2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all Programmes offered by the institution are stated and displayed on website

JNTUA - R23 Regulation - Course Outcomes

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Principal
PRINCIPAL
Vaagdevi Institute of Technology & Science
PEDDASETTIPALLI
PRODDATUR, Kadapa (Dist.)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: II B.TECH - I SEM				BRANCH: ECE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to	
1	Probability and Complex Variables	23A54302	CO1	Understand the concepts of Probability, Random Variables and their characteristics.
			CO2	Learn how to deal with multiple random variables, conditional probability, joint distribution and statistical independence.
			CO3	Formulate and solve engineering problems involving random variables.
			CO4	Analyze limit, continuity and differentiation of functions of complex variables and Understand Cauchy-Riemann equations, analytic functions and various properties of analytic functions.
			CO5	Understand Cauchy theorem, Cauchy integral formulas and apply these to evaluate complex contour integrals. Classify singularities and poles; find residues and evaluate complex integrals using the residue theorem.
2	Universal Human Values– Understanding Harmony and Ethical Human Conduct	23A52301	CO1	Define the terms like Natural Acceptance, Happiness and Prosperity.
			CO2	Identify one's self, and one's surroundings (family, society nature).
			CO3	Apply what they have learnt to their own self in different day-to-day settings in real life.
			CO4	Relate human values with human relationship and human society.
			CO5	Justify the need for universal human values and harmonious existence.
			CO6	Develop as socially and ecologically responsible engineers.
3	Signals, Systems and Stochastic Processes	23A04301	CO1	Understand the mathematical description and representation of continuous-time and discrete-time signals and systems, Also, understand the concepts of various transform techniques and Random Processes.
			CO2	Apply sampling theorem to convert continuous-time signals to discrete-time signals and reconstruct back, different transform techniques to solve signals and system related problems.
			CO3	Formulate and solve engineering problems involving random processes.
			CO4	Analyze the frequency spectra of various continuous-time signals using different transform methods.
			CO5	Classify the systems based on their properties and determine the response of them.

4	Electronic Devices and Circuits	23A04302T	CO1	Understand principle of operation, characteristics and applications of semiconductor diodes, special diodes, BJTs, JFET and MOSFETs.
			CO2	Applying the basic principles solving the problems related to Semiconductor diodes, BJTs, and MOSFETs.
			CO3	Analyze diode circuits for different applications such as rectifiers, clippers and clampers also analyze biasing circuits of BJTs, and MOSFETs.
			CO4	Design of diode circuits and amplifiers using BJTs, and MOSFETs.
			CO5	Compare the performance of various semiconductor devices.
5	Digital Circuits Design	23A04303T	CO1	Understand the properties of Boolean algebra, logic operations, concepts of FSM.
			CO2	Apply techniques for minimization of Boolean functions.
			CO3	Analyze combinational and Sequential logic circuits.
			CO4	Compare various Programmable logic devices.
			CO5	Design and Model combinational and sequential circuits using HDLs.
6	Electronic Devices and Circuits Lab	23A04302P	CO1	Understand the characteristics and applications of basic electronic devices. (L2)
			CO2	Plot the characteristics of electronic devices.
			CO3	Analyze various biasing circuits and electronic circuits as amplifiers.
			CO4	Design MOSFET / BJT based amplifiers for the given specifications.
			CO5	Simulate all circuits in PSPICE /Multisim.
7	Digital Circuits & Signal Simulation Lab	23A04303P	CO1	Verify the truth tables of various logic circuits.
			CO2	Understand how to simulate different types of signals and system response.
			CO3	Design sequential and combinational logic circuits and verify their functionality.
			CO4	Analyze the response of different systems when they are excited by different signals and plot power spectral density of signals.
			CO5	Generate different random signals for the given specifications.
8	Python Programming	23A05304	CO1	Showcase adept command of Python syntax, deftly utilizing variables, data types, control structures, functions, modules, and exception handling to engineer robust and efficient code solutions. (L4)

			CO2	Apply Python programming concepts to solve a variety of computational problems.
			CO3	Understand the principles of object-oriented programming (OOP) in Python, including classes, objects, inheritance, polymorphism, and encapsulation, and apply them to design and implement Python programs.
			CO4	Proficient in using commonly used Python libraries and frameworks such as JSON, XML, NumPy, pandas.
			CO5	Exhibit competence in implementing and manipulating fundamental data structures such as lists, tuples, sets, dictionaries

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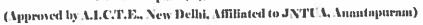Vaagdevi Institute of Technology & Science
PEDDASETTIPALLI
PRODDATUR, Kadapa (Dist.)

COURSE OUTCOMES				REGULATION: R23	
YEAR/SEM: II B.TECH - II SEM				BRANCH: ECE	
S.No	Subject Name	Subject Code		Course Outcomes (CO): After Completion of Course, Student will be able to
1	Managerial Economics and Financial Analysis	23A52402a	CO1		Define the concepts related to Managerial Economics, financial accounting and Management.
			CO2		Understand the fundamentals of Economics viz., Demand, Production, cost, revenue and markets.
			CO3		Apply the Concept of Production cost and revenues for effective Business decision.
			CO4		Analyze how to invest their capital and maximize returns
			CO5		Evaluate the capital budgeting techniques.
			CO6		Develop the accounting statements and evaluate the financial performance of business entity.
2	Linear Control Systems	23A04401	CO1		Summarize the basic principles and applications of control systems.
			CO2		Understand the time response and steady state response of the systems.
			CO3		Understand the concept of state space, controllability and observability.
			CO4		Apply time domain analysis to find solutions to time invariant systems.
			CO5		Analyze different aspects of stability analysis of systems in frequency domain.
3	EM Waves and Transmission Lines	23A04402	CO1		Learn the concepts of wave theory and its propagation through various mediums.
			CO2		Understand the properties of transmission lines and their applications.
			CO3		Apply the laws & theorems of electrostatic fields to solve the related problems
			CO4		Gain proficiency in the analysis and application of magnetostatic laws and theorems
			CO5		Analyze Maxwell's equations in different forms.
4	Electronic Circuits Analysis	23A04403T	CO1		Understand the characteristics of differential amplifiers, feedback and power amplifiers.
			CO2		Examine the frequency response of multistage and differential amplifier circuits using BJT & MOSFETs at low and high frequencies.
			CO3		Investigate different feedback and power amplifier circuits based on the application.
			CO4		Derive the expressions for frequency of oscillation and condition for oscillation of RC and LC oscillator circuits.
			CO5		Evaluate the performance of different tuned

				amplifiers
			CO6	Design analog circuits for the given specifications and application.
5	Analog and Digital Communications	23A04404T	CO1	Recognize the basic terminology used in analog and digital communication technique for transmission of information/data.
			CO2	Explain the basic operation of different analog and digital communication systems at baseband and passband level.
			CO3	Compute various parameters of baseband and passband transmission schemes by applying basic engineering knowledge.
			CO4	Analyze the performance of different modulation & demodulation techniques to solve complex problems in the presence of noise.
			CO5	Evaluate the performance of all analog and digital modulation techniques to know the merits and demerits of each one of them in terms of bandwidth and power efficiency.
6	Electronic Circuits Analysis Lab	23A04403P	CO1	Know about the usage of equipment/components/software tools used to conduct experiments in analog circuits.
			CO2	Conduct the experiment based on the knowledge acquired in the theory about various analog circuits using BJT/MOSFETs to find the important parameters of the circuit experimentally.
			CO3	Analyze the given analog circuit to find required important metrics of it theoretically.
			CO4	Compare the experimental results with that of theoretical ones and infer the conclusions.
			CO5	Design the circuit for the given specifications.
7	Analog and Digital Communications Lab	23A04404P	CO1	Know about the usage of equipment/components/software tools used to conduct experiments in analog and digital modulation techniques.
			CO2	Conduct the experiment based on the knowledge acquired in the theory about modulation and demodulation schemes to find the important metrics of the communication system experimentally.
			CO3	Analyze the performance of a given modulation scheme to find the important metrics of the system theoretically.
			CO4	Compare the experimental results with that of theoretical ones and infer the

				conclusions.
8	Soft Skills	23A52403	CO1	List out various elements of soft skills
			CO2	Describe methods for building professional image
			CO3	Apply critical thinking skills in problem solving
			CO4	Analyse the needs of an individual and team for well-being
			CO5	Assess the situation and take necessary decisions
			CO6	Create a productive workplace atmosphere using social and work-life skills ensuring personal and emotional well-being
9	Design Thinking and Innovation	23A99401	CO1	Define the concepts related to design thinking.
			CO2	Explain the fundamentals of Design Thinking and innovation
			CO3	Apply the design thinking techniques for solving problems in various sectors.
			CO4	Analyse to work in a multidisciplinary environment
			CO5	Evaluate the value of creativity
			CO6	Formulate specific problem statements of real time issues

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DEPARTMENT OF ELECTRICAL &

ELECTRONICS ENGINEERING

COURSE OUTCOMES			REGULATION: R23	
YEAR/SEM: II B.TECH - I SEM			BRANCH: EEE	
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to	
1	Complex Variables & Numerical Methods	23A54302	CO1	Analyze limit, continuity and differentiation of functions of complex variables and Understand Cauchy-Riemann equations, analytic functions and various properties of analytic functions.
			CO2	Understand Cauchy theorem, Cauchy integral formulas and apply these to evaluate complex contour integrals. Classify singularities and poles; find residues and evaluate complex integrals using the residue theorem
			CO3	Apply numerical methods to solve algebraic and transcendental equations
			CO4	Derive interpolating polynomials using interpolation formulae
			CO5	Solve differential and integral equations numerically
2	Universal Human Values Understanding Harmony	23A52301	CO1	Define the terms like Natural Acceptance, Happiness and Prosperity
			CO2	Identify one's self, and one's surroundings (family, society nature)
			CO3	Apply what they have learnt to their own self in different day-to-day settings in real life
			CO4	Relate human values with human relationship and human society.
			CO5	Justify the need for universal human values and harmonious existence
			CO6	Develop as socially and ecologically responsible engineers
3	Electromagnetic Field Theory	23A02301	CO1	Remember the concepts of vector algebra, vector calculus, various fundamental laws, self and mutual inductance
			CO2	Understand the concepts of electrostatics, conductors, dielectrics, capacitance, magneto statics, magnetic fields, time varying fields, self and mutual inductances
			CO3	Apply vector calculus, Coulomb's law, Gauss's law, Ohm's law in point form, Biot-Savart's law, Ampere's circuital law, Maxwell's third equation, self and mutual inductances, Faraday's laws, Maxwell's fourth equation, Poynting theorem to solve various numerical problems
			CO4	Analyze vector calculus, electrostatic fields, behavior of conductor in electric filed, Biot-Savart's law and its applications

			CO5	Analyze magnetic force, moving charges in a magnetic field, self-inductance of different cables, mutual inductance between different wires and time varying fields
4	Electrical Circuit Analysis-II	23A02302T	CO1	Remember the concepts of Laplace transforms, formulation of various circuit topologies (R, L and C components) and basic filters
			CO2	Understand three phase balanced and unbalanced circuits, different circuit configurations and it's mathematical modeling, network parameters and various filters
			CO3	Apply Laplace transforms to solve various electrical network topologies and filter design concepts
			CO4	Analyze three phase circuits, transient response of various network topologies, electric circuits with periodic excitations and filter characteristics
			CO5	Design suitable electrical circuits and various filters for different applications
5	DC Machines & Transformers	23A02303T	CO1	Understand the process of voltage build-up in DC generators and characteristics
			CO2	Understand the process of torque production, starting and speed control of DC motors and illustrate their characteristics.
			CO3	Obtain the equivalent circuit of single-phase transformer, auto transformer and determine its efficiency & regulation.
			CO4	Apply various testing methods for transformers and speed control of DC motors
			CO5	Analyze various configurations of three-phase transformers.
6	Electrical Circuit Analysis-II and Simulation Lab	23A02302P	CO1	Understand the power calculations in three phase circuits.
			CO2	Analyze the time response of given network.
			CO3	Determination of two port network parameters.
			CO4	Simulate and analyze electrical circuits using software tools
			CO5	Apply various theorems to solve different electrical networks using simulation tools
7	DC Machines & Transformers Lab	23A02303P	CO1	Demonstrate starting and speed control methods of DC Machines.
			CO2	Apply theoretical concepts to determine the performance characteristics of DC Machines.
			CO3	Analyze the parallel operation of single phase transformers
			CO4	Determine the performance parameters of single-phase transformer.

			CO5	Analyze the performance analysis of transformers using various tests
8	Data Structures	23A05305	CO1	Understand the role of data structures in organizing and accessing data
			CO2	Design, implement and apply linked lists for dynamic data storage
			CO3	Develop applications using stacks and queues
			CO4	Design and implement algorithms for operations on binary trees and binary search trees
			CO5	Design novel solutions to small scale programming challenges involving data structures such as stacks, queues, Trees

B. Siddeswar

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COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: II B.TECH - II SEM				BRANCH: EEE
S.No	Subject Name	Subject Code		Course Outcomes (CO): After Completion of Course, Student will be able to
1	Managerial Economics and	23A52402a	CO1	Define the concepts related to Managerial Economics, financial accounting and management
			CO2	Understand the fundamentals of Economics viz., Demand, Production, cost, revenue and markets
			CO3	Apply the Concept of Production cost and revenues for effective Business decision
			CO4	Analyze how to invest their capital and maximize returns
			CO5	Evaluate the capital budgeting techniques.
			CO6	Develop the accounting statements and evaluate the financial performance of business entity
2	Analog Circuits	23A02401	CO1	Understand the concepts of diode clipping and clamping circuits, different amplifier configurations, operation of oscillator circuits, operational amplifiers, timers, ADC and DAC
			CO2	Apply the above concepts for different circuit design
			CO3	Analyze various circuit characteristics by using Amplifiers, Transistors, Comparators, Wave form generators, ADC and DAC
			CO4	Analyze various circuit characteristics by using timers, Phase locked loops and operational amplifiers
			CO5	Evaluate different system configurations by using various amplifier, transistor and waveform generators
3	Power Systems-I	23A02402	CO1	Understand the different types of power plants, operation of power plants
			CO2	Understand the concepts of distribution systems, underground cables, economic aspects and tariff
			CO3	Understand various substations that are located in distribution systems
			CO4	Apply the above concepts to illustrate different power generation layouts
			CO5	Analyze various economic aspects related to power generation and distribution
4	Induction and Synchronous Machines	23A02403T	CO1	Understand the construction, principle and operation of single phase and three phase induction motors
			CO2	Understand the construction, principle and operation of synchronous generator and synchronous motor
			CO3	Understand various applications of various

				alternating machines
			CO4	Apply the above concepts to solve various mathematical and complex problems
			CO5	Analyze the characteristics of induction motor, synchronous motor and synchronous generators
5	Control Systems	23A02404T	CO1	Understand the concepts of various mathematical representations of control systems, Time response of first order and second order systems, stability, frequency response and fundamentals of modern control systems
			CO2	Apply Block diagram reduction, Signal flow graph, Routh criterion, Root locus, Bode, Polar, Nyquist concepts for solving various numerical problems
			CO3	Analyze time response characteristics, frequency response characteristics, stability analysis of various control systems
			CO4	Design various compensators and controllers for different control systems by using design procedures
			CO5	Create suitable control systems for various real time applications
6	Induction and Synchronous Machines Lab	23A02403P	CO1	Analyze various performance characteristics of 3-phase and 1-phase induction motors
			CO2	Evaluate the performance of 3-phase Induction Motor by obtaining the circle diagram and equivalent circuit of 3-phase Induction Motor and single phase induction motor
			CO3	Adapt the power factor improvement methods for single phase Induction Motor
			CO4	Pre-determine the regulation of 3-phase alternator
			CO5	Determine the synchronous machine reactance of 3-phase alternator
7	Control Systems Lab	23A02404P	CO1	Understand how to use feedback control system to determine transfer function of DC servo motor and any other given circuit with R, L and C components
			CO2	Model the systems and able to design the controllers and compensators.
			CO3	Get the knowledge about the effect of poles and zeros location on transient and steady state behavior of second order systems and implement through software tools
			CO4	Determine the performance and time domain specifications of first and second order systems.
			CO5	Understand the stability analysis

8	Python Programming	23A05304	CO1	Showcase adept command of Python syntax, deftly utilizing variables, data types, control structures, functions, modules, and exception handling to engineer robust and efficient code solutions
			CO2	Apply Python programming concepts to solve a variety of computational problems
			CO3	Understand the principles of object-oriented programming (OOP) in Python, including classes, objects, inheritance, polymorphism, and encapsulation, and apply them to design and implement Python programs
			CO4	Proficient in using commonly used Python libraries and frameworks such as JSON, XML, NumPy, pandas
			CO5	Exhibit competence in implementing and manipulating fundamental data structures such as lists, tuples, sets, dictionaries
9	Design Thinking & Innovation	23A99401	CO1	Define the concepts related to design thinking.
			CO2	Explain the fundamentals of Design Thinking and innovation
			CO3	Apply the design thinking techniques for solving problems in various sectors.
			CO4	Analyse to work in a multidisciplinary environment
			CO5	Evaluate the value of creativity
			CO6	Formulate specific problem statements of real time issues

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PRODDATUR, Kadapa (Dist.)

DEPARTMENT OF

COMPUTER SCIENCE &

ENGINEERING

COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: II B.TECH - I SEM				BRANCH: CSE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to
1	Discrete Mathematics & Graph Theory	23A54301	CO1	Apply mathematical logic to solve problems.
			CO2	Understand the concepts and perform the operations related to sets, relations and functions. Gain the conceptual background needed and identify structures of algebraic nature
			CO3	Apply basic counting techniques to solve combinatorial problems.
			CO4	Formulate problems and solve recurrence relations.
			CO5	Apply Graph Theory in solving computer science problems
2	Universal Human Values 2- Understanding Harmony and Ethical human conduct	23A52301	CO1	To help the students appreciate the essential complementary between 'VALUES' and 'SKILLS' to ensure sustained happiness and prosperity which are the core aspirations of all human beings.
			CO2	To facilitate the development of a Holistic perspective among students towards life and profession as well as towards happiness and prosperity based on a correct understanding of the Human reality and the rest of existence. Such holistic perspective forms the basis of Universal Human Values and movement towards valuebased living in a natural way.
			CO3	To highlight plausible implications of such a Holistic understanding in terms of ethical human conduct, trustful and mutually fulfilling human behaviour and mutually enriching interaction with Nature.
3	Digital Logic and Computer Organization	23A30402	CO1	Differentiate between combinational and sequential circuits based on their characteristics and functionalities.
			CO2	Demonstrate an understanding of computer functional units.
			CO3	Analyze the design and operation of processors, including instruction execution, pipelining, and control unit mechanisms, to comprehend their role in computer systems
			CO4	Describe memory hierarchy concepts, including cache memory, virtual memory, and secondary storage, and evaluate their impact on system performance and scalability.
			CO5	Explain input/output (I/O) systems and their

				interaction with the CPU, memory, and peripheral devices, including interrupts, DMA, and I/O mapping techniques.
			CO6	Design Sequential and Combinational Circuits
4	Advanced Data Structures & Algorithms Analysis	23A05302T	CO1	Illustrate the working of the advanced tree data structures and their applications
			CO2	Understand the Graph data structure, traversals and apply them in various contexts.
			CO3	Use various data structures in the design of algorithms
			CO4	Recommend appropriate data structures based on the problem being solved
			CO5	Analyze algorithms with respect to space and time complexities
			CO6	Design new algorithms
5	Object-Oriented Programming Through JAVA	23A05303T	CO1	Analyze problems, design solutions using OOP principles, and implement them efficiently in Java.
			CO2	Design and implement classes to model real-world entities, with a focus on attributes, behaviors, and relationships between objects
			CO3	Demonstrate an understanding of inheritance hierarchies and polymorphic behaviour, including method overriding and dynamic method dispatch.
			CO4	Apply Competence in handling exceptions and errors to write robust and fault-tolerant code.
			CO5	Perform file input/output operations, including reading from and writing to files using Java I/O classes, graphical user interface (GUI) programming using JavaFX.
			CO6	Choose appropriate data structure of Java to solve a problem
6	Advanced Data Structures and Algorithms Analysis Lab	23A05302P	CO1	Design and develop programs to solve real world problems with the popular algorithm design methods.
			CO2	Demonstrate an understanding of Non-Linear data structures by developing implementing the operations on AVL Trees, B-Trees, Heaps and Graphs.
			CO3	Critically assess the design choices and implementation strategies of algorithms and data structures in complex applications.
			CO4	Utilize appropriate data structures and algorithms to optimize solutions for specific computational problems.
			CO5	Compare the performance of different of algorithm design strategies

			CO6	Design algorithms to new real world problems
7	Object-Oriented Programming Through JAVA Lab	23A05303P	CO1	Demonstrate a solid understanding of Java syntax, including data types, control structures, methods, classes, objects, inheritance, polymorphism, and exception handling
			CO2	Apply fundamental OOP principles such as encapsulation, inheritance, polymorphism, and abstraction to solve programming problems effectively.
			CO3	Familiar with commonly used Java libraries and APIs, including the Collections Framework, Java I/O, JDBC, and other utility classes.
			CO4	Develop problem-solving skills and algorithmic thinking, applying OOP concepts to design efficient solutions to various programming challenges.
			CO5	Proficiently construct graphical user interface (GUI) applications using JavaFX
			CO6	Develop new programs for solving typical computer science problems
8	Python programming	23A05304	CO1	Classify data structures of Python
			CO2	Apply Python programming concepts to solve a variety of computational problems
			CO3	Understand the principles of object-oriented programming (OOP) in Python, including classes, objects, inheritance, polymorphism, and encapsulation, and apply them to design and implement Python programs
			CO4	Become proficient in using commonly used Python libraries and frameworks such as JSON, XML, NumPy, pandas
			CO5	Exhibit competence in implementing and manipulating fundamental data structures such as lists, tuples, sets, dictionaries
			CO6	Propose new solutions to computational problems

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VAAGDEVI INSTITUTE OF TECHNOLOGY & SCIENCE
Peddasettipalli (V), Proddatur - 516360
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COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: II B.TECH - II SEM				BRANCH: CSE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to
1	Managerial Economics and Financial Analysis	23A52402a	CO1	Define the concepts related to Managerial Economics, financial accounting and management
			CO2	Understand the fundamentals of Economics viz., Demand, Production, cost, revenue and markets
			CO3	Apply the Concept of Production cost and revenues for effective Business decision
			CO4	Analyze how to invest their capital and maximize returns
			CO5	Evaluate the capital budgeting techniques.
			CO6	Develop the accounting statements and evaluate the financial performance of business entity
2	Probability & Statistics	23A54401	CO1	Acquire knowledge in finding the analysis of the data quantitatively or categoricallyand various statistical elementary tools.
			CO2	Develop skills in designing mathematical models involving probability, random variables and the critical thinking in the theory of probability and its applications in real life problems.
			CO3	Apply the theoretical probability distributions like binomial, Poisson, and Normal in the relevant application areas.
			CO4	Analyze to test various hypotheses included in theory and types of errors for large samples.
			CO5	Apply the different testing tools like t-test, F-test, chi-square test to analyze the relevant real life problems.
3	Operating Systems	23A35401T	CO1	Describe the basics of the operating systems, mechanisms of OS to handle processes, threads, and their communication.
			CO2	Understand the basic concepts and principles of operating systems, including process management, memory management, file systems, and Protection. (
			CO3	Make use of process scheduling algorithms and synchronization techniques to achieve better performance of a computer system.
			CO4	Illustrate different conditions for deadlock and their possible solutions.
			CO5	Analyze the memory management and its allocation policies.
4	Database Management Systems	23A05402T	CO1	Understand the basic concepts of database management systems

			CO2	Analyze a given database application scenario to use ER model for conceptual design of the database
			CO3	Utilize SQL proficiently to address diverse query challenges
			CO4	Employ normalization methods to enhance database structure
			CO5	Assess and implement transaction processing, concurrency control and database recovery protocols in databases.
5	Software Engineering	23A05403	CO1	Perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance
			CO2	Analyse various software engineering models and apply methods for design and development of software projects.
			CO3	Develop system designs using appropriate techniques
			CO4	Understand various testing techniques for a software project.
			CO5	Apply standards, CASE tools and techniques for engineering software projects
6	Operating Systems Lab	23A35401P	CO1	Trace different CPU Scheduling algorithms
			CO2	Implement Bankers Algorithms to Avoid the Dead Lock
			CO3	Evaluate Page replacement algorithms
			CO4	Illustrate the file organization techniques
			CO5	Illustrate Inter process Communication and concurrent execution of threads
7	Database Management Systems Lab	23A05402P	CO1	Utilizing Data Definition Language (DDL), Data Manipulation Language (DML), and Data Control Language (DCL) commands effectively within a database environment
			CO2	Constructing and execute queries to manipulate and retrieve data from databases.
			CO3	Develop application programs using PL/SQL
			CO4	Analyze requirements and design custom Procedures, Functions, Cursors, and Triggers, leveraging their capabilities to automate tasks and optimize database functionality
			CO5	Establish database connectivity through JDBC (Java Database Connectivity)
8	Full Stack Development-1	23A52401	CO1	Design Websites.
			CO2	Apply Styling to web pages
			CO3	Make Web pages interactive.
			CO4	Design Forms for applications.
			CO5	Choose Control Structure based on the logic to be implemented.

			CO6	Understand HTML tags, Attributes and CSS properties
9	Design Thinking & Innovation	23A99401	CO1	Define the concepts related to design thinking.
			CO2	Explain the fundamentals of Design Thinking and innovation
			CO3	Apply the design thinking techniques for solving problems in various sectors.
			CO4	Analyse to work in a multidisciplinary environment
			CO5	Evaluate the value of creativity
			CO6	Formulate specific problem statements of real time issues

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DEPARTMENT OF

BASIC SCIENCE & HUMANITIES

COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: I B.TECH - I SEM				BRANCH: ECE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to	
1	Engineering Physics	23A56101T	CO1	Analyze the intensity variation of light due to polarization, interference and diffraction.
			CO2	Familiarize with the basics of crystals and their structures.
			CO3	Explain fundamentals of quantum mechanics and apply it to one dimensional motion of particles.
			CO4	Summarize various types of polarization of dielectrics and classify the magnetic materials.
			CO5	Explain the basic concepts of Quantum Mechanics and the band theory of solids.
			CO6	Identify the type of semiconductor using Hall effect.
2	Linear Algebra & Calculus	23A54101	CO1	Develop and use of matrix algebra techniques that are needed by engineers for the practical applications.
			CO2	Utilize mean value theorems to real life problems.
			CO3	Familiarize with functions of several variables which is useful in optimization.
			CO4	Learn important tools of calculus in higher dimensions.
			CO5	Familiarize with double and triple integrals of functions of several variables in two dimensions using Cartesian and polar coordinates and in three dimensions using cylindrical and spherical coordinates.
3	Basic Electrical & Electronics Engineering Part A: Basic Electrical Engineering	23A02101T	CO1	Remember the fundamental laws, operating principles of motors, generators, MC and MI instruments.
			CO2	Understand the problem solving concepts associated to AC and DC circuits, construction and operation of AC and DC machines, measuring instruments; different power generation mechanisms, Electricity billing concept and important safety measures related to electrical operations.
			CO3	Apply mathematical tools and fundamental concepts to derive various equations related to machines, circuits and measuring instruments; electricity bill calculations and layout representation of electrical power systems.
			CO4	Analyze different electrical circuits, performance of machines and measuring

				instruments.
			CO5	Evaluate different circuit configurations, Machine performance and Power systems operation.
	Part B: Basic Electronics Engineering	23A02101T	CO1	Apply the concept of science and mathematics to understand the working of diodes, transistors, and their applications.
			CO2	Explain the characteristics of diodes and transistors.
			CO3	Familiarize with the number systems, codes, Boolean algebra and logic gates.
			CO4	Understand the working mechanism of different combinational, sequential circuits and their role in the digital systems.
4	Engineering Graphics	23A03101T	CO1	Understand the principles of engineering drawing, including engineering curves, scales, orthographic and isometric projections.
			CO2	Draw and interpret orthographic projections of points, lines, planes and solids in front, top and side views.
			CO3	Understand and draw projection of solids in various positions in first quadrant.
			CO4	Explain principles behind development of surfaces.
			CO5	Prepare isometric and perspective sections of simple solids.
5	Introduction to Programming	23A05101T	CO1	Understand basics of computers, the concept of algorithm and algorithmic thinking.
			CO2	Analyse a problem and develop an algorithm to solve it.
			CO3	Implement various algorithms using the C programming language.
			CO4	Understand more advanced features of C language.
			CO5	Develop problem-solving skills and the ability to debug and optimize the code.
6	IT Workshop	23A05102	CO1	Perform Hardware troubleshooting.
			CO2	Understand Hardware components and inter dependencies.
			CO3	Safeguard computer systems from viruses/worms.
			CO4	Document/ Presentation preparation.
			CO5	Perform calculations using spreadsheets.
7	Engineering Physics Lab	23A56101P	CO1	Operate optical instruments like travelling microscope and spectrometer.
			CO2	Estimate the wavelengths of different colours using diffraction grating.
			CO3	Plot the intensity of the magnetic field of

				circular coil carrying current with distance.
			CO4	Evaluate dielectric constant and magnetic susceptibility for dielectric and magnetic materials respectively.
			CO5	Calculate the band gap of a given semiconductor.
			CO6	Identify the type of semiconductor using Hall effect.
8	Electrical & Electronics Engineering Workshop Part-A: Electrical Engineering Lab	23A02101P	CO1	Understand the Electrical circuit design concept; measurement of resistance, power, power factor; concept of wiring and operation of Electrical Machines and Transformer.
			CO2	Apply the theoretical concepts and operating principles to derive mathematical models for circuits, Electrical machines and measuring instruments; calculations for the measurement of resistance, power and power factor.
			CO3	Apply the theoretical concepts to obtain calculations for the measurement of resistance, power and power factor.
			CO4	Analyse various characteristics of electrical circuits, electrical machines and measuring instruments.
			CO5	Design suitable circuits and methodologies for the measurement of various electrical parameters; Household and commercial wiring.
	Part-B:Electronics Engineering Lab	23A02101P	CO1	Identify & testing of various electronic components.
			CO2	Understand the usage of electronic measuring instruments.
			CO3	Plot and discuss the characteristics of various electron devices.
			CO4	Explain the operation of a digital circuit.
9	Computer Programming Lab	23A05101P	CO1	Read, understand, and trace the execution of programs written in C language.
			CO2	Select the right control structure for solving the problem.
			CO3	Develop C programs which utilize memory efficiently using programming constructs like pointers.
			CO4	Develop, Debug and Execute programs to demonstrate the applications of arrays,functions, basic concepts of pointers in C.

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Sri Sri Sri Mookambika Educational Society's

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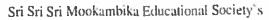Peddasettipalli (V), Proddatur - 516360
(Approved by A.I.C.T.E., New Delhi, Affiliated to JNTUA, Anantapuram)

COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: I B.TECH - II SEM				BRANCH: ECE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to
1	Communicative English	23A52201T	CO1	Understand the context, topic, and pieces of specific information from social or Transactional dialogues.
			CO2	Apply grammatical structures to formulate sentences and correct word forms.
			CO3	Analyzediscoursemarkerstospeakclearlyonaspecifictopicininformaldiscussions.
			CO4	Evaluate reading / listening text sand to write summaries based on global – Comprehension of these texts.
			CO5	Create a coherent paragraph, essay, and resume.
2	Chemistry	23A51202T	CO1	Compare the materials of construction for battery and electro chemical sensors.
			CO2	Explain the preparation, properties, and applications of thermoplastics & thermosetting & elastomers conducting polymers.
			CO3	Explain the principles of spectrometry, slcinseparation of solid and liquid mixtures.
			CO4	ApplytheprincipleofBanddiagramsintheapplicationofconductorsandsemiconductors.
			CO5	Summarize the concepts of Instrumental methods.
3	Differential Equations & Vector Calculus	23A54201	CO1	Solve the differential equations related to various engineering fields.
			CO2	Identify solution methods for partial differential equations that model physical processes.
			CO3	Interpret the physical meaning of different operators such as gradient, curl and divergence.
			CO4	Estimate the work done against a field, circulation and flux using vector calculus.
4	Basic Civil & Mechanical Engineering Part-A: Basic Civil Engineering	23A01201T	CO1	Understand various sub-divisions of Civil Engineering and to appreciate their role in ensuring better society.
			CO2	Know the concepts of surveying and to understand the measurement of distances, angles and levels through surveying.
			CO3	Realize the importance of Transportation in nation's economy and the engineering measures related to Transportation.
			CO4	Understand the importance of Water Storage and Conveyance Structures so that the social responsibilities of water conservation will be appreciated.
			CO5	Understand the basic characteristics of Civil

				Engineering Materials and attain knowledge on prefabricated technology.
	Part-A: Basic Mechanical Engineering	23A01201T	CO1	Understand the different manufacturing processes.
			CO2	Explain the basics of thermal engineering and its applications.
			CO3	Describe the working of different mechanical power transmission systems and power plants.
			CO4	Describe the basics of robotics and its applications.
5	Network Analysis	23A04201T	CO1	Understand basic electrical circuits with nodal and mesh analysis.
			CO2	Analyse the circuit using network simplification theorems.
			CO3	Find Transient response and Steady state response of a network.
			CO4	Analyse electrical networks in the Laplace domain.
			CO5	Compute the parameters of a two-port network.
6	Communicative English Lab	23A52201P	CO1	Understand the different aspects of the English language proficiency with emphasis on LSRW skills.
			CO2	Apply communication skills through various language learning activities.
			CO3	Analyze the English speech sounds, stress, rhythm, intonation and syllable divisionfor better listening and speaking comprehension.
			CO4	Evaluate and exhibit professionalism in participating in debates and group discussions.
			CO5	Create effective Course Objectives:
7	Chemistry Lab	23A51202P	CO1	Determine the cell constant and conductance of solutions.
			CO2	Prepare advanced polymer Bakelite materials.
			CO3	Measure the strength of an acid present in secondary batteries.
			CO4	Analyse the IR spectra of some organic compounds.
			CO5	Calculate strength of acid in Pb-Acid battery
8	Engineering Workshop	23A03201	CO1	Identify workshop tools and their operational capabilities.
			CO2	Practice on manufacturing of components using workshop trades including fitting, carpentry, foundry and welding.
			CO3	Apply fitting operations in various applications.
			CO4	Apply basic electrical engineering knowledge for House Wiring Practice
9	Network Analysis And	23A04201P	CO1	Verify Kirchoff's laws and network theorems.
			CO2	Measure time constants of RL & RC circuits.

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	Simulation Laboratory		CO3	Analyze behavior of RLC circuit for different cases.
			CO4	Design resonant circuit for given specifications.
			CO5	Characterize and model the network in terms of all network parameters.

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COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: I B.TECH - I SEM				BRANCH: EEE
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2	Chemistry	23A51202T	CO1	Compare the materials of construction for battery and electro chemical sensors.
			CO2	Explain the preparation, properties, and applications of thermoplastics & thermosetting & elastomers conducting polymers.
			CO3	Explain the principles of spectrometry, slcinseparation of solid and liquid mixtures.
			CO4	ApplytheprincipleofBanddiagramsintheapplicationofconductorsandsemiconductors.
			CO5	Summarize the concepts of Instrumental methods.
			CO6	Solve the differential equations related to various engineering fields.
3	Linear Algebra & Calculus	23A54101	CO1	Develop and use of matrix algebra techniques that are needed by engineers for the practical applications.
			CO2	Utilize mean value theorems to real life problems.
			CO3	Familiarize with functions of several variables which is useful in optimization.
			CO4	Learn important tools of calculus in higher dimensions.
			CO5	Familiarize with double and triple integrals of functions of several variables in two dimensions using Cartesian and polar coordinates and in three dimensions using cylindrical and spherical coordinates.
4	Basic Civil & Mechanical Engineering Part-A: Basic Civil Engineering	23A01201T	CO1	Understand various sub-divisions of Civil Engineering and to appreciate their role in ensuring better society.
			CO2	Know the concepts of surveying and to understand the measurement of distances, angles and levels through surveying.

			CO3	Realize the importance of Transportation in nation's economy and the engineering measures related to Transportation.
			CO4	Understand the importance of Water Storage and Conveyance Structures so that the social responsibilities of water conservation will be appreciated.
	Part-A: Basic Mechanical Engineering	23A01201T	CO1	Understand the different manufacturing processes.
			CO2	Explain the basics of thermal engineering and its applications.
			CO3	Describe the working of different mechanical power transmission systems and power plants.
			CO4	Describe the basics of robotics and its applications.
5	Introduction to Programming	23A05101T	CO1	Understand basics of computers, the concept of algorithm and algorithmic thinking.
			CO2	Analyse a problem and develop an algorithm to solve it.
			CO3	Implement various algorithms using the C programming language.
			CO4	Understand more advanced features of C language.
			CO5	Develop problem-solving skills and the ability to debug and optimize the code.
6	Communicative English Lab	23A52201P	CO1	Understand the different aspects of the English language proficiency with emphasis on LSRW skills.
			CO2	Apply communication skills through various language learning activities.
			CO3	Analyze the English speech sounds, stress, rhythm, intonation and syllable divisionfor better listening and speaking comprehension.
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			CO3	Measure the strength of an acid present in secondary batteries.
			CO4	Analyse the IR spectra of some organic compounds.
			CO5	Calculate strength of acid in Pb-Acid battery
8	Engineering Workshop	23A03201	CO1	Identify workshop tools and their operational capabilities.
			CO2	Practice on manufacturing of components using workshop trades including fitting, carpentry,

				foundry and welding.
			CO3	Apply fitting operations in various applications.
			CO4	Apply basic electrical engineering knowledge for House Wiring Practice
9	Computer Programming Lab	23A05101P	CO1	Read, understand, and trace the execution of programs written in C language.
			CO2	Select the right control structure for solving the problem.
			CO3	Develop C programs which utilize memory efficiently using programming constructs like pointers.
			CO4	Develop, Debug and Execute programs to demonstrate the applications of arrays,functions, basic concepts of pointers in C.

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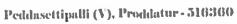| COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: I B.TECH - II SEM				BRANCH: EEE
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to
1	Engineering Physics	23A56101T	CO1	Analyze the intensity variation of light due to polarization, interference and diffraction.
			CO2	Familiarize with the basics of crystals and their structures.
			CO3	Explain fundamentals of quantum mechanics and apply it to one dimensional motion of particles.
			CO4	Summarize various types of polarization of dielectrics and classify the magnetic materials.
			CO5	Explain the basic concepts of Quantum Mechanics and the band theory of solids.
			CO6	Identify the type of semiconductor using Hall effect.
2	Differential Equations & Vector Calculus	23A54201	CO1	Solve the differential equations related to various engineering fields.
			CO2	Identify solution methods for partial differential equations that model physical processes.
			CO3	Interpret the physical meaning of different operators such as gradient, curl and divergence.
			CO4	Estimate the work done against a field, circulation and flux using vector calculus.
3	Electrical & Electronics Engineering Workshop Part-A: Electrical Engineering Lab	23A02101P	CO1	Understand the Electrical circuit design concept; measurement of resistance, power, power factor; concept of wiring and operation of Electrical Machines and Transformer.
			CO2	Apply the theoretical concepts and operating principles to derive mathematical models for circuits, Electrical machines and measuring instruments; calculations for the measurement of resistance, power and power factor.
			CO3	Apply the theoretical concepts to obtain calculations for the measurement of resistance, power and power factor.
			CO4	Analyse various characteristics of electrical circuits, electrical machines and measuring instruments.
			CO5	Design suitable circuits and methodologies for the measurement of various electrical parameters; Household and commercial wiring.
	Part-B:Electronics Engineering Lab	23A02101P	CO1	Identify & testing of various electronic components.
			CO2	Understand the usage of electronic measuring instruments.

			CO3	Plot and discuss the characteristics of various electron devices.
			CO4	Explain the operation of a digital circuit.
4	Engineering Graphics	23A03101T	CO1	Understand the principles of engineering drawing, including engineering curves, scales, orthographic and isometric projections.
			CO2	Draw and interpret orthographic projections of points, lines, planes and solids in front, top and side views.
			CO3	Understand and draw projection of solids in various positions in first quadrant.
			CO4	Explain principles behind development of surfaces.
			CO5	Prepare isometric and perspective sections of simple solids.
5	IT Workshop	23A05102	CO1	Perform Hardware troubleshooting.
			CO2	Understand Hardware components and inter dependencies.
			CO3	Safeguard computer systems from viruses/worms.
			CO4	Document/ Presentation preparation.
			CO5	Perform calculations using spreadsheets.
6	Electrical Circuit Analysis-I	23A02201T	CO1	Remembering the basic electrical elements and different fundamental laws.
			CO2	Understand the network reduction techniques, transformations, concept of self-inductance and mutual inductance, phasor diagrams, resonance and network theorems.
			CO3	Apply the concepts to obtain various mathematical and graphical representations.
			CO4	Analyse nodal and mesh networks, series and parallel circuits, steady state response, different circuit topologies (with R, L and C components)
			CO5	Evaluation of Network theorems, electrical, magnetic and single-phase circuits.
7	Engineering Physics Lab	23A56101P	CO1	Operate optical instruments like travelling microscope and spectrometer.
			CO2	Estimate the wavelengths of different colours using diffraction grating.
			CO3	Plot the intensity of the magnetic field of circular coil carrying current with distance.
			CO4	Evaluate dielectric constant and magnetic susceptibility for dielectric and magnetic materials respectively.
			CO5	Calculate the band gap of a given semiconductor.
			CO6	Identify the type of semiconductor using Hall effect.

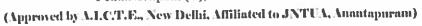|				
8	Electrical & Electronics Engineering Workshop Part-A: Electrical Engineering Lab	23A02101P	CO1	Understand the Electrical circuit design concept; measurement of resistance, power, power factor; concept of wiring and operation of Electrical Machines and Transformer.
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			CO5	Design suitable circuits and methodologies for the measurement of various electrical parameters; Household and commercial wiring.
	Part-B:Electronics Engineering Lab	23A02101P	CO1	Identify & testing of various electronic components.
			CO2	Understand the usage of electronic measuring instruments.
			CO3	Plot and discuss the characteristics of various electron devices.
			CO4	Explain the operation of a digital circuit.
9	Electrical Circuit Analysis-I Lab	23A02201P	CO1	Understand the concepts of network theorems, node and mesh networks, series and parallel resonance and Locus diagrams.
			CO2	Apply various theorems to compare practical results obtained with theoretical calculations.
			CO3	Determine self, mutual inductances and coefficient of coupling values, parameters of choke coil.
			CO4	Analyse different circuit characteristics with the help of fundamental laws and various configurations.
			CO5	Create locus diagrams of RL, RC series circuits and examine series and parallel resonance.

B. Siddeswar

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COURSE OUTCOMES				REGULATION: R23	
YEAR/SEM: I B.TECH - I SEM				BRANCH: CSE	
S.No	Subject Name	Subject Code	Course Outcomes (CO): After Completion of Course, Student will be able to		

S.No	Subject Name	Subject Code	CO	Course Outcomes (CO): After Completion of Course, Student will be able to
1	Communicative English	23A52201T	CO1	Understand the context, topic, and pieces of specific information from social or Transactional dialogues.
			CO2	Apply grammatical structures to formulate sentences and correct word forms.
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			CO5	Create a coherent paragraph, essay, and resume.
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			CO2	Explain the preparation, properties, and applications of thermoplastics & thermosetting & elastomers conducting polymers.
			CO3	Explain the principles of spectrometry, slcinseparation of solid and liquid mixtures.
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			CO5	Summarize the concepts of Instrumental methods.
			CO6	Solve the differential equations related to various engineering fields.
3	Linear Algebra & Calculus	23A54101	CO1	Develop and use of matrix algebra techniques that are needed by engineers for the practical applications.
			CO2	Utilize mean value theorems to real life problems.
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			CO3	Realize the importance of Transportation in nation's economy and the engineering measures related to Transportation.
			CO4	Understand the importance of Water Storage and Conveyance Structures so that the social responsibilities of water conservation will be appreciated.
	Part-A: Basic Mechanical Engineering	23A01201T	CO1	Understand the different manufacturing processes.
			CO2	Explain the basics of thermal engineering and its applications.
			CO3	Describe the working of different mechanical power transmission systems and power plants.
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COURSE OUTCOMES				REGULATION: R23
YEAR/SEM: I B.TECH - II SEM				BRANCH: CSE
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			CO5	Prepare isometric and perspective sections of simple solids.
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			CO2	Understand Hardware components and inter dependencies.
			CO3	Safeguard computer systems from viruses/worms.
			CO4	Document/ Presentation preparation.
			CO5	Perform calculations using spreadsheets.
6	Data Structure	23A05201T	CO1	Explain the role of linear data structures in organizing and accessing data efficiently in algorithms.
			CO2	Design, implement, and apply linked lists for dynamic data storage, demonstrating understanding of memory allocation.
			CO3	Develop programs using stacks to handle recursive algorithms, manage program states, and solve related problems.
			CO4	Apply queue-based algorithms for efficient task scheduling and breadth-first traversal in graphs and distinguish between deques and priority queues, and apply them appropriately to solve data management challenges.
			CO5	Devise novel solutions to small scale programming challenges involving data structures such as stacks, queues, Trees.
			CO6	Recognize scenarios where hashing is advantageous, and design hash-based solutions for specific problems.
7	Engineering Physics Lab	23A56101P	CO1	Operate optical instruments like travelling microscope and spectrometer.
			CO2	Estimate the wavelengths of different colours using diffraction grating.
			CO3	Plot the intensity of the magnetic field of circular coil carrying current with distance.

			CO4	Evaluate dielectric constant and magnetic susceptibility for dielectric and magnetic materials respectively.
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			CO3	Plot and discuss the characteristics of various electron devices.
			CO4	Explain the operation of a digital circuit.
9	Data Structures Lab	23A05201P	CO1	Explain the role of linear data structures in organizing and accessing data efficiently in algorithms.
			CO2	Design, implement, and apply linked lists for dynamic data storage, demonstrating understanding of memory allocation.
			CO3	Develop programs using stacks to handle recursive algorithms, manage program states, and solve related problems.
			CO4	Apply queue-based algorithms for efficient task scheduling and breadth-first traversal in graphs and distinguish between deques and priority queues and apply them appropriately to solve data management challenges.
			CO5	Recognize scenarios where hashing is advantageous, and design hash-based solutions for specific problems.

PRINCIPAL

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