

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
				CO4	Employ numerical methods to solve programme specific problems.
				CO5	Use probability distributions to solve elementary engineering problems.
FY	2	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	312302	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.
				CO5	Use BJT and FET in various electronic circuits
				CO6	Use various types of sensors and transducers.
FY	2	PROGRAMMING IN C	312303	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
				CO5	Write C program using pointer
FY	2	LINUX BASICS	312001	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.
				CO5	Write programs using shell script.
FY	2	PROFESSIONAL COMMUNICATION	312002	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
				CO5	Write Industrial reports
FY	2	SOCIAL AND LIFE SKILLS	312003	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.
				CO5	Set appropriate life goals with managing stress and time effectively.
FY	2	WEB PAGE DESIGNING	312004	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.
				CO6	Publish websites on internet or intranet.
SY	3	DATA STRUCTURE USING C	313301	CO1	Perform basic operations on Arrays.
				CO2	Apply different Searching and Sorting methods.
				CO3	Implement basic operations on Linked List.
				CO4	Perform operations on Stack using Array and Linked List Implementations
				CO5	Perform operations on Queue using Array and Linked List Implementations.
				CO6	Create and Traverse Tree to solve problems.
				CO1	Explain concept of database management system.

SY	3	DATABASE MANAGEMENT SYSTEM	313302	C02	Design the database for given problem.
				C03	Manage database using SQL.
				C04	Implement PL/SQL codes for given application.
				C05	Apply security and backup methods on database
				C01	Apply number system and codes concept to interpret working of digital systems.
SY	3	DIGITAL TECHNIQUES	313303	C02	Apply Boolean laws to minimize complex Boolean function.
				C03	Develop combinational logic circuits for given applications.
				C04	Develop sequential logic circuits using Flip-flops.
				C05	Interpret the functions of data converters and memories in digital electronic systems.
				C01	Write C++ programs using classes and objects.
SY	3	OBJECT ORIENTED PROGRAMMING USING C++	313304	C02	Develop C++ programs using constructors.
				C03	Implement Inheritance in C++.
				C04	Implement Polymorphism in C++.
				C05	Develop C++ programs to perform file operations.
				C01	Manipulate Visual and Geometric information of Images.
SY	3	COMPUTER GRAPHICS	313001	C02	Develop programs in C applying standard graphics algorithms.
				C03	Perform and Demonstrate basic and composite graphical transformations on given object.
				C04	Implement various Clipping algorithms.
				C05	Develop programs to create Curves.
				C01	List salient features and characteristics of the constitution of India.
SY	3	ESSENCE OF INDIAN CONSTITUTION	313002	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.
				C01	Identify the relevant Environmental issues in specified locality.
				C02	Provide the green solution to the relevant environmental problems.
SY	4	ENVIRONMENTAL EDUCATION AND SUSTAINABILITY	314301	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.
				C01	Develop java program using classes and objects.
				C02	Develop java program for implementing code reusability concept.
SY	4	JAVA PROGRAMMING	314317	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
				C01	Analyze the functioning of Data Communication and Computer Network.
SY	4	DATA COMMUNICATION AND COMPUTER NETWORK	314318	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.
				C01	Analyze the functional block diagram of 8086 microprocessor.
SY	4	MICROPROCESSOR PROGRAMMING	314321	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.
				C01	Develop python programs using control flow statements.
SY	4	PYTHON PROGRAMMING	314004	C02	Perform operations on various data structures in Python.
				C03	Develop packages to solve given problem using python.
				C04	Apply object-oriented approach to solve given problem using python.
				C05	Use relevant built-in python package to develop application.
				C01	Explain design thinking concept
SY	4	UI/UX DESIGN	314005	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.