Department of Computer Engineering

B. Tech. (Computer Engineering (Regional Course))

MAPPING OF COURSE OUTCOMES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC OUTCOMES

S.No	Course Code	Course Name	CO No	Course Outcomes (After completing the course students will be able to…..)	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	1FY2-01	Engineering Mathematics-I	CO1	Define and explain basic concepts definite integrals, sequence and series, periodic functions and multivariable functions.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Understand properties of beta and gamma function, convergence of sequence and series.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	Apply properties of beta and gamma functions and definite integrals to find surface area and volumes of revolution. They will be able to apply partial derivatives and multiple integrals to solve many problems in science and engineering.	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Analyse Fourier series to make many useful deductions which lay down foundation of signal processing and image processing.	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
2	1FY2-03	Engineering Chemistry	CO1	Describe characteristics of water, fuel and Engineering materials-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2
			CO2	Determine of hardness of water and calorific value of fuels for Industrial as well as domestic purposes	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-
			CO3	Compare different techniques of water treatment, fuel analysis, Manufacturing of engineering materials and corrosion protection methods	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Prepare the generic drugs or medicines by identifying the applications of organic reaction mechanism and manufacturing of engineering materials	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
3	1FY1-04	Communication Skills	CO1	Describe the process of communication, basics of Grammar and Writing and Literary Aspects	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			CO2	Explain the types of communication, barriers and channels of communication and the concept of Literature through Short Stories and poetry		-	-	-	-	-	-	-	-	2	-	-	-	-	-
			CO3	Write and prepare professional reports, paragraph and business letters with the correct use of grammar	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
			CO4	Discuss and illustrate the impact of social and moral values by implying the basics of English Writing Skills through literary aspects	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
			CO5	Restate and outline the basic areas of English Language Skills with the applications of literature	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
4	1FY3-07	Basic Mechanical Engineering	CO1	retrieve basic concepts of thermal and manufacturing process.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	compare different types of thermal and manufacturing processes and.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	annotating about the functioning of turbine & pumps, IC engines, refrigeration system, modes of transmission of power, materials and primary manufacturing process.	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	appraise the fundamental knowledge of thermal engineering, in addition to understanding of power transmission to solve the industrial and societal issues.	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
5	1FY3-08	Basic Electrical Engineering	CO1	Identify basic components of electrical engineering and connect them to form different circuits to verify basic laws.Understanding	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Analyse the output of rectifier circuit,AC and DC machines to solve problems assosciated with Basic electrical engineering.Analyse	2	3	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO3	Contribute efficiently in a team to acieve desired response of AC and DC Machines. Team Work	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
			CO4	Demonstrate the output of rectifier circuits consistiong of basic components of electrical engineering. Mechanism	-	-	-	-	-	-	-	-	-	-	3	-	2	-	-
6	1FY2-21	Engineering Chemistry Lab	CO1	Determine the strength of unknown solution by volumetric analysis.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Examine the characteristics of lubricating oil in groups	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
			CO3	Analyze different characteristics of water and fuel to solve societal and enviornmental problems	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
			CO4	show an ability to work as a team member ethically	-	-	-	-	-	-	-	2	3	-	-	-	-	-	-
7	1FY1-22	Language Lab	CO1	Use and pronounce the words correctly.	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
			CO2	Acquire knowledge of the correct expressions,vocabulary etc. in personal and professional lives.	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-
			CO3	Plan successfully for leadership and teamwork,crack GD's, interviews and other professional activities.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
			CO4	Synthesize the process of communication using LSRW.	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
8	1FY3-25	Manufacturing Practices Workshop	CO1	Describe the working of Lathe machine.	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO2	Apply the basic concepts of Foundry Shop	2	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO3	Develop various carpentry joints, welding joints and sheet metal objects.	-	2	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO4	Students will show an ability to work as a team member ethically	-	-	-	-	-	-	-	2	3	-	-	-	-	-	-
9	1FY3-26	Basic Electrical Engineering Lab	CO1	Discuss measurement of electrical quantites	1	-	-	-	-	-	-	-	-	-	-	-	1	2	-
			CO2	Compare different connections of transformer	2	-	-	-	-	-	-	-	-	-	-	-	1	2	-
			CO3	Demonstrate constructional features of electrical machines and converters	3	-	-	-	-	-	-	-	-	-	-	-	2	2	-
			CO4	show an ability to communicate effectively and work as a team member ethically	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-
10	1FY3-28	Computer Aided Engineering Graphics	CO1	Describe engineering drawing terminology, concept of scales and conic sections.	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-
			CO2	Draw Projection of Points, lines, planes, solids and section of solids	-	1	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO3	Draft 2D engineering problems on CAD software.	-		-	-	3	-	-	-	-	-	-	-		1	1
			CO4	show an ability to work as a team member ethically	-	-	-	-	-	-	-	2	3	-	-	-	-	-	-
11	2FY2-01	Engineering Mathematics-II	CO1	define basic rank of matrix to find, eigen values and eigen vectors of the matrix, degree and order of differential equations.	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	explain complementary functions and particular integral of ordinary differential equation and various methods of solution of ODE to solve complex engineering problems.	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	apply an appropriate analytical technique to find solution of first order and higher order differential equations.	3	2	-	-	-	-	-	-	-	-	-				
			CO4	classify higher order partial differential equations and analyze a wide variety of time dependent phenomena of real world including heat conduction, wave equation particle diffusion.	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
12	2FY2-02	Engineering Physics	CO1	Describe the concepts of Wave and Quantum mechanics, Laser and Fiber optics, material science and electromagnetic theory. (Recall/Remembering)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Explain the different applications of Laser and optical fibers in communication, engineering, medicine and Science. Application of Hall effect (Examine)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	Evaluate energy states in 1-D and 3-D box with the application of quantum mechanics.(Apply)	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Analyze the crystal structure through X-ray Diffraction & wavelength of light through Newton's ring experiment and Michelson- interferometer ,types of materials through Hall effect . (Analyze)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
13	2FY1-05	Human Values	CO1	Relate sustained happiness through identifying the essentials of human values and skills	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
			CO2	Find the happiness and human values in terms of personal and social life to create harmony in them	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
			CO3	Use and understand practically the importance of trust, mutually satisfaction and human relationship	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
			CO4	Identify the orders of nature for the holistic perception of harmony for human existence	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
			CO5	Implement professional ethics and natural acceptance of human values in his/her life	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-
14	2FY3-06	Programming for	CO1	Understand the basic concepts of fundamental of computer system, number system and programming. (Remembering)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Explain various memory units, representation of number system and Conditional, Iterative statements using arrays, string, pointers, file structure. (Understanding)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-

14	2FY3-08	Problem Solving	CO3	Examine the concept of algorithms, flowchart, Operators, Pointer, Array, String, structure, union using modularization to solve complex problems using C Programming (Applying)	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Illustrate the User Defined functions, Memory management and File concepts to solve real time problems using C Programming (Analyzing)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
15	2FY3-09	Basic Civil Engineering	CO1	Describe Scope, role and Specialization of Civil Engineering, basics of surveying, types of building, Plinth area, carpet area, floor space index, R.C.C., mode of transportation and different causes of pollution. (Remember)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Explain solid waste management, building by-laws, concept of sun light and ventilation, chemical and hydrological cycle, biodiversity, causes of road accident, sanitary landfill and on-site sanitation, food chain and food web, contour maps, Global warming, Climate Change, Ozone depletion, and Green House effect. (Understand)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	Illustrate method of ranging and levelling, road safety measures, building component, environmental acts, different types of foundation, treatment and disposal of waste water, traffic sign and symbol and rain water harvesting. (Apply)	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Compute errors in linear measurement, bearings and elevations of respective points on the ground. (Analyze)	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
16	2FY2-20	Engineering Physics Lab	CO1	Operate the various devices for the multifarious use in the relative fields.	1	-	-	-	-	-	-	-	-	-	-	2	-	-	-
			CO2	Apply knowledge of Newton's Ring,grating, spectrometer,Optical fiber ,Sextant, Hall effect , a n d L a s e r to determine wavelength of light, dispersive power,Numerical aperature Height of Object, Hall coefficient, coherence length and coherence time	2		-	-	-	-	-	-	1	-	-	-	-	-	-
			CO3	To conduct the experiments with interest and an attitude of learning.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-
			CO4	Evaluate the Band Gap and time constants (t=RC) using basic principles of semiconductors and Capacitors by graphs.	-	2	-	-	-	-	-	-	2	-	-	-	-	-	-
17	2FY1-23	Human Values Activities and Sports	CO1	Recall the natural and social issues and their remedies.	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
			CO2	Describe the nature of human values and the impact of external factors over it.	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
			CO3	Validate through actions the significance of trust, respect and harmony with self and surroundings.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
			CO4	Outline the relation of human with nature and other factors in terms of human existence	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-
			CO5	Associate the knowledge of self and society with clear understanding of social issues and the human beings.	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
18	2FY3-27	Basic Civil Engineering Lab	CO1	Describe various sanitary fittings and water supply fittings	1	-	-	-	-	-		-	-	-	-	-	-	-	-
			CO2	Examine pH, Turbidity, Hardness and Total solids of given water sample	2	-	-	-	-	-		-	-	-	-	-	-	-	-
			CO3	Use of EDM and Total Station in the field	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO4	Investigate the linear and angular measurements of the points on the ground and levelling	-	1	-	-	-	-	-	-		-	-	-	-	-	-
			CO5	show an ability to communicate effectively and work as a team member ethically	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-
19	2FY3-24	Computer Programming Lab	CO1	Relate the fundamental of C Programming as variable, operators and taxonomy to write a basic C Program	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO2	Write programs that perform operations using condition control statements and loop control statements, single and multi-dimensional arrays along with specific program of matrix multiplication.(Examine)	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			CO3	Use C programs to implement operations related to Array, Macros and inline functions, Dynamic memory allocations, concept of Structure, Unions and Pointers	3	-	-	-		-	-	-	-	-	-	-	-	-	-
			CO4	show an ability to communicate effectively and work ethically				-	-	-	-	2	-	2	-	-	-	-	-
20	2FY3-29	Computer Aided Machine Drawing	CO1	Describe orthographic projections and basic Geometrical Concept	2	-	-	-	-		-	-	-	-	-	1	-		
			CO2	Analyze Sectional Views of different mechanical Components and assembly drawing	-	1	-	-	-	-	-	-	-	-	-	2	-		
			CO3	Draft a engineering product using CAD software	-	-	-	-	2	-	-	-	-	-	-	2	-	1	
			CO4	show an ability to work as a team member ethically	-	-	-	-	-	-	-	2	3	-	-	-	-	-	
22	3CSR2-01	Advanced Engineering Mathematics	CO 1	Define probability models using probability mass (density) functions, need and classification of optimization terminology.	1	-	-	-	-	-	-	-	-	-	-	2	-	-	
			CO 2	Explain the probability distributions of discrete and continuous random variables and work binomial, Poisson, uniform, exponential, normal distribution and their statistical measures.	2	-	-	-	-	-	-	-	-	-	-	2	1	-	
			CO 3	Solve mathematical models of the real world problems in optimization using Linear Programming methods such as Transportation, Traveling salesman and many more such problems.	3	-	-	-	-	-	-	-	-	-	-	2	1	-	
			CO 4	Examine the correlation between two variables and regression applications for purposes of description and prediction.	-	3	-	-	-	-	-	-	-	-	-	2	1	1	
23	3CSR1-03	Managerial Economics and Financial Accounting	CO 1	Describe the fundamental concepts of Economics and Financial Management and define the meaning of national income, demand, supply, cost, market structure, and balance sheet.	-	-	-	-	-	1	-	-	-	2	3	1	-	-	
			CO 2	Calculate the domestic product, national product and elasticity of price on demand and supply.	-	-	-	-	-	2	-	-	-	-	3	-	-	-	
			CO 3	Draw the cost graphs, revenue graphs and forecast the impact of change in price in various perfect as well as imperfect market structures.	3	-	2	-	-	-	-	-	-	-	2	-	-	-	
			CO 4	Compare the financial statements to interpret the financial position of the firm and evaluate the project investment decisions.	-	3	-	-	-	-	-	-	-	-	2	-	-	-	
24	3CSR3-04	Digital Electronics	CO 1	Apply the fundamentals of Number Systems and boolean Algebra for solving the numericals and logical problems.	2	-	-	-	-	-	-	-	-	-	-	2	-	-	
			CO 2	Recognize minimization techniques for reducing the size of any digital circuits.	-	2	-	-	-	-	-	-	-	-	-	2	-	-	
			CO 3	Design combinational and sequential circuits with aspects of speed, delay, energy dissipation and power.	-	-	3	-	-	-	-	-	-	-	-	2	-	-	
			CO 4	Evaluate the performance of Digital Logic Families and its realization.	-	-	-	2	-	-	-	-	-	-	-	-	2	-	
25	3CSR4-05	Data Structures and Algorithms	CO 1	explain data structures and their use in daily life .	2	-	-	-	-	-	-	-	-	-	-	-	2	-	
			CO 2	analyze the Linear and non Linear data structures like stack, Queues, link list, Graph, Trees to solve real time problems.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	
			CO 3	develop searching and sorting algorithms on predefind data	-	-	3	-	-	-	-	-	-	-	-	-	-	2	
			CO 4	create the data structures in specific areas like DBMS ,Compiler, Operating system.	-	-	-	3	-	-	-	-	-	-	-	-	-	2	
26	3CSR4-06	Object Oriented Programming	CO 1	Apply the various programming paradigms such as exception handling, polymorphism in software pattern	2	-	-	-	-	-	-	-	-	-	-	3	-	-	
			CO 2	Analyze the C++ programs using different programming methodologies.	-	2	-	-	-	-	-	-	-	-	-	-	2	-	
			CO 3	Design the elements of the object oriented concepts in developing structured programs.	-	-	3	-	-	-	-	-	-	-	-	-	2	-	
			CO 4	Investigate the real time applications using advance C++ concepts.	-	-	-	3	-	-	-	-	-	-	-	-	-	3	
27	3CSR4-07	Software Engineering	CO 1	Demostrate software life cycle models with respect to software enginneering principles.	2	-	-	-	-	-	-	-	-	-	-	3	-	2	
			CO 2	analyse cost estimation techniqye and risk analysis techniques in software engineering projects.	-	2	-	-	-	-	-	-	-	-	-	2	3	-	
			CO 3	Design Software requirement document (SRS)	-	-	3	-	-	-	-	-	-	-	-	2	3	-	
			CO 4	synthesize UML diagrams using the concepts of object oriented analysis in software development process.	-	-	-	3	-	-	-	-	-	-	-	3	-	-	
28	3CSR4-21	Data Structures and Algorithms Lab	LO1	Utilize searching and sorting algorithms on given values.	2	-	-	-	2	-	-	-	-	2	-	-	2	-	-
			LO2	analyze the time and space efficiency of the data structure	-	-	-	-	-	2	-	-	-	-	-	-	2	-	-
			LO3	Evalute traversing, insertion and deletion operations on Linear and non linear data structures	-	-	-	-	-	-	2	-	-	-	-	2	-	2	-
			LO4	construct the solutions for real time applications	-	-	-	-	2	-	-	-	2	-	-	-	-	-	3
29	3CSR4-22	Object Oriented Programming Lab	LO1	apply the programming concepts such as inheritance, polymorphism	-	-	-	-	2	-	-	-	-	-	-	2	3	-	-
			LO2	distinguish the programming methodologies to implement programs	-	-	-	-	-	2	-	-	-	-	-	2	-	2	-
			LO3	explain the concepts to develop the structured programs.	-	-	-	-	-	-	2	-	-	-	-	2	-	-	3
			LO4	construct the solutions for real time problems	-	-	-	-	-	-	-	-	2	-	3	-	-	-	3
		Software	LO1	Understand and explain the basic concepts of UML, design, test case implementation, and OOP concepts using Java.	2	-	-	-	-	-	-	-	-	-	-	3	-	-	

30	3CSR4-23	Software Engineering Lab	LO2	Discuss and analyze how to create software requirements specifications for a particular problem.	-	-	-	3	-	-	-	-	-	-	-	-	-	3	-
			LO3	Create Data Flow Diagrams for different systems.	-	-	3	-	-	-	-	-	-	-	-	-	-	3	2
			LO4	Understand and develop UML diagrams of various structures and behaviors.	-	-	-	-	2	-	-	-	-	-	-	-	2	3	-
31	3CSR4-24	Digital Electronics Lab	LO1	Apply appropriate basic logic gates for verifying the truth tables.	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			LO2	Demonstarte ability for recognizing any IC and its fuctionality.	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			LO3	Design any basic gates by the use of universal gates.	-	-	3	-	-	-	-	-	-	-	-	-	-	2	-
			LO4	Identify the limitation of basic logic gates while desgining any SOP and POS logics.	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
			LO5	Design any sequential and combinational circuits using basic gates as well as by defined IC.	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
			LO6	Demonstrate the working of Digital Trainer kits and usability of it.	-	-	-	-	2	-	-	-	-	-	-	-	-	2	-
			LO7	Debug a circuit to find a problem and suggest suitable solution.	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
			LO8	Able to work in a team for desgining and rectifying any errors in the digital circuit.	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2
32	3CSR7-30	Industrial Training	LO1	Capability to acquire and apply fundamental principles of engineering.	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			LO2	Become master in one's specialized technology and updated with all the latest changes in technological world for desigining real time project in industry.	-	-	-	-	3	-	-	-	-	3	-	3	-	3	
			LO3	Ability to communicate efficiently	-	-	-	-	-	-	-	-	-	3	-	-	2	-	-
			LO4	Knack to be a multi-skilled engineer with good technical knowledge, management, leadership and entrepreneurship skills.	-	-	-	-	-	-	-	3	-	-	-	2	2	3	
			LO5	Ability to identify, formulate and model problems and find engineering solution based on a systems approach.	-	-	-	3	-	3	-	-	-	-	-	-	2	2	-
			LO6	Capability and enthusiasm for self-improvement through continuous professional development and life-long learning	-	-	-	-	-	-	-	-	-	-	-	3	2	-	3
			LO7	Awareness of the social, cultural, global and environmental responsibility as an engineer.	-	-	-	-	-	-	3	2	-	-	-	-	-	2	-
33	4CSR2-01	Discrete Mathematics Structure	CO 1	Define mathematically about the fundamental data types and structures used in computer algorithms and systems.	1	-	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 2	Classify algebraic techniques to basic discrete structures and algorithms.	2	-	-	-	-	-	-	-	-	-	-	-	2	1	-
			CO 3	Apply mathematical logic in making computer programs, computer circuits, concluding experiments, digital electronics, etc.	3	-	-	-	-	-	-	-	-	-	-	-	1	1	-
			CO 4	Analyze a variety of graphs and the viability of different approaches to the Model problems in Computer Science.	-	3	-	-	-	-	-	-	-	-	-	-	1	1	-
34	4CSR1-02	Technical Communication	CO 1	Understanding the characteristics of technical writing and the importance of purpose, audience, and genre for written communication in technical fields.	-	-	-	-	-	3	-	-	3	3	-	3	-	-	-
			CO 2	Planning, drafting, revising, editing, and critiquing technical and professional documents through individual and collaborative writing.	-	-	-	-	-	3	-	-	2	3	-	3	-	-	-
			CO 3	Create clear, concise technical documents that effectively use grammar and information structure in ways that create meaning with the reader.	-	-	-	-	-	-	-	-	2	3	-	3	-	-	-
			CO 4	Researching, analyzing, synthesizing, and applying information to create technical reports.	-	-	-	-	-	3	-	-	3	3	-	3	-	-	-
35	4CSR3-04	Microprocessor & Interfaces	CO 1	Examine the architecture of 8085 microprocessor , Memory and its type.	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	Analyze interfacing applications using microprocessor and peripherals.	-	3	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 3	Design Assembly Language Programs by using instructions of 8085.	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	Investigate the connection of the microprocessor with the peripheral devices.	-	-	-	2	-	-	-	-	-	-	-	-	2	-	-
36	4CSR4-05	Database Management System	CO 1	apply relation algebra and SQL on Complex Problems.	3	-	-	-	-	-	-	-	-	-	-	-	2	3	-
			CO 2	analyse database management system concepts to convert raw data into relation database schema.	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	Design effective databse Scehma using refinement and Normalization technique	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
			CO 4	Judge Reason of Database filler and best recovery mechanism.	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-
37	4CSR4-06	Theory of Computation	CO 1	apply the theoretical knowledge of computation and basic concepts of computation like CFG, PDA etc..	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	analyze regular expressions and use Sets and Grammars in finite automata.	-	2	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 3	design the solutions using context free grammar, pushdown automata and turing machine problems.	-	-	3	-	-	-	-	-	-	-	-	-	-	2	-
			CO 4	investigate the concepts of Computation in Compiler Construction , Tractable & Untractable problems.	-	-	-	2	-	-	-	-	-	-	-	-	-	-	3
38	4CSR4-07	Data Communication and Computer Networks	CO 1	Demostrate communication models Such as TCP/IP, OSI	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			CO 2	analyse the Error control protocols such as CSMA, ALOHA.	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-
			CO 3	Design the network Layer routing protocols such as dijkstra's, bellman ford Algorithm.	-	-	3	-	-	-	-	-	-	-	-	-	-	3	-
			CO 4	integrate the transport layer protocols in TCP/UDP .	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
39	4CSR4-21	Microprocessor & Interfaces Lab	**LO1**	demonstrate the basic concept of Assembly programming tools for 8085 Microprocessor	-	-	-	-	-	-	-	-	-	-	-	2	3	-	-
			LO2	Apply the Programming concept in Assembly Language Programming to Interfacing.	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-
			LO3	Analyzing strengths and limitations of Assembly language Programming for the real world problem.	-	3	-	-	-	-	-	-	-	-	-	-	2	-	-
			LO4	Able to apply different looping techniques and delay minimization in the program.	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
			LO5	Debug the program and correct it.	-	-	-	2	-	-	-	-	-	-	-	-	3	-	-
40	4CSR4-22	Database Management System Lab	LO1	Select appropriate technique to design database and schemas for a given application using DDL/DML SQL commands	-	-	2	-	2	-	-	-	-	-	-	-	1	2	-
			LO2	Apply the concept of Integrity Rules and Constraints to ensure accurate and error free data	3	-	-	-	-	-	-	-	-	-	-	-	-	2	-
			LO3	Identify solutions for database update using pre store Procedures and Triggers	-	-	2	-	-	-	-	-	-	-	-	-	2	-	-
			LO4	Compare the constraints primary key and foreign key between primary table and secondary table	-	2	-	-	-	-	-	-	-	-	-	-	-	1	-
			LO5	Construct Views to simplify and reduce complexity of database schema	-	-	3	-	-	-	-	-	-	-	-	-	2	-	-
			LO6	Decision to users with different types of privileges and check users existence in database	-	-	-	2	-	-	-	-	-	-	-	-	-	2	-
			LO7	Assemble records from multiple tables in database through Inner joins and Outer joins	-	-	3	-	-	-	-	-	-	-	-	-	1	1	-
41	4CSR4-23	Network Programming Lab	LO1	Defines the basic principles of computer networks. Understand the key topologies that support the Internet.	2	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			LO2	Demonstrate the installation and configuration of network.	-	-	2	-	-	-	-	-	-	-	-	-	-	2	-
			LO3	Evaluate errors using a variety of error correction techniques.	-	-	-	3	-	-	-	-	-	-	-	-	-	2	2
			LO4	Apply a network routing algorithm, evaluate the process, and implement a simple routing network.	-	-	-	-	2	-	-	-	-	-	-	-	-	3	3
42	4CSR4-24	Linux Shell Programming Lab	LO1	Apply basic commands of Linux and commands related to inode, I/O redirection and piping, process control and mails.	-	-	-	-	2	-	-	-	-	-	-	-	2	-	1
			LO2	analyze variety of problems of shell script using looping, case structures in the script programming.	-	-	-	-	-	2	-	-	-	-	-	-	2	-	1
			LO3	implement the logical problems using the shell script programming.	-	-	-	-	-	-	2	-	-	-	-	-	2	-	-
			LO4	enforce the pattens problems using shell scripts.	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-
43	4CSR4-25	Java Lab	LO1	apply the basic concepts of java.	3	-	-	-	-	-	-	-	-	-	-	-	3	-	-
			LO2	develop the problems of file handling, multithreading and applets.	-	-	-	-	3	-	-	-	-	-	-	-	-	-	3
			LO3	design a project in a team.	-	-	-	-	-	-	-	-	3	-	-	-	-	3	-
			LO4	analyze the various complex and real time problems.	-	-	-	-	-	-	-	-	-	-	-	3	-	-	3