFM Meeting	16/02/2023	20/02/2023
9.	Marathi Rajbhasha Din	27/02/2023	27/02/2023
10.	Session on Entrepreneurship Skill, Aptitude and Behaviour Development	28/02/2023	28-/02/2023
11.	Online Quiz 2023 on the occasion of National Science Day	28/02/2023	28/02/2023
12.	GFM Meeting	01/03/2023	05/03/2023
13.	Fundamental session on Machine Learning With Matlab	3/8/2023	3/8/2023
14.	GFM Meeting	16/8/2023	21/8/2023
15.	HOD (students-parents)Meeting	18/03/2023	25/03/2023
16.	HOD Meeting	21/03/2023	27/03/2023
17.	University Mid Semester Examination	4/4/2023 To 11/4/2023*	4/4/2023 To 11/4/2023*
18.	Session on Competitive Exams	24/04/2023	24/04/2023
19.	Workshop on Intellectual Property Rights (IPRs) and IP management for start-up	25/04/2023	25/04/2023
20.	HOD Meeting	27/04/2023	27/04/2023
21.	AICTE and ATAL Approved & Certified FDP on Adobe Express - Digital Creativity Skills	29-04-2023 & 06-05-2023	29-04-2023 & 06-05-2023
22.	Conclusion of Teaching(TE,BE)	20/5/2023	20/5/2023
23.	HOD Meeting(Mentoring)	15-05-2023	20-05-2023
24.	HOD Meeting(Mentoring)	20-05-2023	25-05-2023
25.	Conclusion of Teaching(SE)	31/5/2023	31/5/2023
26.	Farewell Party&Placed student falicitation	24/05/2023	24/05/2023
27.	Term work Submission	15/5/2023 To 20/5/2023	15/5/2023 To 20/5/2023
		25/5/2023 To 31/5/2023	25/5/2023 To 31/5/2023

28.	Practical /Oral/Project Examination	25/5/2023 To 31/5/2023	25/5/2023 To 31/5/2023
29.	University End Semester Examination	01/06/2023 Onwords	01/06/2023 TO 01/07/2023

Head,
Department of Computer Engineering,
Bharati Vidyapeeth's College of Engineering, Lavale, Pune.

Head
Dept. of Computer Engineering
Bharati Vidyapeeth's
College of Engineering,
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Bharati Vidyapeeth's
College of Engineering, Lavale, Pune

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Department of Computer Engineering

Report On

SESSION ON COMPETITIVE EXAMS

Department of Computer Engineering organized A Session Competitive exam training by inviting Mr.Vangala Aditya Srinivas Faculty member at ACE Academy on 24.04.2023. Career Guidance helps students choose the right career path based on their educational and professional choices. It is a qualitative and quantitative assessment of the knowledge, skills, information, and experience to identify career options available. Competitive exams lays a solid foundation for various competitive recruitment exams. It covers key topics common to all competitive recruitment Exams. Participants develop insightful understanding of these exams and can make them into a potential career avenue leading to fulfilling careers immediately after their graduation. As most of the syllabus for these exams is common, students can appear for various exams. They can make brilliant, rewarding careers while serving the nation. This session helps students in various competitive entrance exams for government and corporate Jobs, etc. This preparation develops their command of the English language, reasoning ability, critical thinking and quantitative ability needed to succeed in numerous other careers.

Students were made aware for various competitive examinations including those for banking, civil services and railways. The main objective of this session is to

motivate the students to participate in various competitive examinations, to create awareness about the various competitive exams available for the final year students. to prepare the students to face the challenges of the competitive exams.

86 students participated in this session along with Department Faculties.



Bharati Vidyapeeth College of Engineering
Lavale, Pune-412 115
Phone: (020) 6500 3345, Website: bvcoe.bharatividyapeeth.edu
Department of Computer Engineering

Ref. No: BV/COEL/ /Comp

Date:21/04/2023

To,

The Principal,

Bharati Vidyapeeth's College of
Engineering, Lavale, Pune.

Subject: Request to grant permission for Session on Competitive Exams.

Respected Sir,

ACES Committee is planning to conduct a seminar on **"Competitive Exams"** on **Monday, 24 April 2023** from 10am-11am.

S.no	Items	Quantity	Amount
1.	Breakfast and Tea	5	Rs.200
2.	Bouquet	1	Rs.300
	Total		**Rs.500**

You are kindly requested to please permit us to conduct the program on 24/04/2023 and budget of Rs.500/-.

Thank You!

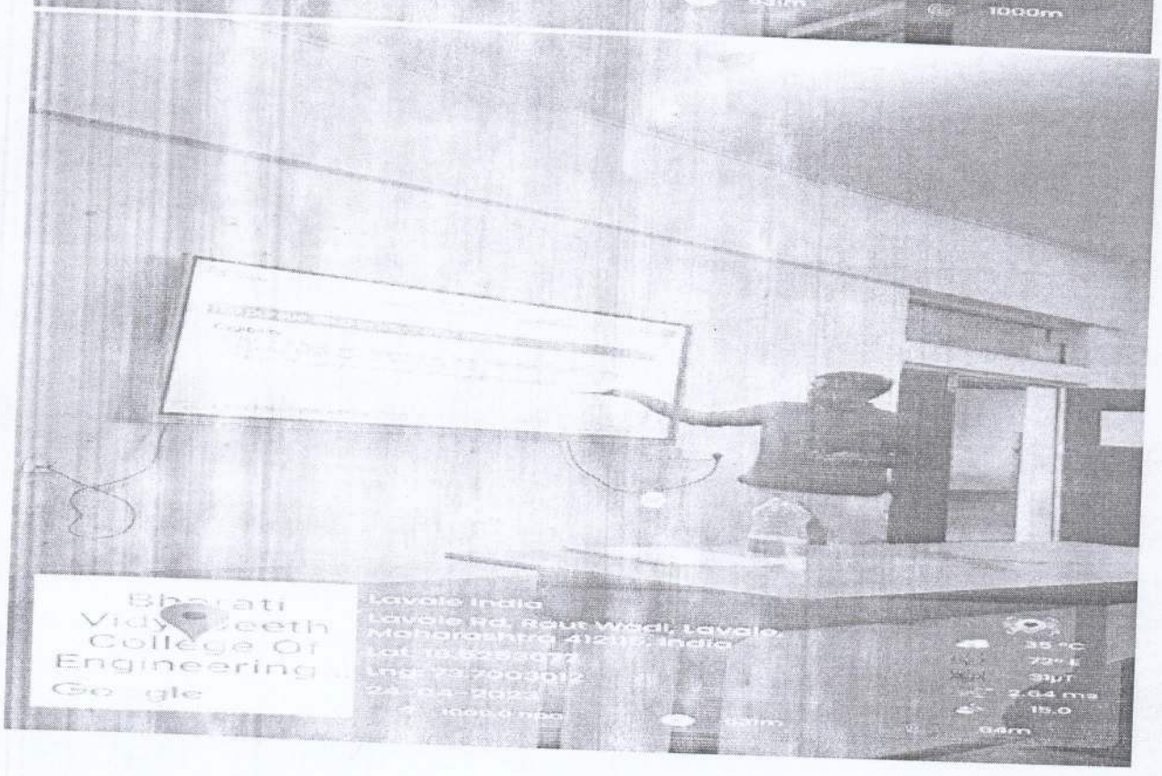
21/4/23

Head of Department
(Computer)

Principal

Permitted


Bharati Vidyapeeth College Of Engineering...
Lavale India
GPG2+H85, Lavale, Maharashtra 412115, India
Lat: 18.5284084
Lng: 73.7052249
24-04-2023
1008.0 hPa
931m
35 °C
227° SW
36µT
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Bharati Vidyapeeth College Of Engineering
Lavale India
Lavale Rd, Bout Wadi, Lavale, Maharashtra 412115, India
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Bharati
Vidyapeeth
College Of
Engineering...
Google
Lavale India
Lavale Rd, Raut Wadi, Lavale,
Maharashtra 412115, India
Lat: 18.525307°
Lng: 73.700301°
24-04-2023
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Bharati
Vidyapeeth
College Of
Engineering
35 °C
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Session On Competitive Exams.

BE, TE, SE Computer

DATE 24/04/23.

Sr No	Name	Year	Roll No.	Sign.
1.	Sejal Gedam	SE - 38		
2.	Tanishka Nanaware	FE - 34		
3	Vaishnavi Marne	TE - 05		
4	Shreya Supe	TE - 35		
5.	Khushali Khairnar	TE - 36		
6.	Snehal Jadhale	TE - 33		
7.	Disha Gaikwad	TE - 18		
8.	Neha Jadhaguru	TE - 34		
9	Kaveri Chavanke	SE - 17		
10	Pooja Aulale	SE - 06		
11	Nischal Chaudhari	SE 16		
12	Jaya Sukashe	SE - 70	E&TC	
13	Siddhi Sarode	SE - 58	E&TC	
14	Snehal Kapse	SE - 32	E&TC	
15.	Pallavi Narute.	SE - 44	E&TC	
16.	Prariksha Suryawanshi	SE - 51	E&TC	
17.	Shele Anuradha	SE - 65	E&TC	
18.	Lokesh Sharma	SE - 41		
19.	Ajinkya Jadhav	SE - 31		
20.	Om Diyaparne	SE - 50		
21.	Om Bhamare	BE - 47		
22	Siddharth Kanade	BE - 50		
23	Manthan Deshmukh	BE - 48		
24	Tanay Thakare	BE - 58		
25	Borude Damini	BE - 24		
26	Aarti Dwivedi	BE - 02		
27	Kalyani Tidhe	TE - 02		
28	Siddhi Gore	TE - 05		
29	Mushan Kumari	BE - 60		
30	Anushi Bhatnagar	TE - 37		
31	Swapnil Rokade	SE - 52	E&TC	
32	Aditya Shinde	SE - 66	E&TC	

33]	Aditya Marne	TE-IS		Aditya
34]	Prathamesh Mande	TE-IT 46		
35]	Aniruddha Manjrekar	SE-Comp - 56		Aniruddha
36]	Advait Shelke	TE-Comp - 14		Advait
37]	Harshikesh Bari	TE-Comp - 41		Harshikesh
38]	Vinit Vibhavshekte	SE Comp - 16		Vinit
39]	Prathamesh Bhagde	SE Comp - 43		Prathamesh
40]	Pranav Vidhate	SE Comp - 15		Pranav
41]	Swapnil Bavkar	SE Comp - 52		Swapnil
42]	Shitole Ashwini	TE Comp - 31		Ashwini
43]	Dhiraj Jadhav	TE Comp - 51		Dhiraj
44]	Omprasad Jagadale	TE Comp - 49		Omprasad
45]	Harshal Bhavar	SE Comp - 42		Harshal
46]	Sushant Bhavar	SE Comp - 66		Sushant
47]	Sarang Patil	TE Comp - 10		Sarang
48]	Akshay Kelkar	SE Comp - 29		Akshay
49]	Amol Funde	SE Comp - 69		Amol
50]	Vedant Kulkarni	SE Comp - 26		Vedant
51]	Uddhav Pande	SE Comp - 20		Uddhav
52]	Manas Deshpande	SE Comp - 22		Manas
53]	Sujay P[illegible]	TE COMP - 52		Sujay
54]	Harshal [illegible]	SE COMP - 48		Harshal
55]	Vaibhav Patil	TE Comp - 56		Vaibhav
56]	Sohan [illegible]	SE Comp - 19		Sohan
57]	Amit [illegible]	TE Comp - 32		Amit
58]	Avinash [illegible]	SE Comp - 25		Avinash
59]	Pravin [illegible]	SE Comp - 27		Pravin
60]	Pooja [illegible]	SE Comp - 32		Pooja
61]	Prathamesh Bhosale	Comp - 14		Bhosale
62]	Uma [illegible]	Comp - 28		Uma
63]	Sumit [illegible]	SE Comp - 18		Sumit
64]	Lalit Kumar Patil	TE Comp - 48		Lalit
70]	Sharad [illegible]	F.E Comp - 07		Shwada

71)	Rupali Singh		F.E.	comp - 15	Rupali.
72)	Prachi R. Nikalje		SE	Comp - 11	Prachi
73)	pradn[illegible]ale		SE	Comp - 10	Pradnya
74)	Shrey[illegible]chkar		SE	Comp - 7	Shreya
75)	Shrushti D[illegible]dale		SE	Comp - 6	Shrushti
76)	Vaishnavi [illegible]anjale		SE	Comp - 52	Vaishnavi
77)	Jadhav Pakhi	Suresh	SE	comp - 74	Pakhi
78)	Bhavik [illegible]		SE	Comp - 09	Bhavik
79)	Pooja [illegible]		SE	comp - 47	Pooja
80)	M[illegible]	Abhi[illegible]	SE	Comp - 12	Abhishek
81)	Aish[illegible]		SE	comp - 5	Aish
82)	Ritika [illegible]		SE	Comp - 55	Ritika
83)	Simi[illegible]ham		SE	Comp - 35	Simi
84)	Shubh[illegible]		SE	Comp - 63	Shubhi
85)	Pra[illegible]eeth Shelke		SE	comp - 06.	Prathamesh
86)	Ath[illegible]	Tanhaji	SE	Comp - 01	Tathagat

Prof.Pratima Kad[illegible]
Faculty Coordi[illegible]

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Dr.U.C.Patkar
HOD

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ACTIVITY CALENDAR SEM II (AY 2022-23)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching	02/01/2023	02/01/2023
2.	Workshop on Machine Learning using Python	04/02/2023-15/04/2023	04/02/2023-15/04/2023
3.	SE -GFM Meeting	15/02/2023	16/02/2023
4.	TE -GFM Meeting	16/02/2023	-
5.	BE -GFM Meeting	17/02/2023	-
6.	Guest Lecture on Happiness: Engineering of Brain Chemicals	28/02/2023	28/02/2023
7.	Industrial Visit	15/03/2023	-
8.	TE -GFM Meeting	20/03/2023	27/03/2023
9.	BE -GFM Meeting	21/03/2023	28/03/2023
10.	SE -GFM Meeting	23/03/2023	29/03/2023
11.	SE -GFM Meeting	19/04/2023	20/04/2023
12.	TE -GFM Meeting	24/04/2023	-
13.	BE -GFM Meeting	25/04/2023	25/04/2023
14.	Webinar on "How to plan for Startup, Legal and Ethical Steps"	25/04/2023	26/04/2023
15.	SE TE & BE Sem-II Insem Exam	April 2023*	3/04/2023-08/04/2023
16.	Conclusion Of Teaching (SE,TE,BE)	29/04/2023	29/04/2023
17.	Workshop on Skills Development Drive using MATLAB and Simulink	08/05/2023-12/05/2023	16/05/2023-20/05/2023

18.	Webinar on "Engineering Applications of Signals and Systems"	27/05/2023	27/05/2023
19.	TE/BE-OR/PR Exam	May 2023*	17/05/2023- 05/06/2023
20.	SE- OR/PR Exam	June 2023*	01/06/2023- 10/06/2023
21.	Endsem Exam (SE,TE,BE)	June 2023*	07/06/2023- 26/06/2023

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ACTIVITY CALENDAR SEM I (AY 2021-22)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching(TE,BE)	15/6/2021	15/6/2021
2.	HOD Meeting	10/06/2021	15/06/2021
3.	GFM Meeting	13/06/2021	18/06/2021
4.	Introduction to Deep Learning and its applications	18/06/2021(11.00 am to 12.00 pm)	18/06/2021(11.00 am to 12.00 pm)
5.	Yoga Day Program	23/06/2021 (11:00 am to 12:00 pm)	23/06/2021 (11:00 am to 12:00 pm)
6.	A Virtual Visit to Microsoft, Apple, Google and PTC	28/06/2021(11.00 am to 12.00 pm)	28/06/2021(11.00 am to 12.00 pm)
7.	Rajarshi Shahu Chatrapati Maharaj: Jivan v Karya	29/06/2021 (10:00 am to 11:00 am)	29/06/2021 (10:00 am to 11:00 am)
8.	Internship Awareness and Opportunities	29/06/2021(3.00 pm to 4.00 pm)	29/06/2021(3.00 pm to 4.00 pm)
9.	Tricks and Tips about to qualify the GATE and opportunities after qualification	30/06/2021(10.00 AM to 11.00 AM)	30/06/2021(10.00 AM to 11.00 AM)
10.	Success Story – The Drive to Never Give Up	26/06/2021(11.00 am to 12.00 pm)	26/06/2021(11.00 am to 12.00 pm)
11.	Building a Product fit for Market	30/06/2021(1.00 PM to 2.00 PM)	30/06/2021(1.00 PM to 2.00 PM)
12.	HOD Meeting	20/07/2021	26/07/2021
13.	Computer Engineering Project Opportunities at DRDO	28/07/2021	28/07/2021
14.	GFM Meeting (TE)	23/07/2021	29/07/2021
15.	GFM Meeting (BE)	24/07/2021	30/07/2021
16.	Webinar on 'Research Paper writing for Scientific Journals'	31/07/2021	31/07/2021
17.	Commencement of Teaching(SE)	20/8/2021	20/8/2021
18.	HOD Meeting(SE)	14/08/2021	20/08/2021
19.	GFM Meeting(SE)	20/08/2021	25/08/2021
20.	HOD Meeting(Parents)	22/08/2021	28/08/2021
21.	GFM Meeting(TE)	27/08/2021	31/08/2021
22.	HOD Meeting(SE,TE,BE)	25/09/2021	01/09/2021
23.	University INSEM Examination	13/9/2021 To 17/9/2021	13/9/2021 To 17/9/2021

24.	Conclusion of Teaching(TE,BE)	20/10/2021	20/10/2021
25.	HOD Meeting(SE,TE,BE)	22/10/2021	27/10/2021
26.	GFM Meeting(SE)	22/10/2021	27/10/2021
27.	Webinar on Entrepreneurship as a Career Path	28/10/2021 (11 am to 12:30 pm)	28/10/2021 (11 am to 12:30 pm)
28.	Conclusion of Teaching(SE)	12/11/2021	12/11/2021
29.	HOD Meeting(SE,TE,BE)	25/11/2021	30/11/2021
30.	GFM Meeting(TE)	25/11/2021	30/11/2021
31.	Practical /Oral/Project Examination (SE)	6/12/2021 Onwards	15/12/2021 TO 29/12/2021
32.	Practical /Oral/Project Examination (TE, BE)	15/12/2021 Onwards	15/12/2021 TO 29/12/2021
33.	HOD Meeting(BE)	09/12/2021	14/12/2021
34.	University Theory Examination	30/12/2021 ONWARDS	30/12/2021 To 31/1/2022
35.	HOD Meeting(SE,TE,BE)	26/12/2021	30/12/2021

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ACTIVITY CALENDAR SEM I (AY 2021-22)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching (TE ,BE)	15/06/2021	02/08/2021
2.	HOD Meeting with Students	18/06/2021	18/06/2021
3.	BE -GFM Meeting	22/06/2021	24/06/2021
4.	TE -GFM Meeting	24/06/2021	01/07/2021
5.	Webinar on Top career Opportunities	30/07/2021	30/07/2021
6.	Expert Lecture on Armament Electronics -Issues & challenges	02/08/2021	02/08/2021
7.	BE -GFM Meeting	02/08/2021	02/08/2021
8.	Industrial Visit	12/08/2021	-
9.	TE -GFM Meeting	22/08/2021	25/08/2021
10.	Commencement of Teaching (SE)	20/08/2021	20/08/2021
11.	HOD meeting with TE Students	25/08/2021	26/08/2021
12.	BE -GFM Meeting	27/08/2021	27/08/2021
13.	HOD meeting with SE Students	27/08/2021	27/08/2021
14.	TE -GFM Meeting	30/08/2021	-
15.	SE -GFM Meeting	31/08/2021	-
16.	HOD meeting with BE Students	30/08/2021	30/08/2021
17.	Teachers Day	05/09/2021	06/09/2021
18.	BE -GFM Meeting	06/09/2021	07/09/2021
19.	TE -GFM Meeting	07/09/2021	08/09/2021
20.	SE -GFM Meeting	08/09/2021	-
21.	HOD meeting with BE Students	21/09/2021	23/09/2021
22.	Webinar on Industrial Automation	29/09/2021	29/09/2021
23.	BE -GFM Meeting	12/10/2021	14/10/2021
24.	TE -GFM Meeting	13/10/2021	14/10/2021
25.	HOD meeting with BE Students	13/10/2021	13/10/2021
26.	SE -GFM Meeting	14/10/2021	-
27.	BE Sem-I Insem Online Exam	18/10/2021- 23/10/2021	18/10/2021- 23/10/2021
28.	TE Sem-I Insem Online Exam	18/10/2021- 23/10/2021	18/10/2021- 23/10/2021
29.	Expert Lecture -DSP and Its Applications	28/10/2021	28/10/2021

30.	Conclusion Of Teaching (TE,BE)	15/11/2021	30/11/2021
31.	BE -GFM Meeting	22/11/2021	23/11/2021
32.	TE -GFM Meeting	23/11/2021	24/11/2021
33.	Webinar on "Future In Electrical, Electronics as an Entrepreneur"	25/11/2021	26/11/2021
34.	Conclusion Of Teaching (SE)	20/12/2021	20/12/2021
35.	OR/PR Exam	21/12/2021-30/12/2021	21/12/2021-30/12/2021
36.	SE -GFM Meeting	10/01/2022	10/01/2022
37.	DSE OR/PR Exam	10/01/2022-14/01/2022	18/01/2022-20/01/2022
38.	SE Insem Exam	Jan 2022*	24/01/2022-29/01/2022
39.	BE Sem-I Endsem Online Exam	Feb 2022*	17/02/2022-24/02/2022
40.	TE Sem-I Endsem Online Exam	Feb 2022*	21/02/2022-26/02/2022
41.	SE -GFM Meeting	22/02/2022	23/02/2022
42.	SE Sem-I Endsem Online Exam	08/03/2022-12/03/2022	08/03/2022-12/03/2022
43.	Workshop on Communication Skills	14/03/2022	21/03/2022 - 22/03/2022
44.	Empathy &Emotional Intelligence	21/03/2022	23/03/2022 - 26/03/2022

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ACTIVITY CALENDAR SEM II (AY 2021-22)

Sr. No.	Activity	Planned Date	Actual Date
	Commencement of Teaching	3/1/2022	3/1/2022
1.	Higher Engineering Opportunities for Engineering Graduates	04-01-2022	04-01-2022
2.	BE Projects & their Impact	14/1/2022	14/1/2022
3.	Training program on C and C++ Programming Language	17/01/2022	17/01/2022
4.	GFM Meeting(TE)	02/02/2022	02/02/2022
5.	HOD Meeting(SE)	17/02/2022	21/02/2022
6.	Shiv Jayanti	21/02/2022	21/02/2022
7.	Marathi Bhasha Gaurav Din Bolu Kautuke	28/02/2022	28/02/2022
8.	GFM Meetin(TE)	02/03/2022	07/03/2022
9.	Learn Data Science with Python	07/03/2022	12/03/2022
10.	International Women's Day	08/03/2022	08/03/2022
11.	HOD Meeting(SE,TE,BE)	08/03/2022	14/03/2022
12.	HOD Meeting(SE,TE,BE)	01/04/2022	01/04/2022
13.	How to plan for Start-up and legal & Ethical Steps	01/4/2022	01/4/2022
14.	University INSEM-I Examination	4/4/2022 To 8/4/2022	4/4/2022 To 8/4/2022
15.	HOD Meeting(SE,TE,BE)	17/04/2022	21/04/2022
16.	Conclusion of Teaching(TE,BE)	26/4/2022	26/4/2022
		30/4/2022	30/4/2022
17.	HOD Meeting(BE)	02/05/2022	09/05/2022
18.	Conclusion of Teaching(SE)	15/5/2022	15/5/2022
19.	Term work Submission	08/05/2022 ONWARDS	09/5/2022 To 20/5/2022
20.		21/04/2024 ONWARDS	21/4/2022 To 30/4/2022
21.			

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22.	Practical /Oral/Project Examination (SE)	17/05/2022 ONWARDS	17/05/2022 TO 20/5/2022
23.	Practical /Oral/Project Examination (TE.BE)	08/05/2022 ONWARDS	09/05/2022 TO 18/5/2022
24.	University End Semester Examination	Month of May 2022*	04/04/2022 TO 18/04/2022

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ACTIVITY CALENDAR SEM II (AY 2021-22)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching	03/01/2022	03/01/2022
2.	TE -GFM Meeting	11/02/2022	14/02/2022
3.			
4.	Guest Lecture on Problem solving and Ideation	21/02/2022	21/02/2022
5.	Guest Lecture on Entrepreneurship, attitude and behavior	22/02/2022	22/02/2022
6.	SE -GFM Meeting	22/02/2022	23/02/2022
7.	One day FDP on Matlab	24/02/2022	24/02/2022
8.	Workshop on Embedded System And Robotics	07/03/2022-11/03/2022	07/03/2022-11/03/2022
9.	Expert Lecture on Emerging Multifaceted Personality	08/03/2022	-
10.	TE -GFM Meeting	11/03/2022	14/03/2022
11.	BE -HOD Meeting	14/03/2022	15/03/2022
12.	SE -GFM Meeting	16/03/2022	24/03/2022
13.	Workshop on Industrial Automation	21/03/2022-25/03/2022	21/03/2022-25/03/2022
14.	Industrial Visit-(NIELT)National Institute of Electronics & Information Technology, Calicut, Kerala ,GOI	25/03/2022	25/03/2022
15.	Guest lecture on Overseas Education and Career	25/03/2022	26/03/2022
16.	SE TE & BE Sem-II Insem Exam	April 2022*	04/04/2022-08/04/2022
17.	BE -GFM Meeting	26/03/2022	28/03/2022
18.	SE -GFM Meeting	01/04/2022	02/04/2022
19.	Industrial Visit-GMRT-Tata Institute of Fundamental Research(2021-2022) Narayangaon,Junnar	22/04/2022	22/04/2022
20.	Conclusion Of Teaching (TE,BE)	26/04/2022	26/04/2022
21.	Conclusion Of Teaching (SE)	15/05/2022	15/05/2022
22.	OR/PR Exam (SE,TE,BE)	May 2022*	09/05/2022-20/05/2022

23.	Endsem Exam (SE,TE,BE)	June 2022*	29/06/2022 - 25/07/2022

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ACTIVITY CALENDAR SEM I (AY 2020-21)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching(SE,TE and BE)	15/06/2020	15/06/2020
2.	SE -GFM Meeting	13/07/2020	13/07/2020
3.	TE- GFM Meeting	15/07/2020	16/07/2020
4.	BE- GFM Meeting	16/07/2020	16/07/2020
5.	SE -GFM Meeting	12/08/2020	
6.	TE- GFM Meeting	14/08/2020	14-/8/2020
7.	BE- GFM Meeting	17/08/2020	20/08/2020
8.	SE,TE & BE Sem-I Insem Online Exam	09/09/2020– 17/09/2020*	25/03/2021– 31/03/2021
9.	TE- GFM Meeting	16/09/2020	17/09/2020
10.	SE- GFM Meeting	18/09/2020	17/09/2020
11.	SE- GFM Meeting	24/10/2020	28/10/2020
12.	TE- GFM Meeting	29/10/2020	29-10-2020
13.	BE- GFM Meeting	09/11/2020	09/11/2020
14.	TE- GFM Meeting	10/11/2020	11/11/2020
15.	SE- GFM Meeting	16/11/2020	18/11/2020
16.	HOD Meeting	27/11/2020	30/11/2020
17.	Conclusion Of Teaching (TE,BE)	05/12/2020	05/12/2020
18.	Webinar on Problem solving and Ideation	11/12/2020	10/12/2020
19.	Webinar on Pitching and Linkage of Innovators with innovation ambassadors	14/12/2020	14/12/2020
20.	SE TE & BE Sem-I Endsem Online Exam	8/01/2021Onward*	16/04/2021- 30/04/2021

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ACTIVITY CALENDAR SEM II (AY 2020-21)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching	01/01/2021	01/1/2021
2.	SE - GFM Monthly Meeting	20/01/2021	21/01/2021
3.	BE - GFM Monthly Meeting	23/01/2021	23/01/2021
4.	TE - GFM Monthly Meeting	25/01/2021	25/01/2021
5.	TE- GFM Monthly Meeting	03/02/2021	04/02/2021
6.	SE- GFM Monthly Meeting	17/02/2021	17/02/2021
7.	BE - GFM Monthly Meeting	18/02/2021	-
8.	Industrial Visit-Google Data Center	23/02/2021	26/02/2021
9.	SE- GFM Monthly Meeting	03/03/2021	03/03/2021
10.	TE- GFM Monthly Meeting	20/03/2021	-
11.	SE- GFM Monthly Meeting	01/04/2021	01/04/2021
12.	TE- GFM Monthly Meeting	16/04/2021	16/04/2021
13.	BE - GFM Monthly Meeting	19/04/2021	-
14.	SE TE & BE Sem-I Online Exam	April 2021*	1/06/2021-06/06/2021
15.	Webinar on Accelerators/Incubation-opportunities for students and faculties and early-stage Entrepreneurs	31/05/2021	31/05/2021
16.	Conclusion Of Teaching	15/05/2021	15/05/2021
17.	OR/PR Exam	20/05/2021-5/06/2021	20/05/2021-5/06/2021
18.	SE TE & BE Sem-I Endsem Exam	22/07/2021 – 27/08/2021	22/07/2021 – 27/08/2021

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ACTIVITY CALENDAR SEM I (AY 2020-21)

Sr. No.	Name Of the Activity	Planned Date	Actual Date
1.	Commencement of Teaching	15/6/2020	15/6/2020
2.	Guru Purnima	5/7/2020	5/7/2020
3.	Online Faculty Development Program for Subject Data Structures Laboratory	8/07/2020	8/07/2020
4.	HOD Meeting(SE,TE,BE)	04/7/2020	4/7/2020
5.	HOD Meeting(SE,TE,BE)	14/7/2020	14/7/2020
6.	GFM Meeting(SE)	15/7/2020	20/7/2020
7.	GFM Meeting(TE)	15/7/2020	21/7/2020
8.	GFM Meeting(BE)	16/7/2020	20/7/2020
9.	University INSEM Examination	11/8/2020 To 17/8/2020*	1/4/2021 To 7/4/2021
10.	GFM Meeting(TE)	11/08/2022	17/08/2020
11.	GFM Meeting(SE)	25/08/2020	31/08/2020
12.	HOD Meeting(SE,TE,BE)	26/08/2020	31/08/2020
13.	GFM Meeting(SE)	21/09/2020	28/09/2020
14.	GFM Meeting(TE)	21/09/2020	28/09/2020
15.	GFM Meeting(BE)	22/09/2020	29/09/2020
16.	HOD Meeting(SE,TE,BE)	22/09/2020	29/09/2020
17.	HOD Meeting(SE,TE,BE)	23/10/2020	28/10/2020
18.	GFM Meeting(SE)	22/10/2020	29/10/2020
19.	GFM Meeting(TE)	22/10/2020	29/10/2020
20.	Software Application Security	23/10/2020	23/10/2020
21.	GFM Meeting(BE)	2/11/2020	2/11/2020
22.	Big Data -need of today's era	11/11/2020	11/11/2020
23.	GFM Meeting(SE)	21/11/2020	26/11/2020
24.	GFM Meeting(TE)	25/11/2020	30/11/2020
25.	GFM Meeting(SE)	5/12/2020	5/12/2020
26.	GFM Meeting(TE)	5/12/2020	5/12/2020
27.	GFM Meeting(BE)	5/12/2020	5/12/2020
28.	HOD Meeting(SE,TE,BE)	5/12/2020	5/12/2020
29.	Conclusion of Teaching	5/12/2020	5/12/2020
30.	Practical /Oral/Project Examination	Month of Feb *	22/4/2021 To 13/5/2021
31.	University Theory Examination	18/1/2021 Onwards *	

Head,

Department of Computer Engineering,

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Founder:
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ACTIVITY CALENDAR SEM II (AY 2020-21)

Sr. No.	Acivity	Planned Date	Actual Date
1.	Commencement of Teaching	3/1/2022	3/1/2022
		3/1/2022	3/1/2022
2.	GFM Meeting(SE)	15/02/2021	20/02/2021
3.	Preparation for Competitive Exams	25/02/2021(10:30 am to 11:30 am)	25/02/2021(10:30 am to 11:30 am)
4.	Interactive Session with Successful Startup founders Entrepreneurs in Campus	26/02/2021(10:30 am to 11:30 am)	26/02/2021(10:30 am to 11:30 am)
5.	Marathi Language Day	27/02/2021(10:30 am to 12:15 am)	27/02/2021(10:30 am to 12:15 am)
6.	Technical Selfie Program	28/02/2021	28/02/2021
7.	Stress Management in the Modern Era	06/03/2021	06/03/2021
8.	International Women Day :Let's Groove – Musical Session	08/03/2021	08/03/2021
9.	"Aamhi Savitrichya Leki" on the occasion of death anniversary of Savitribai Phule	10/03/2021	10/03/2021
10.	GFM Meeting(SE)	14/03/2021	19/03/2021
11.	HOD Meeting(SE,TE,BE)	15/03/2021	20/03/2021
12.	University INSEM-I Examination	4/4/2022 To 8/4/2022	4/4/2022 To 8/4/2022
13.	Conclusion of Teaching	26/4/2022	26/4/2022
		30/4/2022	30/4/2022
14.	GFM Meeting(SE)	08-05-2020	12-05-2020
15.	GFM Meeting(TE)	08-05-2020	12-05-2020
16.	GFM Meeting(BE)	08-05-2020	12-05-2020
17.	HOD Meeting(SE,TE,BE)	08-05-2020	12-05-2020
18.	Conclusion of Teaching	15/05/2020	15/05/2020
19.	HOD Meeting(SE,TE,BE)	16/05/2021	20/05/2021
20.	GFM Meeting(SE)	20/5/2021	24/5/2021
21.	GFM Meeting(TE)	24/5/2021	30/5/2021
22.	GFM Meeting(BE)	24/5/2021	30/5/2021
23.	Practical /Oral/Project Examination	Month of	Month of

		May 2022*	May 2022*
24.	University End Semester Examination	Month of May 2022*	Month of May 2022*

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ACTIVITY CALENDAR SEM I (AY 2019-20)

Sr. No.	Name Of the Activity	Planned Date	Actual Date
1.	HOD Meeting(SE)	10/06/2019	15/06/2019
2.	HOD Meeting(SE)	10/06/2019	15/06/2019
3.	HOD Meeting(SE)	10/06/2019	15/06/2019
4.	GFM Meeting(SE)	20/06/2019	26/06/2019
5.	Guru Purnima	16/07/2019	16/07/2019
6.	National Level Hardware Workshop	26/07/2019	26/07/2019
7.	HOD Meeting(SE)	24/07/2019	29/07/2019
8.	GFM Meeting(SE)	24/07/2019	29/07/2019
9.	HOD Meeting(TE)	24/07/2019	30/07/2019
10.	HOD Meeting(BE)	28/07/2019	31/07/2019
11.	ESD Program	12/08/2019	12/08/2019
12.	HOD Meeting (SE)	14/08/2019	20/08/2019
13.	HOD Meeting (BE)	13/08/2019	20/08/2019
14.	HOD Meeting(TE)	13/08/2019	20/08/2019
15.	GFM (SE)	24/08/2019	29/08/2019
16.	Teachers Day	05/09/2019	05/09/2019
17.	Engineers Day	15/09/2019	15/09/2019
18.	HOD Meeting (SE)	12/09/2019	17/09/2019
19.	HOD Meeting (BE)	12/09/2019	17/09/2019
20.	HOD Meeting(TE)	12/09/2019	17/09/2019
21.	Joy of Programming	19/09/2019	19/09/2019
22.	HOD Meeting (SE)	01/10/2019	01/10/2019
23.	HOD Meeting (BE)	01/10/2019	01/10/2019
24.	HOD Meeting(TE)	01/10/2019	01/10/2019
25.	Concept Of C and C++ Programming Language	07/10/2019	07/10/2019
26.	HOD Meeting (SE)	10/12/ 2019	16/12/ 2019
27.	HOD Meeting (BE)	10/12/ 2019	16/12/ 2019
28.	HOD Meeting(TE)	10/12/ 2019	16/12/ 2019
29.	GFM Meeting(SE)	25/12/ 2019	31/12/ 2019

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ACTIVITY CALENDAR SEM I (AY 2019-20)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching		
2.	BE-HOD Meeting	10/7/2019	16/07/2019
3.	SE-GFM Meeting	12/07/2019	12/07/2019
4.	TE-GFM Meeting	16/07/2019	10/7/2019
5.	BE-GFM Meeting	18/07/2019	18/07/2019
6.	TE-HOD Meeting	19/07/2019	31/07/2019
7.	Guest Lecture- PCB and Scope of Electronic Industries	19/07/2019	25/07/2019
8.	Workshop- Industrial IoT and Artificial Intelligence	09/09/2019-13/09/2019	23/09/2019 - 27/09/2019
9.	SE-GFM Meeting	13/09/2019	13/09/2019
10.	TE-GFM Meeting	14/09/2019	26/9/2019
11.	BE-GFM Meeting	16/09/2019	24/9/2019
12.	SE Phase- I & II Online Exam	Sept 2019*	08/10/2019 – 12/10/2019
13.	TE Insem Exam	Sept 2019*	19/08/2019 - 23/08/2019
14.	Industrial Visit	18/09/2019	-
15.	Guest Lecture - Industry Academia Interface	19/09/2019	20/09/2019
16.	Conclusion Of Teaching	17/10/2019	17/10/2019
17.	Practical/Oral/Project Examination	20/10/2019 - 05/11/2019	18/10/2019 – 05/11/2019
18.	Theory Examination	15/11/2019 - 10/12/2019	14/11/2019- 07/12/2019

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ACTIVITY CALENDAR SEM II (AY 2019-20)

Sr. No.	Name Of the Activity	Planned Date	Actual Date
1.	GFM Meeting(BE)	04/01/2020	08/01/2020
2.	Edhitch Portal Training	11/01/2020	11/01/2020
3.	HOD Meeting(TE)	15/01/2020	20/01/2020
4.	HOD Meeting(BE)	15/01/2020	20/01/2020
5.	GFM Meeting(TE)	15/01/2020	20/01/2020
6.	Pariksha Pe Charcha 2020	20/01/ 2020	20/01/ 2020
7.	HOD Meeting(SE)	18/01/2020	23/01/2020
8.	GFM Meeting(SE)	19/01/2020	25/01/2020
9.	HOD Meeting(BE)	01/02/2020	05/02/2020
10.	GFM Meeting(BE)	01/02/2020	06/02/2020
11.	GFM Meeting(SE)	06/02/2020	10/02/2020
12.	HOD Meeting(SE)	10/02/ 2020	14/02/ 2020
13.	GFM Meeting(TE)	20/02/2020	26/02/2020
14.	Marathi Language Day	27/02/2020	27/02/2020
15.	HOD Meeting(SE)	08/04/2020	12/04/2020
16.	HOD Meeting(TE)	08/04/2020	12/04/2020
17.	HOD Meeting(BE)	08/04/2020	12/04/2020
18.	GFM Meeting(BE)	09/04/2020	13/04/2020
19.	Social Awareness	24/04/2020	24/04/2020
20.	GFM Meeting(SE)	25/04/2020	30/04/2020
21.	GFM Meeting(TE)	25/04/2020	30/04/2020
22.	HOD Meeting(SE)	07/05/2020	11/05/2020
23.	HOD Meeting(TE)	07/05/2020	11/05/2020
24.	HOD Meeting(BE)	07/05/2020	11/05/2020
25.	Operating System Quiz	19/05/2020	19/05/2020

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ACTIVITY CALENDAR SEM II (AY 2019-20)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching		
2.	SE-GFM Meeting	08/01/2020	17/01/2020
3.	TE-GFM Meeting	09/01/2020	14/01/2020
4.	BE-GFM Meeting	10/01/2020	24/01/2020
5.	SE-HOD Meeting	14/01/2020	16/01/2020
6.	TE-HOD Meeting	15/01/2020	30/01/2020
7.	BE-HOD Meeting	16/01/2020	22/01/2020
8.	Guest Lecture	20/01/2020	-
9.	Workshop	21/01/2020- 25/01/2020	-
10.	SE Phase-I Online Exam	04/02/2020 - 09/02/2020	04/02/2020 - 09/02/2020
11.	Guest Lecture	13/02/2020	-
12.	SE-GFM Meeting	13/02/2020	-
13.	TE-GFM Meeting	13/02/2020	24/02/2020
14.	BE-GFM Meeting	13/02/2020	-
15.	SE-HOD Meeting	14/02/2020	26/02/2020
16.	TE-HOD Meeting	18/02/2020	-
17.	BE-HOD Meeting	19/02/2020	24/02/2020
18.	SE Phase-II Online Exam	02/03/2020- 06/03/2020	02/03/2020 07/03/2020
19.	TE Insem Exam	02/03/2020- 06/03/2020	01/03/2020 07/03/2020
20.	Expert Lecture	19/03/2020	-
21.	Industrial Visit	29/03/2020	04/10/2019
22.	Conclusion Of Teaching	09/04/2020	11/04/2020
23.	Practical/Oral/Project Examination	11/04/2020 - 25/04/2020	13/04/2020 to 27/04/2020
24.	Theory Examination	05/05/2020- 30/05/2020	05/05/2020 - 30/05/2020

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ACTIVITY CALENDAR SEM I (AY 2018-19)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching	15/06/2018	15/06/2018
2.	Expert Lecture	13/07/2018	-
3.	Guest Lecture	06/08/2018	-
4.	SE Phase- I & II Online Exam	08/10/2018 - 12/10/2018	03/12/2018- 04/01/2019
5.	TE Insem Exam	07/08/2018 - 11/08/2018	07/08/2018 - 11/08/2018
6.	Teachers Day	5/09/2018	5/09/2018
7.	Industrial Visit	1/10/2018 - 20/10/2018	-
8.	Conclusion Of Teaching	17/10/2018	17/10/2018
9.	Practical/Oral/Project Examination	20/10/2018 - 03/11/2018	20/10/2018- 03/11/2018
10.	Theory Examination	15/11/2018 - 15/12/2018	14/11/2018- 08/12/2018

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ACTIVITY CALENDAR SEM II (AY 2018-19)

Sr. No.	Activity	Planned Date	Actual Date
1.	Commencement of Teaching	17/12/2018	17/12/2018
2.	Guest Lecture	04/01/2019	-
3.	Workshop-Machine Learning with Python	14/01/2019 - 18/01/2019	21/01/2019- 25/01/2019
4.	SE Phase-I Online Exam	04/02/2019 - 09/02/2019	04/02/2019 - 09/02/2019
5.	Guest Lecture on Three Phase Inverter and Converter	22/02/2019	25/02/2019
6.	SE Phase-II Online Exam	05/03/2019- 11/03/2019	06/03/2019- 10/03/2019
7.	TE Insem Exam	05/03/2019- 09/03/2019	05/03/2019- 09/03/2019
8.	Industrial Expert Lecture on - Art of reading Electricity bill	18/03/2019	19/03/2019
9.	Industrial Visit- Ropes Tech Pvt. Ltd	29/03/2019	29/03/2019
10.	Conclusion Of Teaching	09/04/2019	09/04/2019
11.	Practical/Oral/Project Examination	11/04/2019 - 25/04/2019	11/04/2019- 25/04/2019
12.	Theory Examination	04/05/2019- 29/05/2019	04/05/2019- 29/05/2019

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Department of Engineering Science

Activity Calendar (2018-19) Odd Semester

Sr.No.	Activity	Planned Date	Actual Date
1	Student Reporting Day	20/07/2018	20/07/2018
2	Commencement of Teaching (All HOD'S Introductory Lecture)	23/07/2018	23/07/2018
3	Katraj Zoo & Katraj Dairy visit (Prof Hasarmani)	24/07/2018	24/07/2018
4	Industrial Visit	25/07/2018	25/07/2018
5	Lavasa Trip	26/07/2018	26/07/2018
6	Submission of Attendance Record	31/07/2018	31/07/2018
7	Display of Attendance Record and Defaulter list on college Website	01/08/201/	01/08/201/
8	Induction Programme	27/08/2018	31/08/2018
9	Submission of Attendance Record	31/08/2018	31/08/2018
10	Display of Attendance Record and Defaulter list on collegeWebsite	01/09/2018	01/09/2018
11	University Online Examination (Phase-I	03/09/2018 to 08/09/2018	03/09/2018 to 08/09/2018
12	Art Circle Programme	05/09/2018	05/09/2018
13	Celebration of Teacher's Day	05/09/2018	05/09/2018
14	Teacher-Parents Meeting for Defaulters	07/09/2018	07/09/2018
15	Expert Lecture	13/09/2018	13/09/2018
16	Submission of Attendance Record	29/10/2018	29/10/2018
17	Display of Attendance Record and Defaulter list on college Website	03/10/2018	03/10/2018
18	University Online Examination (Phase-II)	08/10/2018 To 13/10/2018	08/10/2018 To 13/10/2018
19	Student Diwali vacation	16/10/2018 To 20/10/2018	16/10/2018 To 20/10/2018
20	Preliminary Examination	31/10/2018 To 03/11/2018	31/10/2018 To 03/11/2018
21	Submission of Attendance Record	31/10/2018	31/10/2018
22	Display of Attendance Record and Defaulter list on college Website	01/11/2018	01/11/2018
23	Teachers parents meet for defaulters.	02/11/2018	02/11/2018
24	Declaration of result	04/11/2018	04/11/2018
25	Conclusion of teaching	06/11/2018	06/11/2018
26	University Examination	14/11/2018 To 22/12/2018	14/11/2018 To 22/12/2018

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BHARATI VIDYAPEETH'S

COLLEGE OF ENGINEERING, LAVALE

(Affiliated to savitribai phule pune university)

(NAAC Accredited)

Department of engineering science

Academic Year 2018-19, Date: 20/08/2018

Students Induction Program

Notice

We wish to convey our "Heartfelt Congratulations" for your successful selection at BVCOE, Lavale, Pune Faculty of Engineering (UG) programmes.

All the students of First year (Batch 2018-19) are hereby informed that their Induction program will start from 27th August 2018 at Drawing Hall from 09:30 AM onwards. Students are required to follow the schedule which is attached herewith and be present accordingly. Attendance is mandatory on all fourteen days for students in formal dress code.

We once again welcome you to BVCOE, Lavale Pune and wish you a full of learning experience.

Co-ordinator	Convener	HOD
Prof. P. P. Atre	Prof. J. A. Dhanke	Dr. Shikha Bhardwaj

(Coordinator)

Head
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Bharati Vidyapeeth's college of Engg. Lavale, Pune
Department of Engineering Science
Academic Year 2018-19
FE Induction Programme Schedule 2018-19

Sr No.	Dates	Activity	Speaker Name	Timeing
1	27/08/2018	Department Visit	Mr. Mandar Bhonde	09.30am to 12.30pm
2	27/08/2018	Tree Plantation	All Faculty	1.30am to 4.30pm
3	28/08/2018	Sports	Dr. Gauri Patel	09.30am to 04.30pm
4	29/08/2018	Higher Studies Guidance	Dr. S. M. Shendokar	09.30am to 12.30pm
5	30/08/2018	Motivational Speech	Dr. Nidhi Jain	09.30am to 12.30pm
6	31/08/2018	Universal Human Values	Prof. J. A. Dhanke	09.30am to 12.30pm

Dr Jyoti Dhanke

Atneff

Dr Nidhi Jain
(Coordinator)

HOD

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Department of Engineering Science

2018-19

Induction Program Report

Bharati Vidyapeeth's College of Engineering, Lavale, successfully completed the event of tree plantation, sports activity, Heigher Studies Guidance and Motivational Speech By Prof. Dr. S. M. Shendokar, Motivational Speech By Prof. Dr. Nidhi Jain, Show case of Gandhiji Movie and Speech On Universal Human Values By Prof. J. A. Dhanke under the Induction program at college campus. Trees are the foremost source for producing the oxygen in environment, they helps to reduce the level of CO_2. As we all know that the whole world is facing the problem of global warming and to recover from such problem planting the trees is become one of the most important aspects today. Total tree planted by all others including teachers and students was more than 25 on the day.

All were happy and experience proud after the tree plantation and all activity event was finished, because it really feels great to do positive for the nature and inculcate ability to work in group.

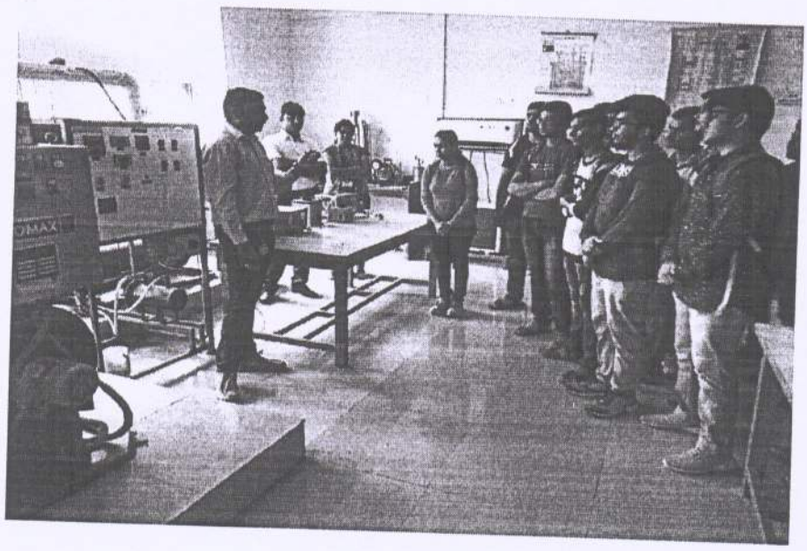
Date: - 27/08/2018 to 31/08/2018

Time: - 9:30am to 4:30 pm

Venue: - BVCOEL, PUNE.

Mode: - Offline Mode.

Photo Gallery: Department Visit





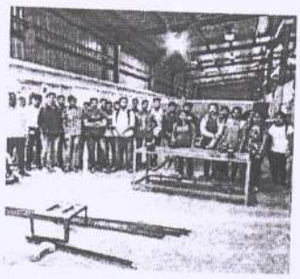










Photo Gallery: Tree Plantation to Inculcate Awareness of nature



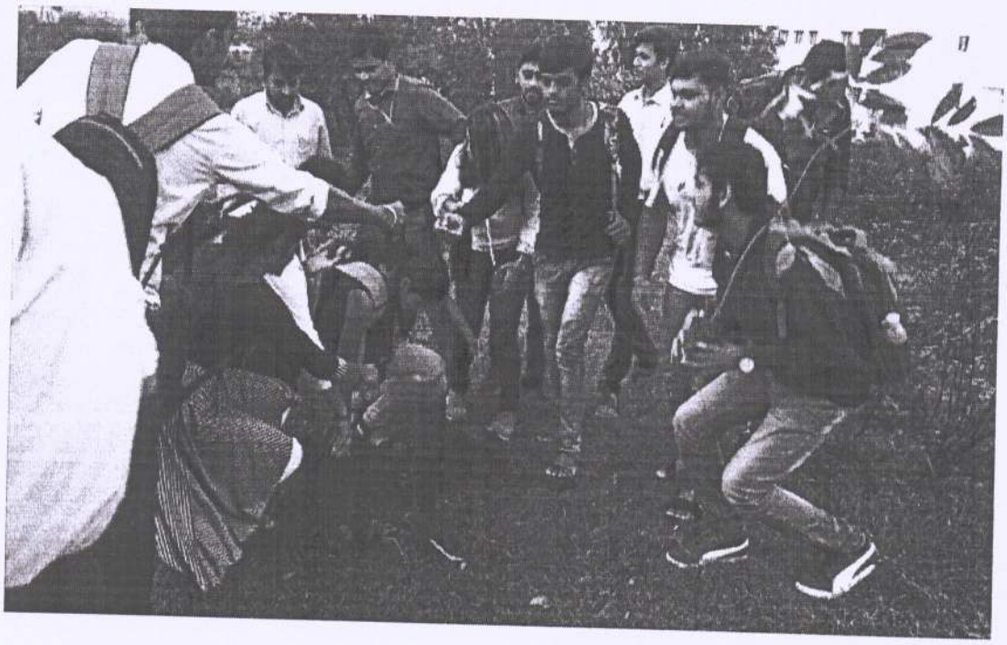
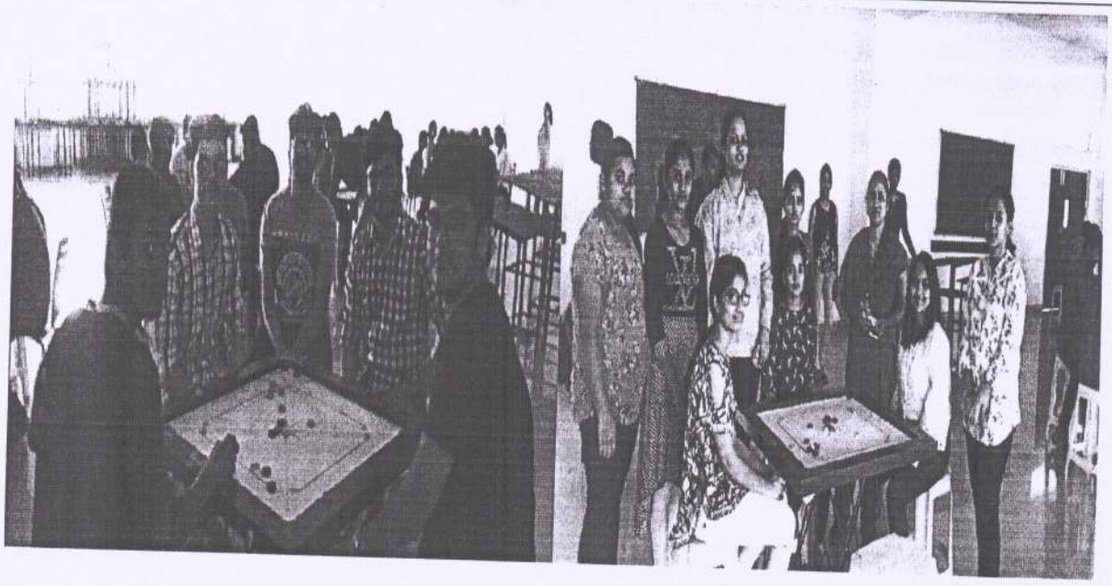


Photo Gallery: Sports Activity to Inculcate Ability to Work in Group



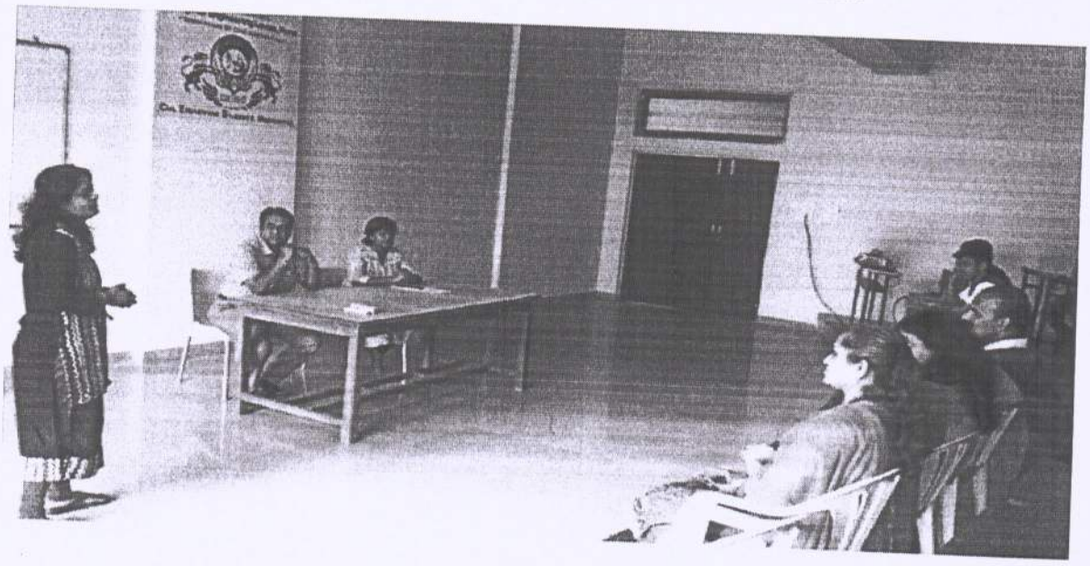




Heigher Studies Guidance and Motivational Speech By Prof. Dr. S. M. Shendokar



Motivational Speech By Prof. Dr. Nidhi Jain



Show case of Gandhiji Movie and Speech On Universal Human Values By Prof. J. A. Dhanke





Co-ordinator

Prof. P. P. Atre

Convener

Prof. J. A. Dhanke

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Dr. Shikha Bhardwaj

Dr Neelkhi Jain.
(Coordinator)

Bharati Vidyapeeth's college of Engg. Lavale, Pune
Department of Engineering Science
Academic Year 2018-19
FE Induction Programme Attendence Sheet 2018-19

Sr. No.	Name of Student	Sign
1	ABHISHEK KUMAR YADAV	Kumar
2	BHOSALE SHARWARI SHARAD	S. Bhosale
3	DESHMUKH VAISHNAVI VINODRAO	Vaishnavi
4	DETHE HIMANSHU SHRIRAM	Dethe
5	ARCHIT DAS	Das
6	FULBANDHE PRAJWAL ASHOK	Prajwal
7	INGOLE ALLEN SUDHIR	Allen
8	JIDDEWAR HRUTWIK SANJAY	Hrutwik
9	KHANDETOD RUSHI YASHWANT	Khandetod
10	KUMAR MANGLAM SONI	Kumar
11	DEV BHANDARI	Bhandari
12	MOHAMMAD MAAZ MOMIN	Maaz
13	MULLA SHAHEEN MEHABOOB	Shaheen
14	NILI MANAS RAMANMURTHI	Manas
15	OMKAR LAXMAN MHADGUT	Laxman
16	PARITOSH PUNDLIK PAL	Paritosh
17	SNEHA SANTOSH SALUNKE	Santosh
18	TORASKAR KALPESH VIJAY	Kalpesh
19	UTPALKANT JAYRAM SAHU	Jayram
20	VETAL TANMAY SAMBHAJI	Tanmay
21	WADBUDE AJINKYA ASHOK	Ajinkya
22	WADNERKAR RUTIK SHRIKANT	Rutik
23	WANJARI ATHARVA DEEPAK	Wanjari
24	WATGURE AKASH SATYANARAYAN	Akash
25	AMEY RASPAL MESHRAM	Amey
26	ASHISH DEEPAK PATKAR	Deepak
27	BANGAR VISHAL PRALHAD	Vishal
28	CHANDANKHEDE KETKI GAJANAN	Ketki
29	DHANANJAY SUDHIRRAO METANGALE	S. Dhan.
30	DHOKARE PRATHAMESH SOMNATH	Prathm.
31	INAMDAR HRITHIK NAGANATH	Hrithik
32	JADHAV GAURAV DNYANESHWAR	Gaurav
33	JOSHI HARSHADA VINOD	Harshada
34	KACHARE SIDDHESHWAR SHRIPAD	Sachin
35	KOLEKAR GAURI BABURAO	Gauri
36	MANDALE DEVENDRA DHANANJAY	Mandale
37	MANOJ PRADEEP NAIKWADI	Mayur
38	MAYUR RAMESH DEDWAL	Mayur
39	NADE DNYANESHWAR KASHINATH	Dnyaneshwar

86	MANALI SHAILENDRA CHOUDHARI	
87	MANE ROHIT SURESH	
88	MENGADE RUSHIKESH GAHININATH	
89	NAIK MADHURA SUDESH	
90	PATIL ABHISHEK HANUMANT	
91	POINWAR SANKALP RAJENDRA	
92	PRIYANSHU PRAMOD SINGH	
93	RODE TUSHAR SANJAY	
94	RUSHIKESH ANIL BODHALE	
95	SAHIL SANJAY KURNE	
96	SANSKAR RAMBHAU MASKE	
97	SHREYAS NIRANJAN VAGGU	
98	PRAFUL RAVINDRA KATARE	
99	SONAVANE ARYA ASHOK	
100	SURYAVANSHI MAYURI MOHAN	
101	TONPE NIHAL RAJSHEKHAR	
102	TUSHAR SHARMA	
103	UTKARSH TULSIDAS SHINDE	
104	VAIBHAV RAJENDRA KAUSHIK	
105	SHRAVANI SANJAY TONGE	
106	ANIKET DEEPAK WAGH	
107	PEEYOOSH VIRENDRA CHAUHAN	
108	GAURAV ISHWAR SADAWARTI	
109	VAIBHAV SOPAN MARGAJE	

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Date: 2024.02.27 13:53:17 +05'30'