PROGRAM OUTCOMES (PO)	STATEMENTS
PO1	**Engineering Knowledge:** To apply knowledge of mathematics, science, engineering fundamentals, problem solving skills, algorithmic analysis to solve complex engineering problems.
PO2	**Problem analysis:** To analyze the problem by finding its domain and applying domain specific skills.
PO3	**Design/development of solutions:** To understand the design issues of the product/software and develop effective solutions with appropriate consideration of public health and safety, cultural, societal, and environmental issues.
PO4	**Conduct investigations of complex problems:** To find solutions of complex problems by conducting investigations applying suitable techniques.
PO5	**Modern tool usage:** To adapt the usage of modern tools and recent software.
PO6	**The engineer and society:** To contribute towards the society by understanding the impact of Engineering on global aspect.
PO7	**Environment and sustainability:** To understand environment issues and design a sustainable system.
PO8	**Ethics:** To understand and follow professional ethics.
PO9	**Individual and team work:** To function effectively as an individual and as member or leader in diverse teams and interdisciplinary settings.
PO10	**Communication:** To demonstrate effective communication at various levels.
PO11	**Project Management and finance:** To apply the knowledge of Computer Engineering for development of projects, and its finance and management.
PO12	**Life-Long Learning:** To keep in touch with current technologies and inculcate the practices of lifelong learning.

Third Year of Computer Engineering (2015 Course)

310241: Theory of Computation

COURSE OUTCOMES (CO)	STATEMENTS
CO1	To design deterministic Turing machine for all inputs and all outputs.
CO2	To subdivide problem space based on input subdivision using constraints.
CO3	To apply linguistic theory.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
CO2	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310242: Database Management Systems

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Design E-R Model for given requirements and convert the same into database tables.
CO2	Use database techniques such as SQL & PL/SQL.
CO3	Use modern database techniques such as NOSQL.
CO4	Explain transaction Management in relational
CO5	Describe different database architecture and analyses the use of appropriate architecture in real time environment.
CO6	Students will be able to use advanced database Programming concepts Big Data – HADOOP.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO2	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
CO4	✓	✓				✓			✓		✓	✓
CO5	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
CO6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310243: Software Engineering and Project Management

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Decide on a process model for a developing a software project.
CO2	Classify software applications and Identify unique features of various domains.
CO3	Design test cases of a software system.
CO4	Understand basics of IT Project management.
CO5	Plan, schedule and execute a project considering the risk management.
CO6	Apply quality attributes in software development life cycle.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓			✓				✓		✓	✓
CO2	✓	✓			✓	✓	✓	✓	✓		✓	✓
CO3	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO4	✓	✓					✓		✓		✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310244: Information Systems and Engineering Economics

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Understand the need, usage and importance of an Information System to an organization.
CO2	Understand the activities that are undertaken while managing, designing, planning, implementation, and deployment of computerized information system in an organization.
CO3	Further the student would be aware of various Information System solutions like ERP, CRM, Data warehouses and the issues in successful implementation of these technology solutions in any organizations.
CO4	Outline the past history, present position and expected performance of a company engaged in engineering practice or in the computer industry.
CO5	Perform and evaluate present worth, future worth and annual worth analyses on one of more economic alternatives.
CO6	To carry out and evaluate benefit/cost, life cycle and breakeven analyses on one or more economic alternatives.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓			✓				✓		✓	✓
CO2	✓	✓			✓	✓		✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO6	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

310245: Computer Networks

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Analyze the requirements for a given organizational structure to select the most appropriate networking architecture, topologies, transmission mediums, and technologies.
CO2	Demonstrate design issues, flow control and error control.
CO3	Analyze data flow between TCP/IP model using Application, Transport and Network Layer Protocols.
CO4	Illustrate applications of Computer Network capabilities, selection and usage for various sectors of user community.
CO5	Illustrate Client-Server architectures and prototypes by the means of correct standards and technology.
CO6	Demonstrate different routing and switching algorithms.

1.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓			✓				✓		✓	✓
CO2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO3	✓	✓			✓				✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO6	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

310250: Design and Analysis of Algorithms

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Formulate the problem.
CO2	To perform analysis of Algorithms with Time and Space Complexity.
CO3	Analyze the asymptotic performance of algorithms.
CO4	Decide and apply algorithmic strategies to solve given problem.
CO5	Find optimal solution by applying various methods.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓		✓	✓	✓		✓	✓	✓		✓
CO2	✓		✓	✓		✓					✓	✓
CO3	✓	✓		✓	✓		✓	✓	✓			✓
CO4	✓			✓		✓	✓					✓
CO5	✓		✓	✓		✓		✓		✓	✓	

310251: Systems Programming and Operating System

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Analyze and synthesize system software
CO2	Use tools like LEX & YACC.
CO3	Implement operating system functions.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓			✓			✓	✓		✓	✓
CO2	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310252: Embedded Systems and Internet of Things

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Implement an architectural design for IoT for specified requirement.
CO2	To solve the given societal challenge using IoT.
CO3	Choose between available technologies and devices for stated IoT challenge.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO2	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
CO3	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓

310253: Software Modeling and Design

COURSE OUTCOMES (CO)	STATEMENTS
CO1	Analyze the problem statement (SRS) and choose proper design technique for designing web-based/ desktop application.
CO2	Design and analyze an application using UML modeling as fundamental tool.
CO3	Apply design patterns to understand reusability in OO design.
CO4	Decide and apply appropriate modern tool for designing and modeling.
CO5	Decide and apply appropriate modern testing tool for testing web-based/desktop application.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓			✓	✓	✓	✓	✓		✓	✓
CO2	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310254: Web Technology

COURSE OUTCOMES (CO)	STATEMENTS
CO1	To analyze given assignment to select sustainable web development design methodology.
CO2	To develop web based application using suitable client side and server side web technologies.
CO3	To develop solution to complex problems using appropriate method, technologies, frameworks, web services and content management.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓		✓	✓		✓	✓	✓			✓
CO2	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

310255: Seminar and Technical Communication

COURSE OUTCOMES (CO)	STATEMENTS
CO1	To be familiar with basic technical writing concepts and terms, such as audience analysis, jargon, format, visuals, and presentation.
CO2	To improve skills to read, understand, and interpret material on technology.
CO3	Improve communication and writing skills.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CO2	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
CO3	✓	✓			✓			✓	✓	✓	✓	✓