

Class	Semester	Name of Subject	Subject Code	CO No.	CO	
FY	1	BASIC MATHEMATICS	311302	C01	Apply the concepts of algebra to solve engineering (discipline) related problems.	
				C02	Utilize trigonometry to solve branch specific engineering problems.	
				C03	Solve area specific engineering problems under given conditions of straight lines.	
				C04	Apply differential calculus to solve discipline specific problems.	
				C05	Use techniques and methods of statistics to crack discipline specific problems.	
FY	1	COMMUNICATION SKILLS (ENGLISH)	311303	C01	Construct grammatically correct sentences in English	
				C02	Compose paragraphs and dialogues on given situations	
				C03	Comprehend passages correctly.	
				C04	Use contextual words in English appropriately	
				C05	Deliver effective presentations in English using appropriate body language	
FY	1	BASIC SCIENCE	311305	C01	Use basic instruments to measure the physical quantities in various engineering situations.	
				C02	Apply the basic principles of electromagnetics to solve given engineering problems.	
				C03	Apply basic principles of thermometry and fibre optics to solve engineering problems.	
				C04	Predict the structure, properties and behaviour of molecules and compounds based on the types of chemical bond.	
				C05	Apply the concepts of electrochemistry and corrosion preventive measures in industry.	
FY	1	FUNDAMENTALS OF ICT	311001	C06	Use the appropriate engineering material and catalyst appropriately.	
				C01	Use computer system and its peripherals for given purpose	
				C02	Prepare Business document using Word Processing Tool	
				C03	Analyze Data and represent it graphically using Spreadsheet	
				C04	Prepare professional Slide Show presentations	
FY	1	ENGINEERING WORKSHOP PRACTICE	311002	C05	Use different types of Web Browsers and Apps	
				C06	Explain concept and applications of Emerging Technologies	
				C01	Carry-out elementary level maintenance of a PC	
				C02	Create partitions and format hard disk drive	
				C03	Install and configure Operating system.	
FY	1	YOGA AND MEDITATION	311003	C04	Configure different types of peripheral devices.	
				C05	Setup small Local Area Network.	
				C06	Use diagnostic software for fault finding in Computer system.	
				C01	Practice basic Yoga and Pranayama in daily life to maintain physical and mental fitness.	
				C02	Practice meditation regularly for improving concentration and better handling of stress and anxiety.	
FY	1	ENGINEERING GRAPHICS	311008	C03	Follow healthy diet and hygienic practices for maintaining good health.	
				C01	Draw geometrical figures and engineering curves.	
				C02	Apply principles of orthographic projections for drawing given pictorial views.	
				C03	Apply basic CAD commands for drawing different entities	
				C04	Use various drawing codes, conventions and symbols as per IS SP-46 in engineering drawing.	
FY	2	APPLIED MATHEMATICS	312301	C05	Draw free hand sketches of given engineering elements	
				C01	Solve the broad-based engineering problems of integration using suitable methods	
				C02	Use definite integration to solve given engineering related problems.	
				C03	Apply the concept of differential equation to find the solutions of given engineering problems	
				C04	Employ numerical methods to solve programme specific problems.	
FY	2	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	312302	C05	Use probability distributions to solve elementary engineering problems.	
				C01	Calculate and measure basic electrical quantities and parameters	
				C02	Use different electrical machines by making connections.	
				C03	Use electrical safety devices in electrical circuit	
				C04	Use relevant diode in different electronic circuits.	
FY	2	PROGRAMMING IN C	312303	C05	Use BJT and FET in various electronic circuits	
				C06	Use various types of sensors and transducers.	
				C01	Develop C program using input - output functions and arithmetic expressions	
				C02	Develop C program involving branching and looping statements	
				C03	Implement Arrays and structures using C programs	
FY	2	LINUX BASICS	312001	C04	Develop C program using user-defined functions	
				C05	Write C program using pointer	
				C01	Install Linux operating system	
				C02	Execute general purpose commands of the Linux operating system.	
				C03	Manage files and directories in Linux operating system.	
FY	2	PROFESSIONAL COMMUNICATION	312002	C04	Use vi editor in Linux operating system.	
				C05	Write programs using shell script.	
				C01	Communicate effectively (oral / spoken and Written) in various formal and informal situations minimizing the barriers.	
				C02	Develop listening skills through active listening and note taking.	
				C03	Write circulars, notices and minutes of the meeting.	
FY	2	SOCIAL AND LIFE SKILLS	312003	C04	Draft inquiry letter, complaint letter, Job application with resume / CV, Compose effective E - mails	
				C05	Write Industrial reports	
				C01	Enhance the ability to be fully self-aware and take challenges by overcoming all fears and insecurities and grow fully.	
				C02	Increase self-knowledge and awareness of emotional skills and emotional intelligence at the place of study/work.	
				C03	Provide the opportunity to realizing self-potential through practical experience while working individually or in group.	
FY	2	WEB PAGE DESIGNING	312004	C04	Develop interpersonal skills and adopt good leadership behaviour for self-empowerment and empowerment of others.	
				C05	Set appropriate life goals with managing stress and time effectively.	
				C01	Use HTML formatting tags to present content on web page.	
				C02	Develop web page using list and hyperlinks.	
				C03	Develop web pages using images, colors and backgrounds.	
SY	3	DATA STRUCTURE USING C	313301	C04	Design HTML forms using table and frames.	
				C05	Apply presentation schemes on content using CSS.	
				C06	Publish websites on internet or intranet.	
				C01	Perform basic operations on Arrays.	
				C02	Apply different Searching and Sorting methods.	
SY	3	DATABASE MANAGEMENT SYSTEM	313302	C03	Implement basic operations on Linked List.	
				C04	Perform operations on Stack using Array and Linked List Implementations	
				C05	Perform operations on Queue using Array and Linked List Implementations.	
				C06	Create and Traverse Tree to solve problems.	
				C01	Explain concept of database management system.	
SY	3	DIGITAL TECHNIQUES	313303	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.	
					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.

SY	3	OBJECT ORIENTED PROGRAMMING USING C++	313304	C01	Write C++ programs using classes and objects.
				C02	Develop C++ programs using constructors.
				C03	Implement Inheritance in C++.
				C04	Implement Polymorphism in C++.
				C05	Develop C++ programs to perform file operations.
SY	3	COMPUTER GRAPHICS	313001	C01	Manipulate Visual and Geometric information of Images.
				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.
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.
				C01	Identify the relevant Environmental issues in specified locality.
SY	4	ENVIRONMENTAL EDUCATION AND SUSTAINABILITY	314301	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.
				C01	Develop java program using classes and objects.
SY	4	JAVA PROGRAMMING	314317	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
				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.