



# MIRAI

Creating Future from Existing Past



**Presented By:**  
**Mechanical Engineering**  
**Student Association**  
**(MESA)**

Epic Editor's



# 2023

# DEPARTMENT OF MECHANICAL ENGINEERING

## VISION

**“Prepare Engineering students for successful career by imparting knowledge, skill and right attitude.”**

## MISSION

**“Be a nationally recognized Mechanical Engineering Department that provides right academic ambience and nurtures innate talent of students.”**

## GOALS

**To maintain a high standard of education through outstanding teaching, innovative curriculum, and research training that reflect the changing needs of society.**

**To attract highly motivated students with enthusiasm, aptitude and interest in mechanical engineering.**

**To pursue excellence in research and technology transfer.**

**To recruit, retain, and develop the members of the Department.**

**To increase the public awareness of department activities and mechanical engineering profession.**



## Message from Principal Desk!



***Dr. R. N. Patil***

***Principal, Bharati Vidyapeeth's College of  
Engineering, Lavale, Pune***

I take immense pleasure in conveying my heartfelt congratulations to Department of Mechanical Engineering of Bharati Vidyapeeth's College of Engineering, Lavale, and the editorial team for bringing out the departmental magazine "MIRAI - Creating future from the existing past." Bharati Vidyapeeth's College of Engineering provides a platform for every student to develop his/her learning skills, College magazine always are one way for students to portrays thoughts, ideas, dreams, creative writings and aspirations of young minds and it is a platform that provides exposure and freedom to express your views. As you scan through the pages, it will enlighten you with the important milestones that the department has achieved this year. Besides, our budding talents have expressed their thoughts, ideas, hopes, feelings, aspirations and convictions in a creative way. This magazine should be a good source of guidance for faculty and coming batches of students in choosing activities of their choice in their future for building their career. I congregate Head of department, Teaching and non-teaching staff, editorial board and students of the Mechanical Department for bringing this edition of Magazine.

**Wish you all the best**



## Message from HOD Desk



**Prof. S. R. Patil**

Head of Mechanical Engineering

In tune with Vision of Bharati Vidyapeeth, "Social Transformation through Dynamic Education" Department of Mechanical Engineering, Bharati Vidyapeeth's College of Engineering, Lavale, Pune aims to disseminate knowledge and technologies through quality teaching, research and its applications in mechanical engineering. Under the guidance of Prof. Dr. R. N. Patil, Principal BVCOE, Lavale we strive to include latest developments of Mechanical Engineering. State of art equipment and software available in the laboratories especially production oriented machines, Master CAM, ANSYS-Workbench, Solid works, Matlab software, lathes of various precision levels, Power plant , Quality Control lab and FFT Analyser etc.. Attracts the students to work for projects. Our dedicated faculties graduated from renowned universities always readily motivate students by involving them in research and consultancy work. Students are encouraged to publish Research Papers, internships in different companies under the guidance of faculty, which helps them to acquire admission in reputed universities for PG program in India and abroad... Students are trained in developing their leadership, managerial and interpersonal skills by involving them in organizing various activities under the auspices of MESA (Mech. Engg. Students Association) and Go Karting unit. This will help young students to qualify to take up leadership role in future. We attempt to provide our students with a cheerful, productive and satisfying experience at all levels of their program of studies to explore the amazing world of mechanical engineering.

**Best wishes to all my students.**

*-Prof. S. R. Patil*

*Head Mechanical Engineering,  
BVCOE, Lavale, Pune.*

## Message From MESA!!

Mechanical Engineering Students Association (MESA) is very thankful to our Principal Dr. R. N. Patil and our Head of Department Prof. S. R. Patil who gave us the opportunity to make a newsletter on behalf of the Mechanical Engineering Department.

### To our Readers

Dear Readers,

The Mechanical Engineering Students Association (MESA) is proud to present our official magazine, MIRAI - Creating future from existing past, MIRAI is a Japanese word which means future. We hope that this magazine will inspire and motivate you to strive for excellence also it will help you to get updates about new technologies and discoveries. This information might be helpful for interview section of Hiring.

Through this magazine, we aim to raise awareness about the importance of engineering and its potential impact on our world. We are confident that with the right attitude and dedication, we engineers can make a difference in the future.

We invite all students to join us in this new journey towards a brighter tomorrow for all of us. Together, we can shape a better future.

We are also thankful for those who show support for our 1<sup>st</sup> edition of magazine, we expect same support all of you for further events of MESA and once again wishes you all the best for your Future.

**Thanks & Regards,**  
**Mechanical Engineering Students Association (MESA)**







# MIRAI

## एक पाऊल उज्ज्वल भविष्यासाठी

जय हिंद मित्रांनो, इंजिनिअरिंग म्हंटल की चाहूल लागते ती 'Technology' मध्ये वेढलेली दुनिया आणि याच दुनियेतील एक महत्वाची शाखा, जीला कोणी **Core-Branch**, तर कोणी **Mother of Engineering** अस संबोधल जात अश्याच या Mechanical अर्थात यंत्र अभियांत्रिकी मधील एक महत्वाची कमिटी, संघ, असोसिएशन, समिती अश्या अनेक नावांनी ओळखली जाणारी 'MESA' अर्थात मेकॅनिकल इंजिनीअरिंग स्टूडेंट असोसिएशन अगदी शुद्ध मराठीत सांगायचं झालं तर "यंत्र अभियांत्रिकी विद्यार्थी संघटन" असेही आपण संबोधू शकता

खरे पाहता "विद्यार्थ्यांनी विद्यार्थ्यांच्या हितासाठी चालवलेली विद्यार्थ्यांची समिती म्हणजेच MESA" आणि हीच कमिटी समजून घेत असताना "सामाजिक, शैक्षणिक, सांस्कृतिक, तंत्रज्ञान व बरेच काही यात समाविष्ट करताना शिक्षण विद्यार्थी व शिक्षक यांच्यातील महत्वाचा दुवा जोडणारी समिती. साधारण १९६४ सुमारास आदरणीय पतंगराव कदम यांनी स्थापन केलेल्या भारती विद्यापीठ शैक्षणिक संकुलात शिक्षणासोबतच अनेक नाना कला, आविष्कार, संशोधन यांना वाव देऊन खऱ्या अर्थाने नेतृत्व, आत्मविश्वास, धैर्य, सचेटी या गुणांना पुस्तकाच्या बाहेर

आणून प्रगतीच्या दिशेने वाटचाल करण्यात या समितीचा अगदी सिंहाचा वाटा आहे. MESA ही त्या त्या Institute/College मधील सर्वात सक्रिय विद्यार्थी संस्थांपैकी एक आहे, अगदी द्वितीय वर्षापासून (SE) ते अंतिम (BE)

वर्षापर्यंतचे विद्यार्थी अगदी समर्पणाने कार्य करत असतात व याच बरोबर हे विद्यार्थी आपल्या विभागातील अनुभवी प्राध्यापकांच्या मार्गदर्शनाखाली भविष्यातील आव्हाने यांना तोंड देण्यासाठी त्याविषयी अभ्यास करून अनेक

उपक्रम यात राबवत असतात, या समितीच्या माध्यमातून विद्यार्थ्यांमध्ये व्यवस्थापन कौशल्य विकसित करणे, संसाधन हाताळण्याचा अनुभव निर्माण करणे, प्रचार आणि प्रायोजक (Sponsors) यांच्याशी संवाद व साप्ताहिक मीटिंग चे आयोजन करून प्रत्येकाला बोलण्याची संधी निर्माण करून त्यांच्यातील संवाद व वक्तृत्व कौशल्य विकसित करून त्याला खतपाणी देणे, त्यांच्यात सृजनता आणि सर्जनशीलता वाढवून आपल्या भारतीय संस्कृतीची जोपासण्याची ऊर्जा व जागरूकता निर्माण करण्याचं कार्य या समितीच्या ध्येय धोरणात आखल जाऊन त्याची अंमलबजावणी करण्यात येते अर्थात,

**"Confidence and Hard work is the best medicine to kill the disease called failure, it will be success to you"**

या डॉ. ए.पी.जे अब्दुल कलाम यांच्या विचारांनी प्रेरित होऊन केवळ आपल्या विद्यार्थ्यांचं हित एवढेच मर्यादित न ठेवता आपल्या College साठी आणि या माध्यमातून अविरतपणे आपल्या देशासाठी काहीतरी करण्याचा मानस ठेवून 'MESA' वाटचाल करताना दिसून येते. "Social Transformation through Dynamic Education" या आपल्या भारती विद्यापीठ संस्थेच्या ब्रीद वाक्याचा खऱ्या अर्थाने आदर/ पुरस्कार करणार करू करून "MIRAI" या जापनीज शब्दाच्या (FUTURE) भविष्य अर्थ असणाऱ्या Newsletter (मासिकाच्या) माध्यमातून "तुमचे भविष्य तुमच्या हाती" या वाक्याला दुजोरा देऊन, तरुणांचे आदर्श स्वामी विवेकानंद यांच्या "आपणच आपल्या नशिबाचे शिल्पकार" होऊया आणि या MESA च्या माध्यमातून सर्व तरुण बांधवांच्या सहकार्यातून MIRAI: एक पाऊल उज्ज्वल भविष्यासाठी टाकून छत्रपती शिवरायांच्या या स्वराज्यात एक महत्वाचे योगदान देऊया

▶▶ जय हिंद जय शिवराय ▶▶

-Mahesh Talekar  
TE Mech

## • Editorial Body •



**Prof. Nilesh Singh**  
Faculty Editorial Head



**Adarsh Gaikwad**  
Editorial Head



**Pushpak Patil**  
Editorial Head



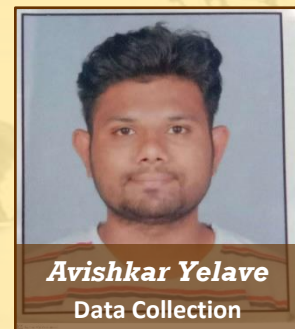
**Manish Somvanshi**  
Editorial Head



**Vaibhav Suryawanshi**  
Facts & Games



**Shivam Dinde**  
Designer (Logo & Poster)



**Avishkar Yelave**  
Data Collection



**Om Dhangar**  
Review Committee



**Deep Telang**  
Review Committee



**Abhijeet Kadam**  
Review Committee



# DEPARTMENT

## ACTIVITIES



On 1st Oct 2022 Mechanical Engineering Department conducted "Energy Conservation Awareness" activity at Z. P. School Nande for class 10th students. A very good response from students and Faculties, **Prof. Nilesh Raut** and **Prof. Atish Mane** along with MESA students coordinators **Adarsh Gaikwad** and **Pushpak Patil** guided school students about Energy conservation, saving and energy bill calculations etc.

Headmistress of school **Sou. Vrushali Bhandari** Madam and her staff given good cooperation for this activity. Also special thanks to **Mr Sachin Dange**, Chairman school committee, Nande and Principal, BVCOE Lavale **Prof. Dr R. N. Patil** Sir given chance to conduct this session.

The first steps in the path of discover, and the first approximate measures, are those which add most to the existing knowledge of mankind

– Charles Babbage

### Heartiest Congratulations

TE Mechanical Engineering  
2021-22 Batch Toppers  
(6<sup>th</sup> SEM)

- 1) Monali Luche - 9.48
- 2) Ashwin Naik - 9.43
- 3) Aniket Bhosale - 9.36
- 4) Pushpak Patil - 9.29
- 5) Pranav Padole - 9.26
- 5) Deep Telang - 9.26

SE Mechanical Engineering  
2021-22 Batch Toppers  
(4<sup>th</sup> SEM)

- 1) Jignesh Kakade - 8.45
- 2) Manvith Venugopal - 8.43
- 3) Nikita Bhagat - 8.41
- 4) Gouri Maslekar - 8.20
- 5) Sachin Nandure - 8.05



# INDUSTRIAL VISTS



## Pawana Hydropower Station

*To Study the Hydroelectric Power Station*

**Date & Day** : - 28 September 2022, Wednesday  
**Time** : - 10.00 am to 2.30 pm  
**Class & Year** : - B.E. Mechanical

For the BE Mechanical Engineering students the visit was arranged at Pawana hydropower station, as per the SPPU university syllabus to study about hydropower station. Organized by **Prof. S R Patil, Prof. Avinash Datarkar, and Prof. Shankar Kadam**. The project aims at fulfilling the water needs of Pimpri Chinchwad. The Pawana dam, constructed in 1972, is 1,329 m (4,360 ft) long and 42.37 m (139.0 ft) high, with a gross storage capacity of 10.77 TMC. It is about 45 km via Paud from Pune. Daily electricity generation capacity 10MWH. Electricity supply grid: Khopoli to Talegaon Grid or Ganeshkhind to PCMC area.

## KATRAJ DAIRY - PUNE

**Date & Day:** 14<sup>th</sup> OCT 2022, Friday  
**Time:** 10:00am  
**Class & Year:** B.E Mechanical

A visit was arranged for students at 'KATRAJ DAIRY' by **Prof. Atish Mane & Prof. Shankar Kadam**, as per the SPPU university syllabus of HVACR Subject. For educating the students about the process in daily Industry. The visit was arranged at 10:00am at Katraj Dairy, Pune.



## SSIG Manufacturing Advancement Pvt. Ltd.



**Date:** 18-OCT-2022  
**Day:** Tuesday  
**Class:** T.E Mechanical  
**Organiser:** Prof. Rohit Jadhav & PROF. S.N. KADAM

The industrial visit was organized for TE MECHANICAL students by **PROF ROHIT JADHAV**. About 37 students participated in the visit, SSIGM is located in BANER (Pune) the students learned about the practical implementation of Mechatronics which was totally industrial-based. The students were divided into 2 batches of 20 students each. It was an overall very informative visit.



# MAHA-TECH

## Expo 2022

**Date & Day:** 22 April 2022, Friday

**Time:** 11:00am

**Class:** Mechanical

**Year:** S.E, T.E, B.E

To get aware of the latest trends going on in the machine tools market, to enrich knowledge about the latest technology, and to observe the modifications in the materials as well as design criteria with an aim to go beyond academics and to help the students to create a practical perspective on the World of Engineering, An MahaTech-Expo 2022 technical exhibition at Agricultural Ground, Pune, visit



Organized by the Mechanical Engineering department for 64 students of Mechanical SE, TE, BE on 22 April 2022. For better functioning, three faculty members from Mech. Engg. Dept. (**Prof. N.R. Singh, Prof. A. B. Mane, & Prof. A.A. Datarkar**) accompanied the students.

## LIST OF INTERNSHIP STUDENTS (2021-22)

Kadam Suryakant Shamrao - [Ford India Pvt. Ltd.](#)  
 Kushal Kuber Kamble - [Bhoomi Teflon](#)  
 Manthan Panchakshari - [Sagar Motors Authorised Dealer of Ashok Leyland Heavy Vehicles](#)  
 Shubham Jalindar Mulay - [Mahindra and Mahindra](#)  
 Pushpak Narendra Patil - [Electric Locomotive Workshop, Central Railway, Bhusawal.](#)  
 Sanket Hanmant Bhosale - [Shri. Nagnath Servicing Centre](#)  
 Aashutosh Avinash Sonone - [Saikrupa Motors](#)  
 Dishant Kamalakar Radke - [Ashok Leyland Limited \(Bhandara Plant\)](#)  
 Suryawanshi Vaibhav - [Dr. Patangrao Kadam Sonhira Sahakari Sakhar Karkhana Wangi](#)  
 Gopal Raju Kate - [Shetkari Automobiles, Hero Motocorp](#)  
 Mayur Ramesh Dedwal - [Techcadd Computer Institute](#)  
 Priyanka Vishwanathappa Halde - [Rucha Group of Engineering](#)  
 Deep Telang - [Jaika Motor Pvt Ltd. Chandrapur](#)  
 Sonali Abhiman Jagdale - [Rucha Engineering Pvt.Ltd.](#)  
 Gunjal Rahul Sanjay - [Laxmi Enterprises](#)  
 Aniket Anil Bhosale - [Kakade Lasers](#)  
 Ashwin Vineeth Naik - [Sagar Defence Engineering Private Limited](#)  
 Sahil Mate - [Kapilansh Dhatu Udyog \(P\) Ltd.](#)  
 Rahul Suresh Satpute - [Jaika Motors Pvt. Ltd.](#)  
 Shreyash Umare - [Jaika Motors Pvt. Ltd.](#)  
 Kadam Abhijit Sanjay - [S.M.Enterprises](#)  
 Ganesh Suresh Birajdar - [Sai Engineering Works, Aurangabad](#)  
 Siddhant A. Khadse - [Gupta Tyres Pvt.Ltd](#)  
 Dhananjay Navnath pawar - [JJ Automobiles](#)  
 Kushal Kuber Kamble - [Bhoomi Teflon](#)  
 Manthan Panchakshari - [Sagar Motors](#)  
 Shubham jalindar mulay - [Mahindra and mahindra](#)

Manish Somvanshi - [Masterline Lubricants Pvt Ltd.](#)  
 Avishkar Sanjay Yelave - [Loknayak Jayprakash Narayan Shetkari Sahakari Spinning Mill](#)  
 Harish Santosh Nemade - [K P Industries Pune](#)  
 Saurabh Babasaheb Gaikwad - [Jagdamba Welding Works](#)  
 Pol Aadesh Jagannath - [Shivleela Enterprises, Satara](#)  
 Shivam Vijay Dinde - [Amogh Industries.](#)  
 Sachin Gopal More - [Talegaonkar Profiles Private Limited](#)  
 Monali Luche - [Samarth Electrocure Pvt. Ltd](#)  
 Vipun Vilas Hajare - [Aditya Moulds](#)  
 Om Sanjay Dhangar - [St. Anthony Tyre Remoulding Works](#)  
 Rutooj Kishor Patil - [C-Tech Engineers Pvt. Ltd.](#)  
 Prathamesh Vilas Shinde - [Sushant Industries](#)  
 Prathamesh Somnath Dhokare - [Energys Thermal Technologies](#)  
 Nikhil Yuvraj Chavan - [Yuvraj Auto Works](#)  
 Neha Sham Dhavan - [K. P. Mutha Bajaj Sales and Services](#)  
 Adarsh Ramesh Gaikwad - [Pragati Switchgears](#)  
 Saurav Patkotwar - [Advait Industries](#)  
 Pranav Rajendra Padole - [Aspa Bandsons Pvt.Ltd](#)  
 Tanishq Jain - [Aditya Moulds](#)  
 Shirse Omkar Shivajirao - [Indomobil Sales & Service Pvt Ltd Latur \(Mahindra and Mahindra\) Rise](#)  
 Joshi Vipul Anant - [Perfect Motar Garage](#)  
 Ashok Kanaram Choudhary - [Mecon Mukund Engineering](#)  
 Karansingh Dineshsingh Hajari - [Balaji Auto](#)  
 Devendra Dhananjay Mandale - [Shree Samarth Krupa Associates Architects & Engineers](#)  
 Ujwal Mohan Chaudhari - [Yuvraj Auto Works](#)  
 Robin Lawrence Dsouza - [Ashok Iron Works \(P\) Ltd](#)



# ISHARE

The Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE), was founded in 1981 at New Delhi by a group of eminent HVAC&R professionals. ISHRAE today has over 28,780 HVAC&R professionals and Student-members. ISHRAE operates from over 44 Chapters and sub Chapters spread all over India, with HQ in Delhi.



Bharati Vidyapeeth's College of Engineering, Lavale (BVCOEL), installed their first ISHRAE student's chapter in academic year 2017-18 with member 75 student's members. Considering the high demand in HVAC&R industry ISHRAE student's chapter has an important role in providing awareness to student's also right opportunity for students to be part to ever-growing HVAC&R industry through various seminars, workshops and events. We at BVCOEL and mechanical engineering department make sure that all such opportunities are made available to our students through this chapter.

# SAE

## (Society of Automotive Engineers)

SAE (Society of Automotive Engineers) India western section recognizes the Department of Mechanical Engineering. B.V.C.O.E. Lavale formed SAE India Collegiate Club in 2015-16. Under the guidance of **Prof. Nilesh Raut** students have participated in various events.

Go kart Team Abhyudaya of Department of Mechanical Engineering participated in two events in February 2020 & they successfully completed all the rounds and won prizes in AIRC and SKDC events. Team members have shown their potential in both statics and Dynamics Events. Judges have praised team members for their work in the Design and Fabrication of the kart.



With this experience, our students passionately and enthusiastically enjoy working on the design and fabrication of Go-Kart. With this, our students are now aiming to contribute to the automobile domain in the future.

***“The Main Factor to Start-up Success  
Is the Team and Their Execution”***

## • Placed Students 2021-22 •



*Heartly Congratulation!!!*



Student Name	Company Name
Aditya Wankhede Abhijit Deshmukh Mahima Naik Aman Dongare Kunal Kasare	Minda Industries Limited
Rohan Khumse Omkar Jamdar Kartik Motkule Prashant Chavan	L.G.Electronics Pune
Prajwal Patil	Exenity System Pvt Ltd
Sanju Barapatre Aniket Thakare Tanmay Meshram Omkar Shete Anish Jadhav Amay Meshram Aditya Ahirao Prasad Wange Ketki Chandankhede Dnyaneshwar Nade Pavan Thorat Siddheshwar Kachare	Marks Pryor Marking Technology Pvt Ltd
Ashish Patkar Manoj Naikwadi	TCS
Prasad Wange Akansha Ozarkar Vishal Bangar Kartik Motkule Samadhan Virkar	Infosys Ltd
Harshad Sule Omkar Patil Aditya Ahilrao	Wipro Ltd
Vishesh Bhimte Prajwal Patil	Career Labs
Chetan Chorge Vishesh Bhimte	QSpider
Aniket Shedge	Pentagon Space
Varadraj Jagdale	Capgemini



## MESA Committee Members



**Adarsh Gaikwad**  
President



**Himanshu Warkade**  
Vice- President



**Manish Somvanshi**  
Secretary



**Suraj Ambhore**  
Joint Secretary



**Tushar Chilhate**  
Convener



**Om Dhangar**  
Treasurer



**Sachin Nandure**  
Treasurer



**Vaibhav Suryawanshi**  
Technical Head



**Shubham Ambekar**  
Technical Head



**Pushpak Patil**  
Cultural Head



**Gouri Maslekar**  
Cultural Head



**Pranav Padole**  
Marketing Head



**Tanishq Jain**  
Marketing Head



**Mahesh Talekar**  
Social Activity Head



**Shivam Dinde**  
Discipline Head



**Siddhant Khadse**  
Discipline Head





# MIRAI TECHNICAL

## COLUMN

### Use of Artificial Intelligence (AI) In Mechanical

Most of us are now familiar with the term ARTIFICIAL INTELLIGENCE (AI). You may have even interacted with AI yourself without realizing it. For example, Siri and Alexa are both examples of AI. AI is a broad term that encompasses a number of different technologies and approaches to problem-solving. In general, AI can be described as a computer system that is able to perform tasks that would normally require human intelligence, such as understanding natural language and recognizing objects.

AI is increasingly being used in a variety of industries, including mechanical engineering. In fact, AI is already being used in some mechanical engineering applications, such as design and manufacturing. However, there is still a lot of potentials for AI to be used even more extensively in mechanical engineering. For example, AI could be used to improve the efficiency of manufacturing processes and to create more customized products.

We will take a look at some of the ways AI is being used in mechanical engineering and explore the potential for even more.

#### What is AI and how is it being used in Mechanical Engineering?

AI stands for artificial intelligence. It is a process of making a computer system that can learn and work on its own. AI is being used in mechanical engineering to help automate design processes. This can help speed up the design process and make it more accurate. AI can also be used to help control manufacturing processes. This can help to improve quality control and make the manufacturing process more efficient.

#### The benefits of using AI in Mechanical Engineering.

The benefits of using AI in mechanical engineering are many. One benefit is the ability to create more efficient and effective designs. With the help of AI, engineers can create better algorithms for design and stress analysis. Additionally, AI can help make manufacturing processes more efficient and accurate. By using AI to automate tasks, engineers can free up their time to focus on more important tasks. Finally, AI can help improve communication between different parts of the engineering team. By providing accurate and up-to-date information, AI can help reduce the chances of errors and improve the overall quality of the finished product.

By: - Pushpak N. Patil  
B.E Mechanical

**“Nearly 77 percent of devices today use AI Technology in one form or another.”**



# ELECTRIC VEHICLE

Electric vehicles are becoming increasingly popular, as people look for ways to reduce their environmental impact and save money on fuel costs. EV vehicles are powered by electricity from batteries, and they produce no emissions. There are a few different types of electric vehicles. Hybrid electric vehicles (HEVs) use both gasoline and electricity to power the vehicle. Plug-in hybrid electric vehicles (PHEVs) can be plugged into an electrical outlet to recharge the batteries, and they can also run on gasoline. All-electric vehicles (EVs) only use electricity to power the vehicle. The benefits of EVs include reduced emissions, lower fuel costs, and less maintenance than gasoline-powered vehicles. EVs also have the potential to reduce our dependence on foreign oil.

There are a few things to consider before making the switch to an EV. The initial cost of an EV can be higher than a comparable gasoline-powered vehicle. However, the long-term savings on fuel and maintenance can make up for the initial investment. Another thing to consider is the availability of charging stations. Many cities are investing in public charging stations, but it's still important to make sure there are charging stations available near your home and workplace. If you're considering making the switch to an EV, there are a few things to keep in mind. But overall, EVs offer several benefits that make them a great choice for many drivers.

Electric vehicles consist of an electric motor that is powered by a battery pack. The main advantage of electric

Vehicles is that they emit zero emissions and are eco-friendly. They also do not consume any fossil fuels, hence use a sustainable form of energy for powering the car.

## The main components of Electric Vehicles are:

- Traction battery pack
- DC-DC Converter
- Electric motor
- Power inverter
- Charge Port
- On-board charger
- Controller
- Auxiliary batteries
- Thermal system (cooling)
- Transmission

By: - Suraj Ambhore  
T.E Mechanical

# Future scope of Embedded Systems

The embedded system is a microcomputer system with a dedicated function within a larger electrical or mechanical system. Its job is to monitor and control the devices it is embedded within. The system is usually designed to operate with minimal human intervention and can be very complex, involving a number of different sensors, controllers, and other input/output devices. The future of embedded systems is looking very bright. With the ever-increasing capabilities of microprocessors and the declining cost of memory, it is now possible to create very sophisticated systems that are smaller, faster, and more reliable than ever before. Additionally, the development of new technologies such as the Internet of Things (IoT) and artificial intelligence (AI) is opening up new possibilities for embedded systems.

## What is Embedded Systems?

An embedded system is a system that has software embedded in it. This software is typically designed to do a specific task or set of tasks, and is not generally intended to be changed or added to. Embedded systems are found in many different devices, including cell phones, automobiles, and medical devices. Embedded systems often have very specific requirements, and so they are often custom-designed for their intended purpose. This makes them different from general-purpose computers, which are designed to be able to run any software. Embedded systems are becoming more and more common, as advances in technology allow for more and more devices to be connected to the internet and to each other. This trend is likely to continue, as the world becomes increasingly connected.

## Future Scope

As embedded systems continue to evolve, their scope and applications will continue to expand. One area that is particularly ripe for growth is the internet of things (IoT). With embedded systems becoming more and more connected, the potential for new and innovative applications is virtually limitless.

The IoT is still in its infancy, but it is already starting to have a major impact on our lives. Embedded systems are playing a key role in making the IoT a reality. From smart homes to connected cars, embedded systems are making the world more connected and more efficient.

By: - Pushkaraj Vernekar B.E E&TC



# Information Security of Information Technology

The field of information security has grown in recent years in response to the increasing reliance on computer systems and the internet. Information security, sometimes shortened to InfoSec, refers to the practice of protecting information by mitigating information risks. It includes procedures or measures used to protect electronic data from unauthorized access.

The goal of information security is to ensure the confidentiality, integrity and availability of information. Confidentiality refers to the secrecy of information, while integrity refers to the accuracy and completeness of information. Availability refers to the ability of authorized users to access information when they need it.

Information risks can come from a variety of sources, including hackers, viruses, natural disasters and human error. Information security aims to protect against these risks through a combination of technology, processes and training.

In the wake of high-profile security breaches involving companies like Equifax and Yahoo, information security has become a hot topic in the business world. As more and more businesses store sensitive data electronically, the risk of a data breach grows.

There are a number of steps businesses and even general users can take to improve their information security. One is to encrypt data at rest, which makes it much more difficult for hackers to access. Another is to implement two-factor authentication, which requires users to confirm their identity using a second factor (usually a code sent to a phone or email) in addition to their username and password.

Organizations should assess their information risks and put in place appropriate security measures.

Businesses should also have a comprehensive security policy in place that covers all aspects of data security, from employee training to incident response. By taking these steps, businesses can help protect themselves from the costly and reputation-damaging effects of a data breach.



**By: - Aditya Koul**  
**F.E Computer**

## Future of Indian Economy

India is already the fastest-growing economy in the world, having clocked 5.5% average gross domestic product growth over the past decade. Now, three megatrends—global offshoring, digitalization and energy transition—are setting the scene for unprecedented economic growth in the country of more than 1 billion people.

“We believe India is set to surpass Japan and Germany to become the world’s third-largest economy by 2027 and will have the third-largest stock market by the end of this decade,” says Ridham Desai, Morgan Stanley’s Chief Equity Strategist for India. “Consequently, India is gaining power in the world order, and in our opinion these idiosyncratic changes imply a once-in-a-generation shift and an opportunity for investors and companies.”

Adani Group's Founder & Chairman on Saturday claimed that India will

Become the world's third-largest economy by the end of 2030. He added that the country will become 2nd largest economy by 2050.



**By: - Sachin Nandure**  
**T.E Mechanical**



## Tips to be better at Programming.

**Now that we are in the right mind-set, here are some actual tips:**

1. Remember to take regular breaks. If you code for 45 mins, a 15-minute break is alright.
2. If you have an error, read your code line by line and try to understand what each line means.
3. Computers do whatever you tell them to do, so if your computer is acting weird, then maybe it's time to check your instruction to the computer.
4. Learning modern code practices and frameworks speeds up your development. Creating a website in React is much faster than creating one with plain HTML and CSS. Frameworks are there to help, don't be afraid of them. Instead, master them and use them to your benefit.
5. Don't be stuck in tutorial hell. While watching tutorials make sure you follow along and actually code. Try creating something new with what you have just learned from the tutorial.
6. Try to read official documentation. The documentation gives you the latest knowledge, while YouTube tutorials get old quickly.

Programming is a must-have skill today for every Engineer. It doesn't matter which stream or branch you study in, or which year you are in, programming is a skill just like swimming, dancing, singing, etc. It may come naturally to some of us, and some of us might struggle with it but all of us can become better at it if we practice enough.

I consider myself an average programmer. I have more than 4 years of experience in programming. Many students seek my advice for becoming good at programming. They ask me for the "secret" to becoming better. To become good at anything, you just have to spend time with it. For E.g. If tomorrow you woke up in the morning and decided to run for a kilometre and continued to run every day for the next three months then certainly your performance in terms of speed, endurance and stamina will increase. The key thing to note here is that you spend time running and thus you become better at it. Another thing you might have noticed is consistency. Time is the biggest wealth you have in your life. Spend it on a skill and you shall master that skill. Your life is defined by the decisions you take with your time.

Consistency is another key principle to keep in mind when learning a new skill. Have you ever experienced that your batting is not as good as it was six months ago if you didn't touch the bat for six months? Coding only 1 hour every day for 6 days in a week easily beats coding 6 hours in one sitting on a weekend.

Programming is not rocket science. "I am a mechanical student, I can never code." is an excuse. It's just a skill, if you practice enough consistently then you ought to master it. You just need good resources, and a spirit to learn. Having said that, it is not a cakewalk. There will be times when you will get depressed. There are so many languages, and technologies to learn that one might easily feel overwhelmed. So remember to take a break every once in a while. Do not be too harsh on yourself. Try to make coding buddies who learn with you, having a group environment helps a lot.

Finally, I would say that you must enjoy coding, you must get excited while doing it. There will be times when you won't enjoy it. If those times occur more frequently then maybe coding isn't for you, even in that case, all your acquired knowledge is valuable. I wish you happy programming!

**By: - Mayur Sandip Mahajan**  
**B.E Computer**

***"I don't know the key to success, but the key to failure is trying to please everyone."***

***- Bill Cosby***



## AEROMOBIL

Aeromobil is a beautiful flying car. It is beautifully integrated. It transforms in seconds from an automobile to an aeroplane. It works both as a plane and as an ordinary car and is equipped with two steering wheels one for each function. It has a wingspan of more than eight meters. It weighs just 450 kilos. It can cover a distance of about 700 kilometres before it needs refuelling. Aeromobil is undergoing growth a new species of transport the world's first by business ready (to be used) flying vehicles. Aeromobil

vehicles are the highest point of development of leading - edge automobile related and aerospace design and designing and making things, advanced materials, luxury features and not simple making. Aeromobil vehicles are supercars that fly and they are light air planes. These are not covered by general rule vehicles are the outcomes of over ten years of operation of making observations nad development by a more than normal of note on engines, machines, or public works.

AM4.0 a 2 seater great comfort personal vehicle. AM nearest a 4-seater door-to-door ride hailing support. Aeromobil represents a chance to give in a nothing like it and high margin part of the increased Air readiness to move market.

Aeromobil represents an opportunity to invest in a unique and high margin segment of the Advanced Air Mobility market. 2 seater Aeromobil is \$1.6 million and 4 seater Aeromobil is \$3.6 million.

*By: - Gouri Ganesh Maslekar  
T.E Mechanical*

## Make the Smart Move Today

Investing and finance are two important aspects of personal and business success. Investing and finance involve many different strategies and techniques, from understanding the stock market to planning for retirement. Understanding the basics of investing and finance will help you make better financial decisions and prepare for your future. Investing is the act of putting money into an asset with the expectation of earning a return. Investing can be done in many different ways,

Such as stocks, bonds, mutual funds, and real estate. No matter what type of investing you choose, it is important to understand the risks and rewards associated with it. You should also have an understanding of the different types of investments and how they can be used to meet your financial goals.

Finance is the science of managing money. It involves understanding and making decisions about how to best use money to achieve a desired goal. This can involve budgeting, saving, and investing. It also involves understanding credit, loans, and other financial products. Understanding the basics of finance can help you make more informed

decisions about how to use your money.

It is important to understand the fundamentals of investing and finance in order to make sound financial decisions. Investing and finance are complex topics, and there are many different strategies and tactics too.

*By: - Manish Somvanshi  
B.E Mechanical*

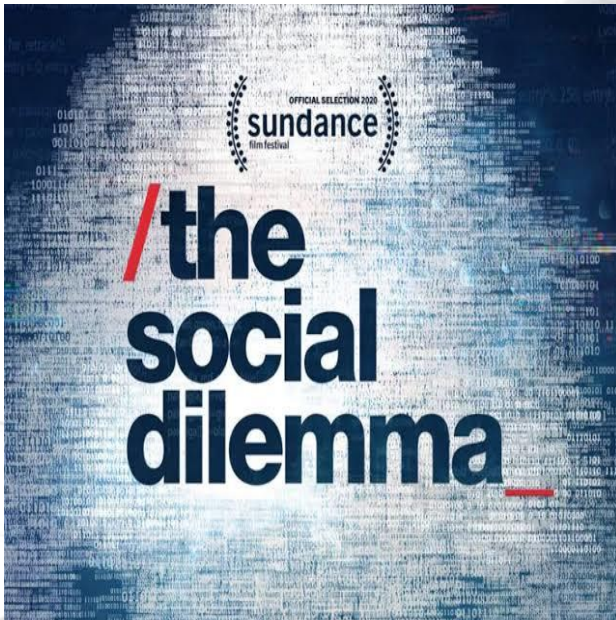
**“Financial  
freedom is  
freedom  
from fear.”**

— Robert Kiyosaki



**MIRAI**

# Non-Technical

**Column**

## The Social Dilemma

The Social Dilemma is a 2020 American docudrama film directed by Jeff Orlowski and written by Orlowski, Davis Coombe, and Vickie Curtis. The documentary examines how social media's design nurtures addiction to maximize profit and its ability to manipulate people's views, emotions, and behavior and spread conspiracy theories and disinformation. The film features interviews with many former employees, executives, and other professionals from top tech companies like Google and social media platforms such as Facebook and Twitter. The interviewees draw on their primary experiences at the companies they respectively worked in to discuss how such companies and platforms have caused negative problematic

social, political, and cultural consequences. Some of the interviewees qualify that social media platforms and big tech companies have provided some positive change for society as well. The interviewees discuss social media's role in political polarization in the United States and the influence that algorithmic advertising has had on political radicalization. The film also examines how social media platforms have impacted the spread of fake news and how governments have used social media as a tool for propaganda. These interviews are presented alongside scripted dramatizations of a teenager's social media addiction. These dramatizations draw attention to the rising concern of the radicalization of youth on the internet.

### Impact of Social Media:

Today's children and teens have been consumed by social media. Digital media is being utilized now more than ever for schoolwork and jobs. Therefore, social media has also become a part of day-to-day life. Parents are giving their elementary school aged children tablets and cell phones. Children have become easily influenced to believe certain things and take certain actions. As a result, mental health/suicide rates have been heavily impacted. Various studies have been conducted to find out whether there is a correlation between social media usage and mental health issues in children. In one study, the results showed that children who used social media while completing other tasks, were likely to have mental health problems. According to Claire Williams in February 2020, children who used social media consistently had higher anxiety and depression. Several factors that were found to possibly be related to these disorders were browsing the web and watching television, both of which are accessible all day, every day.

Children have access to almost anything when they have their own phone and tablet. They also have a lot of time to spend on these devices because they may not have other responsibilities. They can play video games, look at social media, play music, talk to friends, etc. Some of these things may be good for social interaction while as being bad at the same time. It is important for people to have relationships and establish connections, but they are most beneficial when those relationships and connections are positive.

*By: - Adarsh Gaikwad  
B.E Mechanical*



# Anime's impact on adolescents

Since Japanese anime challenged the notion that all cartoons are for children, they have grown in popularity among American teenagers. There are several anime genres, just like there are in music and film, with action-oriented Shounen series being the most well-liked. Despite being predominantly targeted at males between the ages of 12 and 20, shounen have amassed enormous worldwide fan bases.

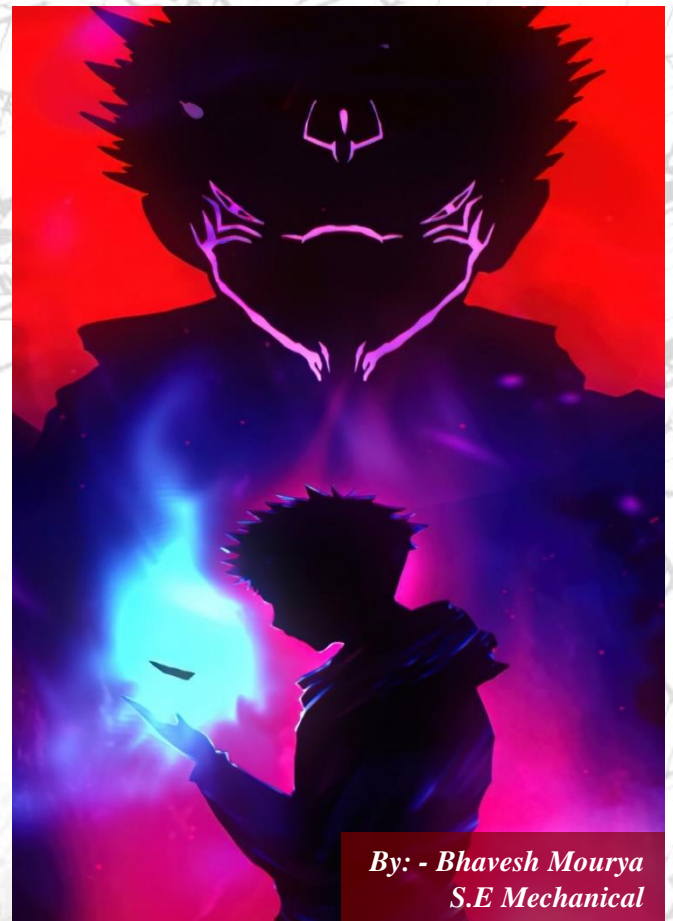
One of the most prevalent theories and fears about how anime can influence today's young is that it will have a negative impact on their conduct. Some still view anime as ridiculous Japanese cartoons, despite the fact that people are starting to accept it more. The Perceived Impact of Anime on School Children's Aggressive Behavior was the title of a study carried out by two university professors, Faradillah Iqmar Omar and Iza Sharina Sallehuddin. They studied 135 students and discovered that "they disagreed that anime may change them into someone different... This study also shown that pupils would never engage in violent behaviour toward their surroundings since they most likely feel awful while injuring other individuals. I act differently when I'm making a reference, you know?"

Although anime doesn't appear to be the root of kids' aggressive behaviour, it does have the potential to alter how they perceive their environment, just like any other kind of media. People have admitted on various social media sites that they do eventually take up some behaviours from the shows they watch. Like any other fanbase, anime is a sizable group of individuals who have connected with one another via a shared love of various episodes.

These folks may appear weird to anyone outside of this community. This is especially true for

people who seek to express themselves through anime-related apparel or items. Angel Fuentes expressed her attitude for determining whether or not to discuss her passion to people as she grew up, "If I feel like they're a nasty person, I'll try to avoid it, but if I feel like they're decent, I'll bring it up."

Anime has created its own subculture. Joining this burgeoning population allows those who would otherwise feel isolated to form ties with new peers. Though some may assume it has a negative effect on viewers, the person is not altered by the material, but rather by how the person chooses to receive the content.



By: - Bhavesh Mourya  
S.E Mechanical

***"When you give up,  
that's when the game  
ends."***

— Mitsuyoshi Anzai (Slam Dunk)



## Personal Talks, Anxiety & Depression among “Today’s Youth”

Nowadays, millions of people around the globe were facing “Anxiety & Depression”. Especially, Today’s youth is not being able to talk to anyone because they think nobody could understood what they are experiencing. They knew what they are feeling but are not able to communicate entirely what they are feeling, like a pettish feeling hidden inside their head. Whenever they are unable to share their problems they starts finding temporary solutions like the personal talks , living alone or sleeping more. Like they are scared to wake up or else they didn’t wanted to, they found comfort in sleep because they feels like waking up is tough ,it will let them to face the world and their problems . But, they are unknown about the fact that such temporary solutions can give them temporary relief only but the permanent problems like Anxiety and Depression. Majority of youth is suffering from obesity, peer problems ,long term bullying , unemployment ,money issue, negative thoughts buried inside them ,family problems and many other personal issues .The depression among youth isn’t due to the problems they are facing, it’s because they are unable to share their worries. They thought if they share their problems with somebody then they will not understand or make fun of them or else use it against them as their weakness such fear of sharing things makes them unable to communicate and let their worries buried inside them. But if such pettish feeling go on for months and affect every day then it will affect their mental health and it’s the major cause of anxiety and depression. As today’s youth is tomorrow’s future if they will depress then our entire Globe will be depress. So, it is very necessary to overcome these crisis of depression among youth. Depression also increases drug, alcohol consumption, crimes and suicides among youth which is so risky behaviour for everybody.

Depress people loss interest in everything and they thought their life is worthless. To overcome these problem instead of doing personal talk we should talk to our friends because it is so necessary share what we feels. If you are unable to talk you should write your thoughts in a dairy and instead of worrying you should find the solution. There are also other ways like appointing a therapist, reading positive and motivational books, meditation, having a proper diet and schedule, maintaining proper health and hygiene, exercise regularly. You should also plane a short trips with your peers so that you should get a relief from your daily busy routine. I thought everybody should try it at once and nobody will depress. Our youth should know overthinking and being depress isn’t the solution, facing it bravely and bringing our life to proper track is the best overcome of problem. I wish our youth should be mentally and physically fit because “youth of today are leaders of tomorrow”.

**By: - Nikita Santosh Bharate S.E Computer**

## What is Health?

The state of complete physical, mental and spiritual well-being is called health. Health consists of maintaining the body and taking preventive measures to reduce the possibility of developing various diseases. Health is the body’s natural functional and metabolic efficiency to adapt to physical and mental changes the body is exposed to.

### Importance of leading a healthy life

Life without good health is like an army without soldiers and chocolate without cocoa. Health is important to live life to the fullest. When a person leads a healthy lifestyle, the body remains healthy and the mind is active and fresh. Living a healthy life would extend longevity and also regenerate the body and mind. Having good health is of core importance to human happiness.

### How can we achieve good health?

By adapting a few healthy lifestyles changes we can significantly improve our health. Consuming healthy meals. Diet plays an important role in overall health. What we consume is directly related to health. Consuming a healthy diet will boost the immune system and improve overall health. Consuming more fruits and vegetables will improve health. Consuming fewer animal products and hydrating oneself is important. Regular exercise and keeping the body active will improve bone density and muscle strength. Doing moderate to intense physical activities regularly has a lot of benefits.

**Continued on Next Page.....**

**By: - Om Sanjay Dhangar B.E Mechanical**

**21 | Page**

# Opportunities in Freelancing!

Freelancers hail from different educational and professional backgrounds. The most beneficial thing about choosing a freelance career is that you get to determine your professional value according to your skill set and experience, your clients, and your working hours. Not just that, you also decide from where you work – while many freelancers work from home (especially now as the pandemic rages on), many others work from coffee houses, libraries, and co-working spaces. As for the pay, freelancers can make substantial money. It was found that 37% of 500 PayPal respondents said they earned more than ₹20 lakhs annually!

**The bottom line is – freelance jobs offer exceptional flexibility, independence, and income opportunities.** You can earn a good salary, provided you **have** the right skills, qualifications, and experience. The secret to increasing your professional value is always to stay updated with the latest industry trends and never give up on upskilling.

Freelancers typically earn per job by charging daily or hourly rates for their work. Although many companies don't consider freelancers their professional employers, they can be subcontracted. Skilled freelancers can easily find the most suitable freelance jobs matching their skills, educational background, and work schedule.

Currently, many freelancers are getting paid well for freelance jobs like copywriting, graphic design, website development, etc. However, you may find many freelancers working in businesses like architect design, interior design, translation, etc.

## Graphic Designing:

As a profession or passion, Graphic Design refers to the art of visual communication. This art combines the power of words, images, and carefully portrayed ideas to express specific information to a target audience. There are several specializations available in Graphic Design, including media & advertising, publishing, public relations, industrial design, etc.

Brands require appealing visuals to stand out in the digital world. Graphic design combines images and words and effectively conveys accurate data to the audience.

## Safety and Risk (What is Health? Continued.....)

Many supplements contain active ingredients that can have strong effects in the body. Always be alert to the possibility of a bad reaction, especially when taking a new product. You are most likely to have side effects from dietary supplements if you take them at high doses or instead of prescribed medicines, or if you take many different supplements. Some supplements can increase the risk of bleeding or, if taken before surgery, can change your response to anaesthesia. Supplements can also interact with some medicines in ways that might cause problems. Taking more than you need costs more and might also raise your risk of side effects. For example, too much vitamin A can cause headaches and liver damage, reduce bone strength, and cause birth defects. Excess iron causes nausea and vomiting and may damage the liver and other organs

## 5 Highest Paying Freelancing Fields in India:

- Content Writing
- Graphic Designing
- Digital Marketing
- Web Development
- App Development

## Skills Developed Graphic Designing:

- ❖ Creative flair with a passion for design.
- ❖ Organizational skills with attention to detail.
- ❖ Excellent communication and negotiation skills.
- ❖ Excellent networking and people skills.
- ❖ Proficiency in working with design tools like Adobe Creative Cloud, Adobe Photoshop, Procreate, etc.

*By: - Shivam Dinde  
B.E Mechanical*





# Is Mental Health Important?

## The following factors can contribute to mental health disorders:

- Continuous social and economic pressure
- Occupation
- A person's level of social involvement

## Some common symptoms include:

- Restlessness
- Fatigue
- Poor concentration
- Tense muscles
- Interrupted sleep

## Signs of Mental health disorders are:

- ❖ Withdraw from friends, family, and colleagues.
- ❖ Avoiding activities they would normally enjoy.
- ❖ Sleeping too much or too little.
- ❖ Eating too much or too little

## To avoid mental health disorders and to be mentally fit following activities must be done daily:

- Meditation
- Physical exercise
- Eat and drink smart
- Keep a gratitude journal
- Make noticing new things a part of your day

When talking about health everyone just relates health with physical health but in Today's world staying physically healthy is not sufficient staying mentally healthy is one of the most important factors that must come into consideration when we talk about the topic called HEALTH.

Mental health refers to cognitive, behavioural, and emotional well-being. It is all about how people think, feel, and behave. People sometimes use the term mental health to absence the term "mental health" to mean the absence of a mental disorder. Mental health can affect daily living, relationships as well as physical health. One can enjoy his/her life if he is mentally fit. Stress, depression, and anxiety all affect mental health. This article explains why mental health important how should we stay mentally is fit.

## There is always a question in most people's minds what is mental health?

This can be defined as "Mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community." The WHO states that mental health is "more than just the absence of mental disorders or disabilities" mental health is not only about managing conditions or situations but also looking after ongoing wellness and happiness. According to research (Statista) on average 13.7% of Indians suffer from variations of mental health disorders in the country. According to the National Institute of mental health & Neurosciences (NIMHANS).

There are various risk factors for mental health conditions as everyone is at some risk of developing a mental health disorder, regardless of age, sex, income, etc. Social and financial circumstances adverse childhood experiences, biological factors, and various mental conditions can all shape a person's mental health. Many people with mental health disorders have more than one condition at a time. Mental health disorders can also start from childhood if the child experiences child abuse, parental loss, parental separation, parental illness, etc. these factors can affect a growing child's mental health.

According to the Anxiety and Depression Association of America, anxiety disorders are the most common mental illness. People with these conditions have severe fear or anxiety related to certain objects or situations. Some Generalized anxiety disorder (GAD) involves excessive worry or fear that disrupts everyday living.

Mood disorders can also be referred to as mental disorders which is an affective or depression disorders. People with these conditions have mood changes, generally involving a period of high energy or joy or depression. Practicing the above activities will keep you mentally fit and being mentally fit is important because a mentally fit person always achieve success and stay happy in life.

**By: - Aniket Anil Bhosale     B.E Mechanical**



# जिवधन

नाव: जिवधन

ठिकाण: नाणेघाट

चढाई: अवघड

उंची: ३७५० फूट

जिल्हा: पुणे

प्रकार: गिरीदुर्ग

सद्य स्थिती: चांगली

जिवधन किल्ला चोहोबाजूंनी ताशीव कड्यांचा असून किल्ला चढाईच्या दृष्टीने अवघड आहे. जिवधन गिरीदुर्ग प्रकारातील किल्ला असून त्याची समुद्र सपाटी पासून ची उंची ३७५० फूट एवढी आहे. किल्लावर चढाई साठी कातळात कोरलेल्या पायऱ्या तर काही ठिकाणी खोबण्या आहेत. किल्ल्याच्या खाली पठारावर रिव्हर्स वॉटर फॉल आहे. किल्लाला लागूनच असलेला वानर लिंगी सुळका चारशे फूट उंच असून तो दुरून टोकदार सुई सारखा भासतो. तर चला मग आजच्या लेखामध्ये जिवधन किल्लाची माहिती पाहू.

## जिवधन किल्ला माहिती:

कोकण व देशावरील व्यापारी मार्गाला जोडणाऱ्या नाणेघाटात जिवधन किल्ला आहे. तो घाटाचा पहारेकरी म्हणून देखील ओळखला जातो. इ.स.पुर्व काळापासून नाणेघाटातून चालणाऱ्या व्यापारी मार्गाच्या संरक्षण व नियंत्रणाच्या दृष्टीने चावंड, हडसर, शिवनेरी, जिवधन किल्ल्यांची निर्मिती सातवाहन कालखंडामध्ये केली. सातवाहन राजांनी किल्ल्यांचे महत्त्व ओळखून सह्याद्री पर्वत रांगेत अनेक वैशिष्ट्यपूर्ण किल्ले बांधले. जिवधन किल्ला आपल्या भौगोलिक स्थान व ऐतिहासिक महत्त्व त्याला आकर्षणाचे केंद्रबिंदू बनवतात. जिवधन किल्ला इतिहासाची आवड असणारे, निसर्गाचा आनंद घेऊ इच्छणारे, ट्रेकिंग करणारे, स्थापत्य शास्त्राचा अभ्यास करणारे अशा सगळ्यांना भरभरून प्रेम देतो.

गडावरील पहाण्यासारखी ठिकाणे

पश्चिम दरवाज्याने वर गडावर पोहोचल्यावर समोरच गजलक्ष्मीचं शिल्प आहे. गावकरी याला 'कोठी' असे संबोधितात. जवळच पाण्याची टाके आहेत. दक्षिणेस जीवाईदेवीचे पडझड झालेले मंदिर आहे. तसेच गडावर अंतर्भागात एकात एक अशी पाच धान्यकोठारं आहेत. आत कमलपुष्पे कोरलेली आहेत. शेवटच्या इंग्रज-मराठे युद्धात १८१८ मध्ये या कोठारांना आग लागली होती. ती राख आजही या कोठडांमध्ये आढळते. गडाच्या एका टोकाला गेल्यावर समोरच दोन हजार फूटांचा वानर लिंगी सुळका लक्ष वेधून घेतो. गडाचा आकार आयताकृती आहे. वानरलिंगीच्या कडापासून कोकणचे निसर्गरम्य दर्शन होते. समोरच नानाचा अंगठा, हरिश्चंद्रगड, हडसर, चावंड, कुकडेश्वराचे मंदिर, धसईचे छोटेसे धरण, माळशेज घाटातील काळे तुकतुकीत रस्ते न्याहाळता येतात. अशाप्रकारे हा जिवधन किल्ला चार ते पाच तासांत पाहून होतो.

## काय काळजी घ्यावी:

जिवधन किल्ल्या पाहण्यासारखी दोन तीन तास लागतात. गडाच्या पायथ्याशी जेवणाची सोय आहे. गडावर कोठारात मुक्कामाची सोय होऊ शकते. पावसाळ्यात पायऱ्या निसरड्या होतात. जिवधन किल्ला व नाणेघाट दोन्ही एका दिवसात पाहून होतात.



By: - Pankaj Neharkar  
T.E Mechanical





**E**sports have, to put it mildly, had a significant impact on India's young during the past ten years. In India, 11% of

## India's Esports Scene!

people spend between 7 and 14 hours a week playing mobile games, while 19% spend between 1 and 7 hours. The India is now a largest market in terms of app for mobile gaming.

At the late 2000s, competitive gaming was only allowed to be played in tournaments, fests, competitions, and local events. Today, it is an Rs 250 crore sector with more than 600,000 participants and 100,000 teams. The Asian Games 2022 will mark India's second appearance in a variety of esports competitions, following its participation in the Commonwealth Esports Championships. India took part in the competition earlier in 2018 when it was hosted in Jakarta. India was one of the 18 teams that took part in the first Esports demonstration event, and Mr. Tirth Mehta deserves praise for helping India win bronze in Hearthstone.

But now that esports will be competing as a recognized medal sport, it will be vital. Since French President Emmanuel Macron has officially said that he wants esports to be a part of the 2024 Summer Olympics in Paris, it is high time that both the Olympics and the next Commonwealth Games involve competitive gaming.

Streamers have made a lot of money by monetizing their content. Additionally, the growth of esports in India would increase job prospects for people in fields like esports marketing, coaching, content creation, esports journalism, etc. Streaming is a fantastic commercial prospect. Additionally, there is a lot of room for revenue expansion. Many Indian multiplexes, such as INOX Leisure brought the action of esports to their theatres, which was another development for the Indian esports business. Celebrities like rappers, athletes, actors, and other well-known people use esports as a strategy to boost their audience engagement and their income through various sources of revenue production. Tiger Shroff is the brand ambassador for the Esports Premier League, while Yuzvendra Chahal, a cricket player, joined with Root. Many Indians are considering esports as a serious career option because of the recognition and significant financial rewards.

However, there is a lot of misinformation about how esports are classified in India. Games like Teen Patti, Rummy, Poker, and Fantasy Sports are sometimes compared to competitive esports franchises like Dota, FIFA, Counter-Strike, or Fortnite since they are regarded as luck-based and circumstantial and frequently allow players to earn real money. These games cannot be categorized as "esports," which is a form of competitive gaming in which players compete using both physical and mental skills. Esports requires dedicated practice, the capacity to withstand extreme pressure, and rapid reflexes in a virtual, electronic environment.

*By: - Bhavesh Mourya S.E Mechanical*



## Are you watching or boycotting the FIFA World Cup in Qatar?

World Cups should be joyous, unifying events. Every four years billions of people across the planet settle down to watch this sport we have made our global fascination. But Fifa has denied football fans the simple pleasure of watching the 64 games and lapping up the entertainment on offer. Everything about this World Cup is complicated and contaminated.



The tournament has been tainted from the start. The hosts are not welcoming of all fans. The stadiums have been built by workers who are treated appallingly. The organisers are paying supporters to attend games and claim they are enjoying themselves. Even former FIFA president Sepp Blatter thinks Qatar holding the tournament is "a mistake".

By: - Tushar Chilhate  
T.E Mechanical

## Cycling for Fitness...

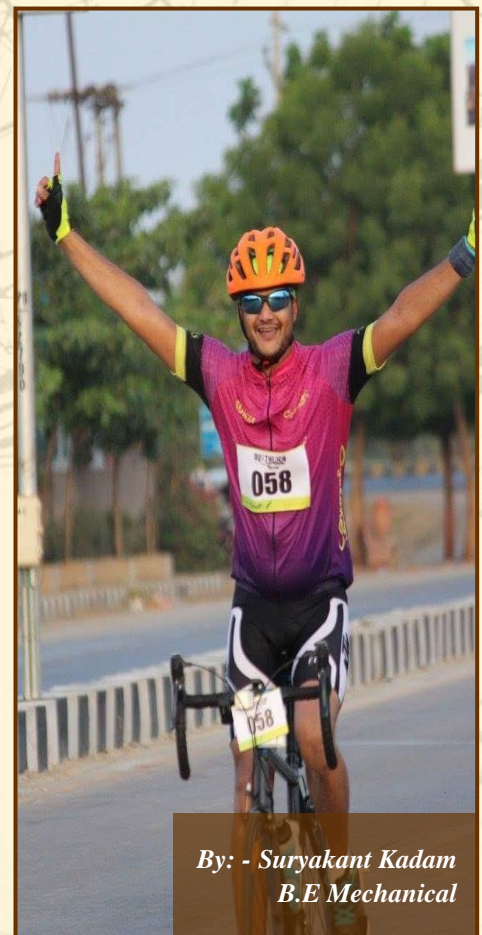
Regular cycling can help you to stay physically active fit and healthy. Regular cycling is one of the best ways to reduce the risk of health problems associated with your sedentary lifestyle. It's fun, cheap and good for the environment.

Cycling can protect you from serious diseases like stroke, heart attack, some cancers, depression, diabetes, obesity and arthritis. Cycling is a healthy, fun and low-impact form of exercise for all ages. Cycling to the shops, park, school or office is easy to fit into your daily routine.

Commuting to work or the store is one of the most time-efficient ways to incorporate regular exercise into your daily routine.

### The health benefits of regular cycling includes:

- Increased cardiovascular fitness.
- Increased muscle strength and flexibility.
- Improved joint mobility.
- Decreased stress levels.
- Improved posture and coordination.
- Strengthened bones.
- Decreased body fat levels.



By: - Suryakant Kadam  
B.E Mechanical



***On June 12th 1817 Karl Friedrich Christian Ludwig, Freiherr (= baron) Drais rode his two-wheeled invention, the first Velocipede, five miles from the centre of Mannheim and back in less than an hour. It was basically a bicycle without pedals that one pushed along the ground but it was still much faster than walking. He called it a Laufmaschine (running machine in German) but the press named it a Draisine after the inventor.***



# Football

Football is a sport that is played between two teams of eleven players each. The object of the game is to score goals by getting the ball into the other team's goal. There are several ways to

score points in football. The most common way is to kick the ball into the other team's goal. This is called a 'goal'. A team can also score points by getting the ball into the other team's end zone. This is called a 'touchdown'. The team that scores the most points in a football game is the winner.

Football is a popular sport all over the world. It is especially popular in Europe and South America. In the United States, football is also a popular sport. Football is also a very strategic sport. Players must think about what they are going to do next. They have to make split-second decisions.

Football is a team sport. This means that players have to work together. They must communicate with each other. Football is a fun sport. It is a competitive sport. It is also a sport that people can enjoy watching.

Football is the world's most popular ball game in numbers of participants and spectators. Simple in its principal rules and essential equipment, the sport can be played almost anywhere, from official football playing fields (pitches) to gymnasiums, streets, school playgrounds, parks, or beaches. Football's governing body, the Federation International de Football Association (FIFA), estimated that at the turn of the 21st century there were approximately 250 million football players and over 1.3 billion people "interested" in football; in 2010 a combined television audience of more than 26 billion watched football premier tournament, the quadrennial month-long World Cup finals.

## The 17 rules of association football are:

### Law 1: The field of play

The pitch is divided into two equal halves by a line that runs parallel to the goal line and marks the playing surface. This line serves as the center, and a circle of 9.15 meters is drawn around it.

### Law 2: The ball

This law specifies the shape, size, and material composition of the ball. The law states that the standard diameter of a size 5 ball must be around 22 cm and a circumference of 68–70 cm. The soccer ball must weigh between 410–450 kg.

### Law 3: The player's

There should be 11 eleven players in each team. Out of 11, one must be the goalie. A team must have at least seven players in order to be considered complete.

### Law 4: The Players' Equipment

Every player must wear a shirt, shorts, socks, shoes, and proper shin protection according to the rules.

### Law 5: The Referee

A referee is an official who oversees a game. They have the last say in all matters, including disputes. They have the power to penalize a player, stop a match in case of a foul and have the general responsibility to oversee the game so that it goes without a hitch.

### Law 6: The Other Match Officials

An assistant referee helps the referee in maintaining the decorum of the game. The assistant referees are placed on either side of the field and have the authority to step in the occurrence of an offence.

### Law 7: The Duration of the Match

The gameplay time in a typical football match is 90 minutes long, which is divided into two halves of 45 minutes each. Between the two halves, there is a 15-minute halftime break. Full-time marks the conclusion of the game.

### Law 8: The Start and Restart of Play

Every football game begins with a toss. The two team captains meet in the middle of the pitch with the match referee. The captain of the winning team (toss winner) chooses which goalpost to pursue in the first half, while the team that loses the toss kicks off the game.

### Law 9: The Ball in and out of Play

Ball in play and ball out of play are the two primary stages of play during a soccer game. The ball is said to be in play from the start of each playing period with a kick-off until the completion of the playing period. Only in rare cases does the ball leave the field of play or the referee stops play.

### Law 10: Determining the Outcome of a Match

The objective of Football or Soccer is to score goals by kicking or passing the ball over the goal line and into the opponent's goalposts. A goal is said to have been scored, if the ball crosses the goal line, between the goalposts, and under the crossbar, provided that no offence has been committed by the scoring team.

### Law 12: Fouls and Misconduct

A foul is committed when a player goes against the rules of the game and subsequently prevents the game from being played.

### Law 13: Free Kicks

These are given to the opposite side after "non-penal" fouls, or when play is paused to warn or dismiss an opponent without a specific foul having occurred.

### Law 14: The Penalty Kick

Penalty kicks are given to the team that was fouled after a foul that typically results in a straight free kick but happens within their opponent's penalty area.

### Law 15: The Throw-in

A throw-in is given after the ball has left the field of play. The opponents of the player who last touched the ball receive a throw-in.

### Law 16: The Goal Kick

These are given when the entire ball crosses the goal line, whether on the ground or in the air, having last touched a member of the attacking side, and the goal is not scored.

### Law 17: The Corner Kick

A corner kick is given when the entire ball crosses the goal line, whether on the ground or in the air, having last touched a defender but no goals are scored.

By: - Suraj Ambhore  
T.E Mechanical

# CHESS

Chess is a board game. It's played between two players. The current form of the game emerged in Spain and rest of Southern Europe during the second half of fifteenth century after evolving from chaturanga, a similar but much older game of Indian origin. Today chess is one of the world's most popular games, played by millions of people worldwide.

## BASICS OF CHESS

So, millions of people are playing chess worldwide, you must have thought of giving it a try or you had played it in your childhood but left playing for some reason and want to restart here are the basics of chess for you.

### 1. CHESS BOARD

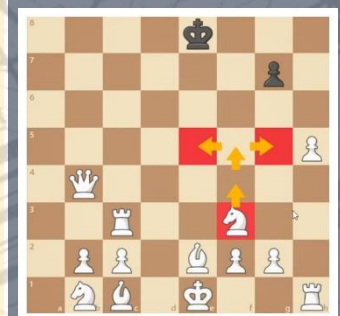
Chess board is 8 by 8 square which has 8 files which are a file, b file, c file and so on till h file and Ranks which are first rank, second rank so on till eighth rank. Pawns are placed on seventh rank. Other pieces are placed on eighth rank which is also called as Back rank they are King, Queen, Rooks, Bishops and Knights. As shown in image 1:

### 2. HOW PIECES MOVE AND CAPTURE

#starting with pawns, pawns can move two squares on their very first move. However, they can move only one square after the first move. If a pawn makes all the way till eighth rank that is end of the board it can be promoted to a Queen or a Rook or a Bishop or a knight, even if you already have them on board. When it comes to capturing pieces with pawns the capture is not forward its diagonally one square # In case of Bishops they move diagonally as many squares as you want on the same colour square as they are on. They can move forward and backward. They capture diagonally. Bishops are worth 3 points. #when it comes to Knights they move in a pretty different manner. They move in a "L" shape is two squares forward and then turn to left or right same in backward and sideways and captures in same way. One cool thing about knights is they can jump over other pieces. Knights are considered as slow pieces and they are also worth 3 points. Image 5 6 #Rooks move in a pretty straight forward way. They can go up and down as well as left or right in straight direction as many squares as they want but not diagonally and captures similarly. Rooks are worth 5 points. #Queen is the most powerful piece in the game of chess. It can move diagonally like Bishop and up down and left right like Rooks. You should use your Queen effectively but also protect it. It is worth 9 points. #King can move in any direction but only one square. King is worth the whole game. Protecting our King and checkmating the enemy King is the main motive of game. There is one more special move of King which is castling. In this move king can move two squares towards rook and Rook will hop right over next to King this move has two conditions those are King and Rook should face each other that is there shouldn't be any other pieces between King and Rook and secondly the King and Rook shouldn't have moved before even once.

### CHECKMATE:

The King is said to be in check when the square it occupies is attacked by the opponent's piece; latter it is said that to be "checking the king". The check must be warded off on the move immediately following. You can get out of check by blocking it by your own piece or by capturing the opponent's piece that is giving you check. If the check cannot be avoided then it is said to be mate. And that's how win the game of chess. You can also win if your opponent resigns a piece that intercepts a check to its king can itself give a check to the opponent's King



By: - Siddhi Koshti  
F.E E&TC



**MIRAI**

# ART

**COLUMN**

## आईबाबा

आईन बनवलं

बाबांनी घडवलं

आईने शब्दांची ओळख करून दिली

बाबांनी शब्दाचा अर्थ समजावला

आईने विचार दिले

बाबांनी स्वातंत्र्य दिले

आईने भक्ती शिकवली

बाबांनी वृत्ती शिकवली

आईने लढण्यासाठी शक्ती दिली

बाबांनी जिंकण्यासाठी निती दिली

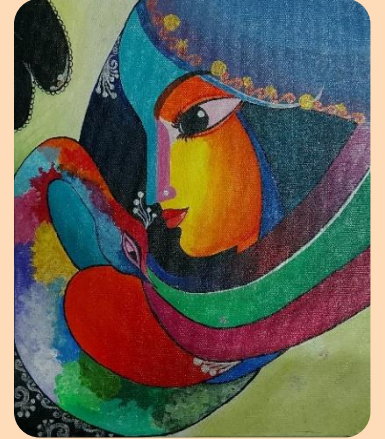
त्यांच्या परिश्रमामुळे यश माझ्या हाती आले

म्हणून तर माझी आज ओळख आहे

By- Abhishek Nagesh Suryawanshi

F.E Civil

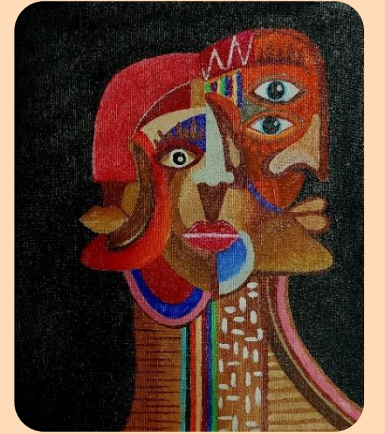
## Canvas Art



**Art is a way to connect to the nature. You are not bounded to anything, it simply just you and your art work.**

By- Janki Rajesh Palpattuwar

F.E Computer



**The Sunsets** are instants of intimate and private contemplation. It's a time when we look at each other without mirrors. A sunset tells us what we are and where we should head to. It's a spiritual guide powered by Mother Nature and one that we should never neglect. Dusk teaches us to be better people and choose happiness over wealth, careers, resentment, and lies. Sunsets are also intimately connected with love, life, God, friendship, family, the beach, and the ocean. Sunset is one of the most photographed natural events in the world. The golden hour can be simultaneously shared with the ones we love and care about and lived as a very personal and spiritual occasion. Take a look at some of the most poetic, romantic, motivational, and inspiring quotes about the sunset that have ever been written. Sunset is the opening music of the night.



By- Vaibhav Suryawanshi

B.E Mechanical



## Meet the Delhi-Based Hip-Hop Duo Reinventing Indian Rap Music

Lyrics layered thick with innuendos, voices growling with fervour, deeply contemplative aural anecdotes, and banging anthems blasted with giddy enthusiasm. Hip-hop is the same no matter where you go, and South Asia is no exception. The genre recently splashed into the Indian mainstream, partly due to the 2019 Bollywood film Gully Boy and artists like Yo Yo Honey Singh, and Punjabi MC. While the establishment basks in the spotlight, lurking in the shadows in Delhi's underground are two young men poised to snatch the crown.

Encore ABJ (aka Abhijay Negi) and Calm (aka Siddhant Sharma), are two parts of the rap crew Seedhe Maut. The duo has racked up millions of streams online and is now synonymous with an energetic new wave of Indian hip-hop, independent of the Gully rap scene pioneered in Mumbai. Encore ABJ and Calm, both in their mid-twenties, set themselves apart through their unapologetic new-kid-on-the-block style that's oozing in confidence and diction. Seedhe Maut is a Hindi phrase that literally means "straight to death," but is used in the same way as "sick" and "dope." The two met at SPIT DOPE, a night of cyphers and rap battles in Delhi. Encore ABJ, who co-founded the event, met Calm on the first session of SPIT DOPE in 2016, and the rest is history. "Calm just randomly came through to check a hip-hop jam session out. The boy had no idea what he was in for." Since their serendipitous meeting, the duo has released volumes of music together, including an EP and a full-length album called Bayaan. Their music videos rake in anywhere from 100,000 to



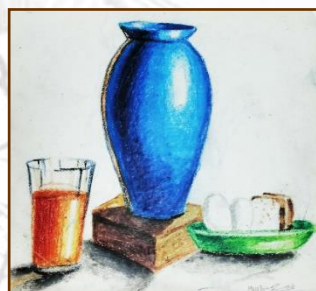
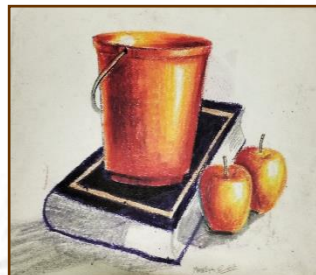
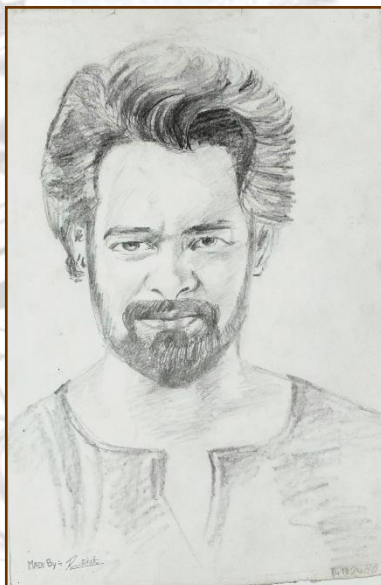
800,000 views on YouTube. To them, this is a clear indication that all the hard work and dedication they've put into their work are finally paying off.

"We have been working hard for a very long time now. It did not happen overnight," Encore ABJ said. "So the feeling that we now have is a sense of satisfaction and gratitude towards the love that we get, because it's been long due." The duo has an upcoming collaboration with British hip-hop icon Foreign Beggars and a joint album with Indian electronic producer Ritviz.

"We know what to give to our fans because we know what fans expect from us, and that's nothing but the best. The best of ourselves and definitely better than any other rapper breathing in the desi scene," Encore ABJ said. For them, the formula to their success is a simple one: maximum effort equates to maximum reward. "Just keep making dope music, make enough noise, kill each and every show, and just keep repeating it until you are at the top and everyone recognises you."

By- Deep Telang  
B.E Mechanical

## Paintings



By- Rohit Labade  
F.E Computer



## THE BLIND MAN WITH TWO GIFTS

Let us have a look on a beautiful story, one's upon a time, six blind men came across an elephant for the first time in their life. After touching elephant, each one of them was very enthusiastic to describe what elephant was like. One touched the side of the elephant & exclaimed, "it's is like a wall". The secondly man touched the tusk & said, "Oh! It is so very round, smooth and sharp, the elephant is like a spear!" The third man touched the trunk & said, "Don't you understand that the elephant is like a snake?" "The fourth man grasped one of his legs of the elephant and fell elephant was like a tree the fifth man touched one of the ears of the elephant and said that it was like a fan so as the sixth man caught hard of the swinging tails of the elephant and said, "why don't you understand elephant is like a rope!" In this way they went on arguing until they resorted to help offered learned man. The learned man told them the exact description of elephant and the all the six blind man become completely satisfied just like endowed of the six blind man are vendor to understand life is very different each one has its different point of view but is it correct? So, we need wise perception to clarify our droughts are so many but the answers of all different doubt misses, fear is courage Both you & me are built by nature with a very special gift of love & courage. These two precious gifts of nature are the uttermost powerful gift one can have! Famous Brazilian educator Paulo ferire said, "Love is an act of courage " if you carry love within you, you are then you are lighting up courage in yourself, life is all about spreading love and getting more and more courage. I know now you are exclaiming that; "YA TO SAB KAHA NA KI BAT HA!" So, I want to flash some light on a real incident which will made you believe that love has its own love with courage, One of my aunty named Surekha I refers her as my maa (aai) she is from Bengaluru, I bow down to her courage, she was a pure hearted women with great love in her heart for feeding others, she was a housewife having her own household things but the love for feeding others takes her to KIDWAI CANCER HOSPITAL BENGALURU; she started feeding cancer patients for 72 week's yes 72 week's without missing a single day she went on ....

She goes daily and feed the patient, some says her maa, some want to hug her, some are getting feed by her & you all know that how cancer patients are in horrible painful state, holding her tears in her eyes feeding patients with smile; even patient is shocked when their own family members don't have that courage to come but she went and feed them. She can able to do this only and only because of her heart full of love which make her more courageous day by day.

Not only aunty Surekha can do this so as we can also, but what take to be such courageous, the person capable having full of love can have this courage within us! If the love is stem then the courage is leaf of the tree so the importance of both is equal! But we as the smartest creature don't understand how precious and valuable gift we

## शिक्षक

विद्यार्थ्यांच्या यशाचा उदय करणारे म्हणजे  
शिक्षक,

आपल्या जीवनातील स्वप्नील पूर्ण करणारे  
मार्ग म्हणजे शिक्षक,

देवाने विद्यार्थ्यांसाठी पाठवलेला देवदत्त  
म्हणजे शिक्षक,

ध्येय प्राप्त करण्यासाठी परिस्थितीशी  
संग्राम करायला लावणारे म्हणजे शिक्षक,

शिक्षणातील सामर्थ्याचे प्रतीक नीरज  
म्हणजे शिक्षक,

विद्यार्थ्यांना अजिंक्य बनवण्याचे ध्येय  
ठेवणारे म्हणजे शिक्षक,

शिक्षणाचे श्रीकांत म्हणजे शिक्षक,

ज्ञानाचा अथांग सागर आहे शिक्षक,

प्रशांत महासागर प्रमाणेच विद्यार्थ्यांच्या  
आयुष्यातील महत्वाचा भाग म्हणजे

शिक्षक,

विद्याची देवी स्वाती तर आहेच पण त्या  
विद्येचा सार म्हणजे शिक्षक.

By- Kalyani Nitin Nerkar  
T.E Civil

have from our nature, so let get come over  
from our blindness towards mindfulness.

By- Sujal Gajbhiye  
F.E Mechanical

# Mathematics

विश्वातील सुंदर निर्मिती: गणित

**"Mathematics is the language with which God had written the universe."**

गणित म्हणजे अशी एक भाषा आहे जी देवाने हे विश्व निर्माण करण्यासाठी वापरली आहे .गणित म्हणजे मनुष्याच्या विचार प्रवाहाला सुसंगती देणारे एक साधन आहे.या विश्वाच्या निर्मितीच्या मुळाशी खोलवर जाणार एक अस्तित्व आहे .मी तर म्हणणे हे विश्व म्हणजेच गणित आहे.पाहायला गेल तर कुठे नाहीये गणित? तो प्रत्येक विषयाचा पायाच आहे. मग ते अर्थशास्त्र असो ,समाजशास्त्र असो, नाहीतर तंत्रज्ञान ,विज्ञान ,मानसशास्त्र, तत्त्वज्ञान, संगीत ,साहित्य प्रत्येक क्षेत्राचं मूलतत्त्व हे गणितच आहे. गणिताचे मूळ ध्येय म्हणजेच तर्कशुद्ध असणं ,सुसंगत राहणं वास्तववादी असावं असं नव्हे पण तो एक विचार प्रवाह आहे.

मग या विचार प्रवाहाला मानवी वृत्तींची साथ भेटली की त्यातून अंकगणित, भूमिती, कॅल्क्युलस, लॉगॅरिदम ,इन्फिनिटी ,लॉजिक, स्टॅटिस्टिक्स यांसारख्या अनेक संकल्पना निर्माण होतात,आणि मग या गणिती विश्वाचं सौंदर्य एकदम खुलून जातं. गणित म्हणजे ट्रायल अँड एरर किंवा एक्सपिरिमेंटल असतं ते प्रोबॅबिलिटी शिकताना समजतं, म्हणजे तिथं नेहमीच वास्तवता असते असं नव्हे ते काल्पनिक देखील असतं. म्हणूनच तर चार्ल्स डार्विन गणित तज्ञाची व्याख्या करताना म्हणतो "अंधाऱ्या खोलीत अस्तित्व नसणाऱ्या काळा मांजराला शोधत बसणारा गणितज्ञ असतो".खरा गणित तज्ञ गणित हे फायदेशीर असतं म्हणून शिकत नसतो. त्याला त्यातून आनंद भेटतो ते त्याचं सौंदर्य खुलवतो म्हणून शिकत असतो .तो त्या आत्मीयतेने ते जाणून घेतो म्हणूनच तर तो गणिताचं भव्य दिव्य विश्व निर्माण करत असतो. आणि म्हणून च प्लेटो गणिताला माणसाने निर्माण केलेली आद्य आणि सर्वोच्च विद्या म्हणतो.

या भव्य दिव्य विश्वाला निर्माण करणारे गणिती किमयागार मला खूपच अलौकिक वाटतात. त्यांची अलौकिकता त्यांच्या संशोधनात झळकते. आर्केमिडीज,अॅरिस्टॉटल, रीमान ,कॅटर ,पायथागोरस, युक्लीड,न्यूमन यांसारखे कित्येक गणितज्ञ या गणिती विश्वाचे निर्माते आहेत. त्यांच्यामुळेच गणिताचं स्वतःचं एक वेगळं अस्तित्व आहे. त्यांची गणिताबद्दलची आत्महत्या एवढी आहे की त्यातूनच युक्लीडची जॉमेट्री, न्यूटनचे कॅल्क्युलस, कॅन्टरची सेट थिअरी ,बर्नोली इक्वेशन, देकार्तची बीजभूमिती, पास्कल्स कोनिक्स, यांसारख्या संकल्पनांची निर्मिती झाली. इन्फिनिटी ,अंकगणित ,शून्याचा शोध या संकल्पनांचा इतिहास तर खूप रमणीय आहे. या विश्वात शून्यआणि इन्फिनिटी माहीत असणारेदोनच भारतीय गणिती किमयागार आहे ते म्हणजे रामानुजन आणि आर्यभट्ट.

**"In whole world only two peoples are there who knew zero and infinity and those peoples are Indian that is mathematical success of India."**

आणि या इन्फिनिटी वर भाष्य करताना आईन्स्टाईन म्हणतो या जगात दोनच गोष्टी अनंत आहेत एक म्हणजे हे विश्व आणि दुसरं म्हणजे माणसाचा मूर्खपणा पण कधी कधी हाच मूर्खपणा खूप काहीतरी नवं सुद्धा देऊन जातो आणि म्हणूनच म्हणता येईल

**"The pure mathematics is, in its way the poetry of logical ideas "**

याच लॉजिकल आयडियाज् या विश्वाला सौंदर्यपूर्ण बनवतात.

मग यात आपल्या भारत कुठेही मागे नसणारच रामानुजन, ब्रह्मगुप्त, आर्यभट्ट ,वराह मिहीर, भास्कराचार्य त्यांनी मांडलेल्या थिअरीज् काही कमी नव्हत्या. असं म्हणतात यशस्वी गणिताची सुरुवात शून्यापासूनच होते मग याच शून्याचा शोध आपल्या भारतात ब्रह्मगुप्ताने लावला ना! असो पण हे सगळेच किमयागार या गणिती विश्वाला सौंदर्यपूर्ण बनवतात. त्या ताजमहालाला सुद्धा या सौंदर्याची सर नसावी. इतक्या सुंदर संकल्पना या किमयागारांनी मांडले आहेत.

खरंतर गणित हा विषय नक्कीच सोपा नसावा.पण आहे मात्र रंजक एक खरं सांगायचं झालं तर गणितात उत्तम मार्क्स मिळवणं किंवा आपले कॅल्क्युलेशनस खूप फास्ट असले की, आपण लगेच गणिताचे बादशाह होत नाही .गणित समजून घ्यायला हवं त्याबद्दल तेवढी आत्मीयता असायला हवी .माझ्या मते या जगात जगण्यासाठी दोनच गोष्टी महत्वाच्या आहेत एक म्हणजे ऑक्सिजन आणि दुसरं म्हणजे गणित.

By- Nandini Prakash Mahajan

F.E Computer



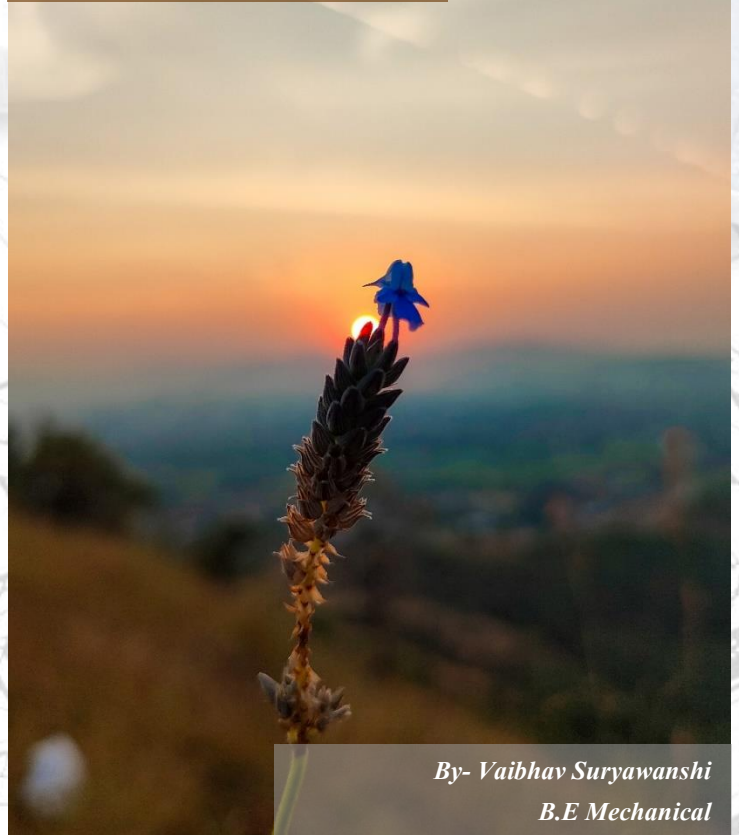
## AMITABH BACHCHAN



A great legend of Indian Cinema. Also referred as "Sadi ka Mahanayak".

By- Shubha Rawat F.E Computer

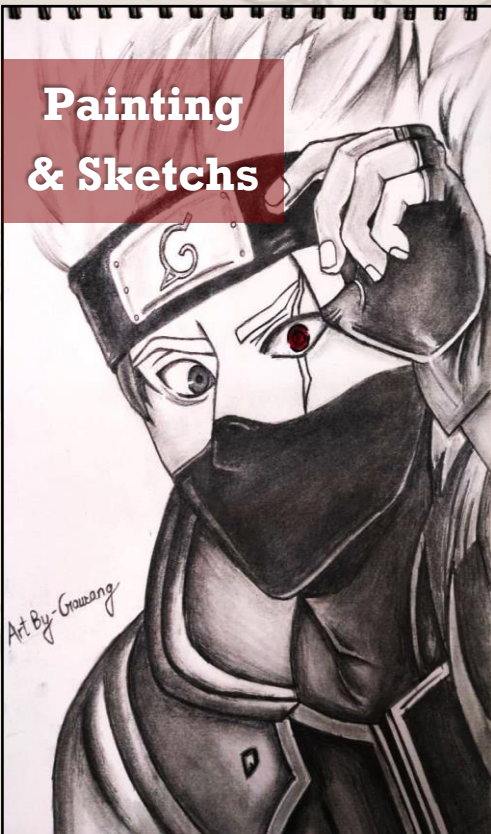
## SUNSET



By- Vaibhav Suryawanshi

B.E Mechanical

## Painting & Sketchs



By- Gaurang Jaydhaye

F.E.E&TC



# FACTS

## Technical/Non-Technical

COLUMN

# Tata Avinya

Tata Motors Limited is an Indian multinational automotive manufacturing company, headquartered in Mumbai, India, which is part of the Tata Group, which produces passenger cars, trucks, vans, coaches, buses. It is currently the 2nd largest car manufacturer in India in terms of sales after Maruti Suzuki.

The company is going to launch an electric SUV named as Tata Avinya. Tata Avinya is a five-seater, concept electric SUV unveiled by Indian automaker Tata Electric Passenger Mobility Limited (TPEM) on April 29, 2022 in Mumbai. The concept is the first model to be based on the company's "Gen 3 architecture". The concept is the first one of the new breed of electric vehicles, which is based on a new design language set to be introduced in the market by 2025.

The word Avinya, derived from the Sanskrit language, means 'innovation'. Avinya, which also has 'in' in its letters, represents its Indian roots. The concept, originally inspired by a catamaran, is the company's vision for future electric mobility. It is based on a human-centric design and the company claims that the concept has a versatility of a SUV and the comfort of an MPV. The concept is the first model to be based on the "Gen 3 architecture", which is the design language of the company that is truly focused on electric vehicles. The concept also tries to incorporate sustainable materials in its interiors.



This design language is supposed to be a flexible language for offering smart, spacious, and sustainable vehicles for the future. One of the main features of this design language is increased range. The vehicles based on this language is set to offer more range than the current electric vehicles of the company. The overall philosophy of enhanced range would be 'Minimize-Maximize-Optimize'. The company's "Gen 3 architecture" is expected to support connectivity features, advanced driver-assistance system (ADAS) and enhanced performance and efficiency than the current models. The upcoming models on this platform is also expected to have a better water and dust protection engineered to global standards, than the current models. Tata Avinya concept is said to support ultra-fast charging, giving a minimum claimed range of 500 kilometres under 30 minutes.

By- Darshkumar Rajeshbhai Kalariya  
S.E E&TC

## "परिपक्वता व्यक्तिमत्वाचे वर्णन करते."

परिपक्वतेने माणसाचे व्यक्तिमत्त्व घडते असा माझा दृढ विश्वास आहे आणि या लेखातून ते पटविण्याचा प्रयत्न केला आहे. परिपक्वतेचे दोन प्रकार आहेत एक शारीरिक परिपक्वता आणि मानसिक परिपक्वता. शारीरिक परिपक्वता हि वयानुसार आणि मानसिक परिपक्वता हि आपल्याला स्वतः निर्माण करावी लागते. मानसिक परिपक्वतेने जग जिंकता येते का ? हा प्रश्न तुम्हाला नक्की पडला असेल. तर, हो कारण परिपक्वतेने विचार कळून येत असतात . आपण घेतलेले निर्णय समाजाला पटत असतात आणि त्याचप्रकारे आपल्या धोरणांना सुध्दा प्रगती देण्याचे काम करत असते. **परिपक्वता म्हणजे काय ?** प्रेम, भावना, विश्वास, आपले बोलणे वागणे , वाद न करता एखाद्या व्यक्तीला विचार पटवून देणे यालाच परिपक्वता असे म्हणतात. उदाहरणार्थ जेव्हा आपण एखाद्या मुलाखतीत जातो तेव्हा आपली प्रामाणिकता , हावभाव, प्रतिसाद आणि हालचाली या गोष्टींवर भर दिला जातो. म्हणून आजच्या धावत्या काळात मानसिक परिपक्वतेची गरज आहे.

By- Mayur Kishor Wankhede  
T.E Mechanical

34 | Page

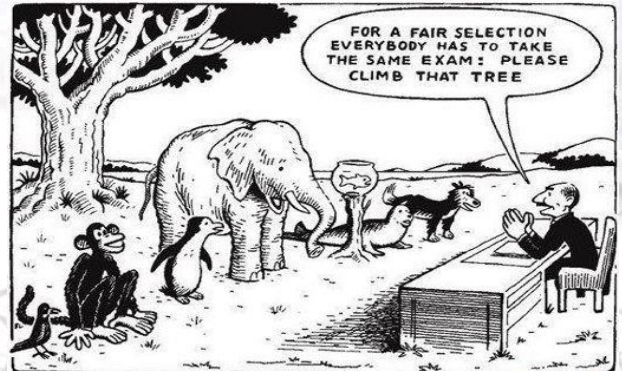


# SCHOOLS KILL CREATIVITY.

The late Sir Kenneth Robinson's 2006 TED Talk "Do school kills creativity?" is the most popular TED Talk ever. His message is important, and one that should be revisited regularly. Thinking about next generation inspired me to rematch Sir Robinson's talk.

It has taken me a while to understand that creativity and innovation are vital to everyone's future. As Robinson says, "Curiosity is the engine of achievement." Earl Nightingale said, "Everything begins with an idea." Same theme. Kill creativity and innovation and we stop forward progress and reduce survival.

Let's be clear that, Creativity is not limited to the arts and sports, it simply means to create something new. Creativity is the engine of progress in all fields. Such as iPhone and the computer, Disneyland, Ford Motor and McDonalds — they all started with an idea. And we need our schools to be filled with ideas and original thinking. Among the top 10 quotes Lattier chose from Robinson's TED talk, here are some I found.



**My contention is, all kids have tremendous talents. And we treat them, pretty ruthlessly."**



If we think of it, children starting school from running year [2022] will be retiring in [2081]. Nobody has a clue, despite all the expertise that's been on parade for the past four days, what the world will look like in five years' time. And yet we're meant to be educating them for it. So the unpredictability, I think, is extraordinary." we need to figure out what their world will be like and what they will need to know and be able to do. Robinson is right that our education system was designed for the industrial age, and now we need to create a new education system.

**My contention is that creativity now is as important in education as literacy, and we should treat it with the same status."**

**"By the time they get to be adults, most kids have lost that capacity. They have become frightened of being wrong. And we run our companies like this. We stigmatize mistakes. And we're now running national education systems where mistakes are the worst thing you can make. And the result is that we are educating people out of their creative capacities."**

**We don't grow into creativity, we grow out of it. Or rather, we get educated out of it."**

We all get it. The question is, how do we get there from here? We begin by looking at all the ways we kill creativity in our schools, both in our teachers and in our students. Then we can stop doing those things. It isn't that hard. We can welcome the innovative essay that might represent a different way of thinking or looking at something. We can admire students' attempts at new ways of doing things.

Here are solutions all around us. There are schools that reject any attempt to cookie-cut and mold our children to conform, including inquiry-based schools where students work together to problem-solve, and more. There are project-based schools and entrepreneurship programs for students. There are schools of art, schools with maker spaces and schools that encourage creativity in all subjects. There are also many educational groups sharing student-cantered learning models. We can encourage playfulness in school and at home, and create more learning activities in which the outcome is unknown.

Humans are inherently creative and driven to make things better, and schools might do well to just get out of the way when students' creative juices are flowing. Schools where creativity flourishes are better places for students and, in turn, help them make a better world for everyone.

By- Shrikant Dhok  
S.E E&TC

***"Creativity doesn't wait for that perfect moment. It fashions its own perfect moments out of ordinary ones."***

—Bruce Garrabrandt



## आर्ट ऑफ डाउट

भारताने जगाला जेवढे विचारक दिले तेवढे विचारक मला तरी वाटत नाही की दुसऱ्या कोणत्या देशाने जगाला दिले असतील. भारत देशातील विचारकांची यादी करायला बसले तर खूप मोठी यादी तयार होईल. आदिगुरु शंकराचार्य, पतंजली यांच्यापासून ते रमण, अरविंद आणि विवेकानंदापर्यंत. भारताने जगाला शून्य दिले. उपनिषदे दिली. वेद दिले. रामायण दिले. महाभारत दिले. योग दिला. प्राणायाम दिले. ध्यान दिले. उपासना पद्धती दिल्या. एक महान संस्कृती दिली. मान्य आहे की भारताने जगाला खूप महान गोष्टी दिल्या. पण एवढ्या मोठ्या देशाने जेवढ्या मोठ्या प्रमाणात वैज्ञानिक जगाला द्यायला पाहिजे होते तेवढे भारत देश देऊ शकला नाही. आपण न्यूटनचे नियम शिकलो. ज्यूलचे स्टेटमेंट शिकलो. आर्किमिडीजचे प्रिंसिपल शिकलो. पायथागोरसचा थोरम शिकलो. फॅरेडेचा लॉ शिकलो. आईनस्टाईनचे इक्वेशन शिकलो. ऑटो सायकल, डिझेल सायकल शिकलो. आपल्या शिकण्यात भारतीय वैज्ञानिकाचा असा कोणता नियम आला नाही. लॉ आला नाही. इक्वेशन आले नाही. युनिट आले नाही. यावरून हेच समजते की आपण मोठ्या प्रमाणात वैज्ञानिक बनवू शकलो नाही. याच्यामागच्या कारणांचा मागोवा घेण्याचा प्रयत्न मी या लेखात केला आहे. मी मांडलेले मत बरोबरच आहे असा माझा कोणताही दावा नाही.

आपल्याला प्राचीन काळापासून एकच गोष्ट शिकवण्यात आली आहे ती म्हणजे 'विश्वास'. आपल्या देशाने प्राचीन काळापासून एकच केले, जे परंपरागत चालत आले आहे त्यावर जसाच्यातसा विश्वास ठेवणे. आपल्याला काय शिकवले गेले? 'हे असे आहे, हे पुर्वापार चालत आले आहे आणि हेच तुला पुढे चालवायचे आहे.' पिढ्यान्पिढ्या तेच करण्यात आले. आपण कोणत्याही गोष्टीला प्रश्न विचारला नाही. आपल्याला कोणत्याही गोष्टीवर शंका घ्यायला कोणी शिकवलेच नाही. अहो साधं उदाहरण घ्या एखाद्या लहान मुलाचं. लहान मुले या जगात येतात तेव्हा त्यांना सगळं नवीनच दिसत असतं. लहान मुलांना प्रत्येक गोष्टीचं एक कुतूहल वाटत असतं. प्रत्येक गोष्टीविषयी जाणून घेण्याचा ते प्रयत्न करू लागते. मग ते त्याच्या मनातले प्रश्न आपल्या आईला, वडिलांना विचारायला सुरुवात करतं. पण आपण काय करतो? आपण मुलांना दोन लावतो आणि गप्प करतो. आपण मुलांचे प्रश्न दाबून टाकतो. आपल्या पालकांना आपल्या मुलांच्या सर्व प्रश्नांची योग्य उत्तरे देण्यासाठी वेळचं नसतं. आपण मुलांचे प्रश्न टाळण्याचा प्रयत्न करतो. हळूहळू मुले पण प्रश्न विचारायचं सोडून देतात. हिच आपली सगळ्यात मोठी चूक. आपण आपल्या मुलांना शंका घ्यायला शिकवतच नाही. आपण म्हणतो हे असंच आहे, त्याच्यावर तू विश्वास ठेव. तू तुझं डोकं लावू नको. आपल्या परंपरांची तरी दुसरं काय आहे?

आपल्याला आपल्या मागच्या पिढ्या हेच शिकवतात. या परंपरा अश्याच चालत आल्या आहेत, त्यावर विश्वास ठेव, तू तुझं जास्त डोकं चालवू नको. बघा ना बऱ्याच चालीरिती का चालू आहेत हे कोणालाच माहीत नसते. फक्त चालत आलंय म्हणून चालू ठेवायचं. जोपर्यंत जुन्यावर शंका घ्यायला आपण नव्या पिढीला शिकवत नाही तोपर्यंत विज्ञान आणि तंत्रज्ञानात आपण ठोस प्रगती करू शकत नाही. मुले घरी त्रास देतात म्हणून त्यांना शाळेत पाठवले जाते. तिथं तरी दुसरं काय चालणार. तिथं पण मुलांना विश्वास ठेवायलाच शिकवले जाते. हे पुस्तकात असे लिहले आहे. हे असेच असते, हे आपले शिक्षक मुलांना शिकवतात. गणिताची सूत्रे सांगितली जातात. हे सूत्र असे आहे. त्यात व्हॅल्यू टाका आणि उत्तर काढा. सूत्रे पाठ करा. गणिते सोडवा. मार्क मिळवा आणि सर्टिफिकेट ठेवा फाईल ला लावून म्हणजे नोकरी मिळायला सोपं जातंय. शाळेत मुलांना शंका घ्यायला शिकवलेच जात नाही. म्हणून आपण वैज्ञानिक घडवू शकत नाही. शिक्षकाने इच्छा ठेवली पाहिजे की माझ्या विद्यार्थ्यांनी माझ्यावर शंका घेतली पाहिजे. जोपर्यंत शिक्षक विद्यार्थ्यांना "आर्ट ऑफ डाउट" शिकवत नाहीत तोपर्यंत आपण विज्ञान आणि तंत्रज्ञान या क्षेत्रात ठोस प्रगती करू शकत नाही. विज्ञान विकसित होते डाउट वर. एखाद्या गोष्टीविषयी जितक्या जास्त शंका विचारल्या जातील तितके विज्ञान क्षेत्रात जास्त पुढे जाता येईल.

मी माझ्या एका लेखक ला एक एक्सपरिमेंट केला. मी माझ्या स्टुडंटस ना सूर्य हा शब्द दिला आणि आपआपली मते मांडायला सांगितली. खूप मते मिळाली. सर्वांनी सूर्याचे वेगवेगळे वर्णन केले. एका स्टुडंट ने सांगितले की सूर्याच्या किरणात सात रंग असतात. मी ते वाक्य पकडले. आणि त्याला विचारले की कोण म्हणतं सात रंग असतात. तो म्हणाला आम्हाला शिकवलंय. सातच असतात. खरंतर या गोष्टीवर आता शंका घ्यायला पाहिजे. ज्याने सात रंग बघितले तेव्हाची टेक्नॉलॉजी वेगळी होती. आता एखादा त्याच्या पाठीमागे हात धुवून लागला तर आठवा रंग सुद्धा दिसू शकतो. पण आपण मुलांना काय शिकवलं? सातच असतात. तू ही पुढे डोकं लावू नको आणि माझ्याही डोक्याला ताप नको. हायड्रोजन आणि ऑक्सिजन मिळून पाणी बनते हे आपल्यासाठी ब्रह्मवाक्य आहे. पण हे शोधून आता खूप वर्षे झाली. आताची ऍडव्हान्सड टेक्नॉलॉजी कदाचित पाण्यात अजूनही एखादा इलेमेंट आहे हे सांगू शकेल पण आपण खूप गोष्टींना ब्रह्मवाक्य मानून टाकले आहे. मित्रहो जगातली प्रत्येक गोष्ट आज संशोधन मागत आहे. फक्त विज्ञानातलीच नव्हे तर अध्यात्मातली सुद्धा. आपण भूतकाळावर विश्वास ठेवून चाललोय. पण भूतकाळ आता घडून गेलाय.



त्यावेळच्या परिस्थिती वेगळ्या, आज वेगळ्या आहेत, उद्याच्या अजून वेगळ्या असतील. भूतकाळातले नियम, विचार, परंपरा, सत्य हे त्या काळाला धरून होते. भूतकाळातले सत्य वर्तमानकाळाला कसे लागू होऊ शकेल. किंवा माझे सत्य तुम्हाला कसे लागू होईल. माझे सत्य माझे आहे. तुमचे सत्य तुमचे आहे. तसेच भूतकाळाचे सत्य भूतकाळाचे आहे. ते वर्तमानकाळाला कसे लागू होऊ शकते. म्हणून भूतकाळातल्या प्रत्येक गोष्टीवर संशोधन व्हायला पाहिजे. आणि संशोधन व्हायचे असेल तर आर्ट ऑफ डाउट जमायला पाहिजे.

नदी कुठे तरी उगम पावते आणि धावायला सुरुवात करते. ती कुठे चालली आहे हे तिला माहीत नसते. वाटेत डोंगर, पर्वत, दगड, गावे तिला आडवी येतात. पण म्हणून नदी पुढे जायचे सोडत नाही. ती अडथळे बघून परत उगमाकडे ओळत नाही. किंवा उगमस्थान तिला कुठे चाललीस म्हणून माघारी बोलवत नाही. उगमस्थान नदीला तिचा प्रवास करण्याचे पूर्ण स्वातंत्र्य देते. नदीला पुढे जायचंय एवढंच माहीत असतं. प्रवास करत पुढे पुढे गेल्यावर ती अथांग समुद्राला जाऊन मिळते आणि शांत होते. या सृष्टीमधली कोणतीही गोष्ट मागे येत नाही. सर्व पुढे पुढे पुढे चालले आहे. मग आपणच का आपली तोंडे मागे केली आहेत. आपणच का भूतकाळाचे भूत डोक्यावर घेऊन बसलोय. उलट भूतकाळाच्या डोक्यावर बसून आपण भविष्यकाळात डोकावले पाहिजे. तर कुठे आपण पुढे विकास बघू शकू. मागे बघून विकास कसा दिसेल? मागे बघून युद्धे दिसतील, वेगवेगळे वाद दिसतील. बुद्धवाद, मार्क्सवाद, गांधीवाद, अस्तिकवाद, नास्तिकवाद. मागे बघितले तर हेच दिसेल. मागे बघितले तर महापुरुष गेल्यावर त्यांच्या नावावर तयार झालेले संप्रदाय दिसतील. पण विकास मात्र पुढे बघितले तरच दिसेल.

पण आपण नव्या पिढीला पुढे बघायला शिकवतच नाही. आपण सतत हेच सांगत असतो, मागे बघा हे असे म्हणाले होते, यांनी हे केले, आम्ही हे केले. अरे हो. आता मागची भुते दाखवून काय विकास होणार आहे? त्यापेक्षा अनुभवसिद्ध जुन्या पिढीने नव्या पिढीला पुढे पाहण्याची दृष्टी दिली पाहिजे. सायंटिफिक आऊटलूक दिला पाहिजे. पण असे होत नाही. कारण जुन्या पिढीला नवीन पिढी आपल्या मुठीत दाबून ठेवायची असते. उद्या नवी पिढी झपाट्याने पुढे निघून गेली तर आपल्याला विचारणार कोण? आपले महत्त्व कमी होईल. मग नवीन पिढी बंधनात ठेवायची परंपरांच्या नावाखाली. जोपर्यंत नवीन पिढीला पुढे पाहण्याचे स्वातंत्र्य आपण देत नाही तोपर्यंत विकास होऊ शकत नाही.

आपण जनरेशन गॅप म्हणत असतो. याचे कारण आहे आपण मागे तोंड केलंय आणि नव्या पिढीने पुढे. मग गॅप काय दरी म्हणले तरी वावगे ठरणार नाही. म्हणून शिक्षकाने विद्यार्थ्याला अनुभवसिद्ध व्यक्ती

म्हणून खांद्यावर घेतले पाहिजे आणि भविष्यात डोकावण्याची मुभा दिली पाहिजे. तर नवीन पिढी जुन्या पिढीचा आदर करेल. आपली भुते त्यांच्या डोक्यावर बसवून आपला आदर कसा होईल? हे झालं विज्ञानाचं. अध्यात्मात तरी आपण वेगळं काय करतोय. वेद असे सांगतात. उपनिषदात असे आहे आणि संतांनी आपल्याला हे शिकवले. पण ते आपण करून किती बघितले. अहो जगतगुरु तुकोबांनी उच्च कोटीचा परमार्थ केला. आपण त्यांचे 'ठेविले अनंते तैसेचि राहावे' हे चुकीच्या अर्थाने डोक्यात घेऊन बसलो. तुकोबा ठेवलंय तसेच राहिले असते तर त्यांना ईश्वरप्राप्ती झाली नसती आणि आज त्यांचे नाव कोणालाच माहीत नसते. तुकोबांनी प्रयत्न शिकवले आणि प्रयत्न करून मिळतंय तेवढ्यात समाधानी रहायला सांगितले. पण आपण तैसेचि निवांत पडून राहा एवढेच शिकलो.

अध्यात्मात आपण पांडित्य मिळवणे आणि शब्दसाठा वाढवून शब्दफेक करत बसण्याशिवाय काहीच केले नाही. संतांनी आपापले ईश्वरपर्यंत पोहोचण्याचे मार्ग स्वतः शोधले आणि मोक्ष मिळवला. आपण कधी आपला मार्ग शोधला? आपण कधी संतांच्या खांद्यावर बसून आपला मोक्षाचा मार्ग बघितला.

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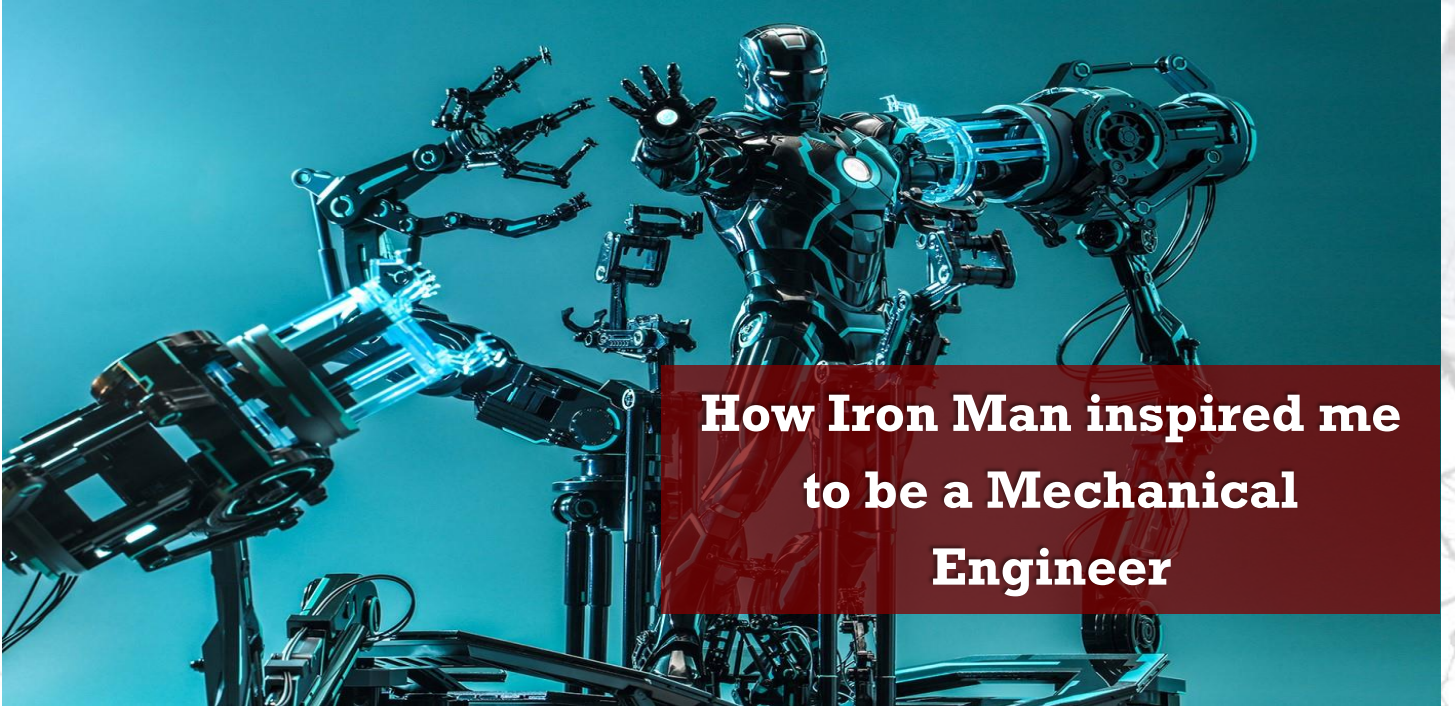
## History of CNC Machining



CNC machining uses a machining technique that was developed in the 18th Century. In fact, the first 'turning the machine with a metal frame' was invented in 1751, the first of a long series of machines aiming to create more precise operations mechanically than are possible by handcrafted techniques. This marked the beginning of industrialization.

However, it was not until the Cold War that the development of automation was addressed. At that time, the company Parsons Works was commissioned by the U.S. Navy to increase the productivity of its production line for helicopter blades. John T. Parsons then motorised the axes of the machines for making these blades. Working with IBM, he studied the possibilities of controlling these machines by computer





## How Iron Man inspired me to be a Mechanical Engineer

As a young boy I was very much fascinated about technology. It all starts with curiosity, and I was curious about the science behind wonderful things in our world, let it be a simple pen or complicated machine-like vehicle. Yes, there's technology even inside a pen and there's no need for me to prove it. In between this when I was 12 years and had minimal knowledge about science, I was introduced to Iron Man, and I was just amazed. By looking at him, I just knew that I want to do this.

As I grew and gained knowledge and got to know about advancements in science and engineering, I realized that to some extent this is possible. I may not be able to fly wearing a suit but the process of designing a suit itself is an exciting process. I remember the scene where all the parts of the suit one by one attaching to Tony Stark's body (Iron Man) using automation and robotics. It was pleasant on the eyes and got me interested in the field of Automation and Robotics. In addition to this, I realized that all the branches of engineering are interconnected. Tony himself is a mechanical engineering graduate from MIT, the best engineering institute in the world and of course just in the movie. He utilizes his knowledge of aerospace, manufacturing, electronics, electrical, artificial intelligence which is a specialization of computer science and theoretical physics to the fullest.

This was all about a fictional character which gives an overview how futuristic our world can be. Now let me introduce you to the man who is doing crazy stuff in the present and can be called the real-life Iron Man. Yes, if you guessed it right, he is Elon Musk. The billionaire CEO of SpaceX and Tesla is shaping our future already. Be it electric cars or working on space travel, he is constantly working on it. He built a science-fiction-inspired space game which required 167 lines of instructions to run at the age of 12. This was back in the day when early computer users were required to type out commands to make their machines do much of anything.

I hope like me, many other people get inspired from this and try to learn about technology. This will push me forward and help me learn required skills to become a successful engineer. When you solve a problem or people around the world use anything that you have contributed to is the best feeling ever.

*By- Himanshu Warkade  
T.E Mechanical*



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