

Class	Semester	Name of Subject	Subject Code	CO No.	CO
FY	1	BASIC MATHEMATICS	311302	CO1	Apply the concepts of algebra to solve engineering (discipline) related problems.
				CO2	Utilize trigonometry to solve branch specific engineering problems.
				CO3	Solve area specific engineering problems under given conditions of straight lines.
				CO4	Apply differential calculus to solve discipline specific problems.
				CO5	Use techniques and methods of statistics to crack discipline specific problems.
FY	1	COMMUNICATION SKILLS (ENGLISH)	311303	CO1	Construct grammatically correct sentences in English
				CO2	Compose paragraphs and dialogues on given situations
				CO3	Comprehend passages correctly.
				CO4	Use contextual words in English appropriately
				CO5	Deliver effective presentations in English using appropriate body language
FY	1	BASIC SCIENCE	311305	CO1	Use basic instruments to measure the physical quantities in various engineering situations.
				CO2	Apply the basic principles of electromagnetics to solve given engineering problems.
				CO3	Apply basic principles of thermometry and fibre optics to solve engineering problems.
				CO4	Predict the structure, properties and behaviour of molecules and compounds based on the types of chemical bond.
				CO5	Apply the concepts of electrochemistry and corrosion preventive measures in industry.
				CO6	Use the appropriate engineering material and catalyst appropriately.
FY	1	FUNDAMENTALS OF ICT	311001	CO1	Use computer system and its peripherals for given purpose
				CO2	Prepare Business document using Word Processing Tool
				CO3	Analyze Data and represent it graphically using Spreadsheet
				CO4	Prepare professional Slide Show presentations
				CO5	Use different types of Web Browsers and Apps
				CO6	Explain concept and applications of Emerging Technologies
FY	1	ENGINEERING WORKSHOP PRACTICE	311002	CO1	Carry-out elementary level maintenance of a PC
				CO2	Create partitions and format hard disk drive
				CO3	Install and configure Operating system.
				CO4	Configure different types of peripheral devices.
				CO5	Setup small Local Area Network.
				CO6	Use diagnostic software for fault finding in Computer system.
FY	1	YOGA AND MEDITATION	311003	CO1	Practice basic Yoga and Pranayama in daily life to maintain physical and mental fitness.
				CO2	Practice meditation regularly for improving concentration and better handling of stress and anxiety.
				CO3	Follow healthy diet and hygienic practices for maintaining good health.
FY	1	ENGINEERING GRAPHICS	311008	CO1	Draw geometrical figures and engineering curves.
				CO2	Apply principles of orthographic projections for drawing given pictorial views.
				CO3	Apply basic CAD commands for drawing different entities
				CO4	Use various drawing codes, conventions and symbols as per IS SP-46 in engineering drawing.
				CO5	Draw free hand sketches of given engineering elements
FY	2	APPLIED MATHEMATICS	312301	CO1	Solve the broad-based engineering problems of integration using suitable methods
				CO2	Use definite integration to solve given engineering related problems.
				CO3	Apply the concept of differential equation to find the solutions of given engineering problems
FY	2	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	312302	CO4	Employ numerical methods to solve programme specific problems.
				CO5	Use probability distributions to solve elementary engineering problems.
				CO1	Calculate and measure basic electrical quantities and parameters
				CO2	Use different electrical machines by making connections.
				CO3	Use electrical safety devices in electrical circuit
				CO4	Use relevant diode in different electronic circuits.
FY	2	PROGRAMMING IN C	312303	CO5	Use BJT and FET in various electronic circuits
				CO6	Use various types of sensors and transducers.
				CO1	Develop C program using input - output functions and arithmetic expressions
				CO2	Develop C program involving branching and looping statements
				CO3	Implement Arrays and structures using C programs
				CO4	Develop C program using user-defined functions
FY	2	LINUX BASICS	312001	CO5	Write C program using pointer
				CO1	Install Linux operating system
				CO2	Execute general purpose commands of the Linux operating system.
				CO3	Manage files and directories in Linux operating system.
				CO4	Use vi editor in Linux operating system.
FY	2	PROFESSIONAL COMMUNICATION	312002	CO5	Write programs using shell script.
				CO1	Communicate effectively (oral / spoken and Written) in various formal and informal situations minimizing the barriers.
				CO2	Develop listening skills through active listening and note taking.
				CO3	Write circulars, notices and minutes of the meeting.
				CO4	Draft inquiry letter, complaint letter, Job application with resume / CV, Compose effective E - mails
FY	2	SOCIAL AND LIFE SKILLS	312003	CO5	Write Industrial reports
				CO1	Enhance the ability to be fully self-aware and take challenges by overcoming all fears and insecurities and grow fully.
				CO2	Increase self-knowledge and awareness of emotional skills and emotional intelligence at the place of study/work.
				CO3	Provide the opportunity to realizing self-potential through practical experience while working individually or in group.
				CO4	Develop interpersonal skills and adopt good leadership behaviour for self-empowerment and empowerment of others.
FY	2	WEB PAGE DESIGNING	312004	CO5	Set appropriate life goals with managing stress and time effectively.
				CO1	Use HTML formatting tags to present content on web page.
				CO2	Develop web page using list and hyperlinks.
				CO3	Develop web pages using images, colors and backgrounds.
				CO4	Design HTML forms using table and frames.
				CO5	Apply presentation schemes on content using CSS.
SY	3	DATABASE MANAGEMENT SYSTEM	313302	CO6	Publish websites on internet or intranet.
				CO1	Explain concept of database management system.
				CO2	Design the database for given problem.
				CO3	Manage database using SQL.
				CO4	Implement PL/SQL codes for given application.
				CO5	Apply security and backup methods on database
SY	3	DIGITAL TECHNIQUES	313303	CO1	Apply number system and codes concept to interpret working of digital systems.
				CO2	Apply Boolean laws to minimize complex Boolean function.
				CO3	Develop combinational logic circuits for given applications.
				CO4	Develop sequential logic circuits using Flip-flops.

SY	3	DATA STRUCTURE USING PYTHON	313306	C05	Interpret the functions of data converters and memories in digital electronic systems.
				C01	Develop Python program using basic syntactical constructs.
				C02	Perform operations on sequence structures in Python.
				C03	Implement Modules, Packages in Python for given problem.
				C04	Design classes for given problem.
				C05	Implement Linear Data Structure in Python.
SY	3	STATISTICAL MODELLING FOR MACHINE LEARNING	313307	C06	Develop Python program to implement tree data structure.
				C01	Solve the given problem based on Statistic Techniques using R-Programming.
				C02	Implement Statistic methods using R-Programming.
				C03	Use Principles of Probability to solve given Problem.
				C04	Implement appropriate method based on the Interpolation.
				C05	Apply Sampling Methods to solve given problem using R-Programming
SY	3	ESSENCE OF INDIAN CONSTITUTION	313002	C01	List salient features and characteristics of the constitution of India.
				C02	Follow fundamental rights and duties as responsible citizen of the country.
				C03	Analyze major constitutional amendments in the constitution.
				C04	Follow procedure to cast vote using voter-id.
				C05	Apply Sampling Methods to solve given problem using R-Programming
SY	3	DATA STORY TELLING AND VISUALIZATION	313004	C01	Identify the characters in data storytelling.
				C02	Eliminate clutter to grab audience attention.
				C03	Construct Storytelling for the given incident.
				C04	Transform Data to Visuals.
				C05	Create data visualization using many distributions.
SY	4	ENVIRONMENTAL EDUCATION AND SUSTAINABILITY	314301	C01	Identify the relevant Environmental issues in specified locality.
				C02	Provide the green solution to the relevant environmental problems.
				C03	Conduct SWOT analysis of biodiversity hotspot
				C04	Apply the relevant measures to mitigate the environmental pollution.
				C05	Implement the environmental policies under the relevant legal framework.
SY	4	JAVA PROGRAMMING	314317	C01	Develop java program using classes and objects.
				C02	Develop java program for implementing code reusability concept.
				C03	Develop program to implement multithreading and exception handling.
				C04	Develop java program for implementing event handling using window-based application components.
				C05	Implements network programming in java.
				C06	Develop java program for managing database
SY	4	DATA COMMUNICATION AND COMPUTER NETWORK	314318	C01	Analyze the functioning of Data Communication and Computer Network.
				C02	Select relevant Transmission Media and Switching Techniques as per need.
				C03	Analyze the Transmission Errors with respect to IEEE standards.
				C04	Configure different TCP/IP services.
				C05	Implement relevant Network Topology using Networking Devices.
SY	4	MATHEMATICS FOR MACHINE LEARNING	314320	C01	Use partial differentiation concept to obtain optimal solution.
				C02	Implement matrix concept to solve real life problems.
				C03	Build programs to implement basic operations based on vectors and tensors.
				C04	Evaluate numerical differentiation and integration functions.
				C05	Apply the linear programming problem concept to obtain optimal solution.
SY	4	MICROPROCESSOR PROGRAMMING	314321	C01	Analyze the functional block diagram of 8086 microprocessor.
				C02	Use program development tools and assembler directives.
				C03	Use instructions in different addressing modes.
				C04	Develop an assembly language program for a given task using assembler.
				C05	Use procedures and macros to develop an assembly language program for a given problem.
SY	4	UI/UX DESIGN	314005	C01	Explain design thinking concept
				C02	Interpret user requirements.
				C03	Select appropriate visual design for given problem.
				C04	Create interactions using design tool.
				C05	Create innovative design prototype for given applications.