Course Outcomes

Batch: 2024-28 **A.Y: 2025-26**

Course Outcomes (II Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Managerial Economics & Financial Analysis (23A0022T)		
C221.1	Explain the role and responsibilities of a managerial economist in modern business scenario	Understand
C221.2	Apply the demand of a product by using demand forecasting methods.	Apply
C221.3	Calculate the Break Even Point (BEP) with the help of production and cost analysis.	Apply
C221.4	Explain their learnings about competitive markets and business economic environment.	Understand
C221.5	Apply the process of selection of investment alternatives using different appraisal methods.	Apply
C221.6	Examine the process of preparing financial statements to know financial position of the firm.	Analyse
Linear Control Systems (23A0217T)		
C222.1	Find the transfer function model for physical system and control system components	Apply
C222.2	Determine the transfer function for a given system using block diagram and signal flow graph methods	Apply
C222.3	Compute the time response of systems and steady state errors.	Apply
C222.4	Determine the absolute and relative stability of a system using RH and Root loci concepts	Analyse
C222.5	Analyse the stability of the system in Frequency domain and design compensation networks.	Analyse
C222.6	Describe the state variable representation of physical system and solve the state equation	Apply
EM Waves and Transmission Lines (23A0407T)		
C223.1	Learn the concepts of wave theory and its propagation through various mediums	Understand
C223.2	Understand the properties of transmission lines and their applications.	Understand
C223.3	Apply the laws & theorems of electrostatic fields to solve the related problems	Apply
C223.4	Gain proficiency in the analysis and application of magnetostatic laws and theorems	Analyse
C223.5	Analyze Maxwell's equations in different forms	Analyse
Electronic Circuits Analysis (23A0408T)		
C224.1	Understand the characteristics of Differential amplifiers, Feedback and Power Amplifiers	Understand
C224.2	Examine the frequency response of Multi stage and Differential amplifier circuits using BJT & MOSFET at low and high frequencies	Apply
C224.3	Investigate different feedback and Power Amplifier circuits based on the	Analyse

	application	
C224.4	Derive the expressions for frequency of oscillation and condition for oscillation of RC and LC Oscillator circuits	Analyse
C224.5	Evaluate the performance of different tuned amplifiers	Evaluate
C224.6	Design Analog circuits for the given specifications and applications	Create
Analog and Digital Communications (23A0409T)		
C225.1	Recognize the basic terminology used in analog and digital communication technique for transmission of information/data.	Understand
C225.2	Explain the basic operation of different analog communication systems at baseband and pass band level.	Understand
C225.3	Explain the basic operation of different digital communication systems at baseband and pass band level.	Understand
C225.4	Compute various parameters of baseband and pass band transmission schemes by applying basic engineering knowledge.	apply
C225.5	Analyze the performance of different modulation & demodulation techniques to solve complex problems in the presence of noise.	Analyze
C225.6	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.	Evaluate
Electronic Circuits Analysis Lab (23A0410P)		
C226.1	Know about the usage of equipment/components/software tools used to conduct experiments in analog circuits.	Understand
C226.2	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.	Apply
C226.3	Analyze the given analog circuit to find required important metrics of it theoretically.	Analyse
C226.4	Compare the experimental results with that of theoretical ones and infer the conclusions.	Analyse
C226.5	Design the circuit for the given specifications.	Evaluate
Analog and Digital Communications Lab (23A0411P)		
C227.1	Know about the usage of equipment/components/software tools used to conduct experiments in analog and digital modulation techniques.	Understand
C227.2	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.	Apply
C227.3	Analyze the performance of a given modulation scheme to find the important metrics of the system theoretically.	Analyze
C227.4	Compare the experimental results with that of theoretical ones and infer the conclusions.	Analyze
Soft Skills (23A0026P)		
C228.1	Describe methods for building professional image.	Understand
C228.2	Apply critical thinking skills in problem solving.	Apply
C228.3	Analyze the needs of an individual and team for well-being.	Analyze
C228.4	Assess the situation and take necessary decisions.	Evaluate
C228.5	Create a productive work place atmosphere using social and work -life skills ensuring personal and emotional well -being.	Create

Design Thinking and Innovation (23A0413T)		
C229.1	Define the concepts related to design thinking.	Remember
C229.2	Explain the fundamentals of Design Thinking and innovation.	Understand
C229.3	Apply the design thinking techniques for solving problems in various sectors	Apply
C229.4	Analyse to work in a multidisciplinary environment.	Analyse
C229.5	Evaluate the value of creativity.	Evaluate
C229.6	Formulate specific problem statements of real time issues.	Create

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Batch: 2023-27 **A.Y: 2025-26**

Course Outcomes (III Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Digital Signal Processing (23A0422T)		
C321.1	Understand DSP block diagram and features	Understand
C321.2	To get familiar with the properties of discrete time signals, systems and z-transform	Understand
C321.3	To learn the importance of FFT algorithm for computation of Discrete Fourier Transform and Fast Fourier Transform with decimations	Understand
C321.4	To understand the implementations of digital filter structures	Understand
C321.5	To analyze the FIR filter design using Fourier series and windowing methods	Analyze
C321.6	To gain the knowledge on Programmable DSP Devices.	Understand
Microwave and Optical Communications (23A0423T)		
C322.1	Analyze different modes of operation in rectangular wave guides, circular wave guides and resonators.	Analyze
C322.2	Understand and analyze various microwave components and microwave sources.	Understand
C322.3	Gain knowledge on different microwave semiconductor devices and microwave measurements procedures.	Understand
C322.4	Analyze different optical fiber modes and to study different types of distortions and losses in optical communication.	Analyze
C322.5	Understand study various optical sources, optical detectors and to analyze various optical links.	Understand
C322.6	Compare the performance of various microwave devices.	Understand
VLSI Design (23A0424T)		
C323.1	Understand the steps involved in fabrication of ICs using MOS transistor technology	Understand
C323.2	Learn about the VLSI design processes	Understand
C323.3	Learn about Stick diagrams and Layouts.	Understand
C323.4	Gain knowledge on the Gate Level Design concepts.	Understand
C323.5	Learn the design of various subsystems with different VLSI Design styles	Understand
C323.6	Familiar with CMOS testing techniques	Understand
Embedded systems & IOT (23A0426T)		
C324.1	Understand the Architecture, Development & Design of Embedded Systems and IoT	Understand
C324.2	Learn the architecture and programming of ARM Microcontroller	Understand
C324.3	Understand the working with Raspberry Pi using Python Programming	Understand
C324.4	Understand the IoT Technologies, Standards and core communication protocols	Understand
C324.5	Apply the various protocols to basic sensor to cloud data transmission	Apply
C324.6	Design and implement the different case studies and applications using the	Create

	tools and techniques of IoT Platform.	
Artificial Intelligence & Machine learning (23A0544T)		
C325.1	To learn the basics and problems of Artificial Intelligence with rationality and structure of agents	Understand
C325.2	To describe the search for solutions using various search strategies for optimization	Understand
C325.3	To evaluate the representation of Agents with Propositional Logic in Shopping World	Evaluate
C325.4	To understand the concepts of Machine Learning with different Perspectives	Understand
C325.5	To analyze Decision Tree Representation with different problems& issues	Analyze
C325.6	To describe the search for solutions using various algorithms for optimization	Understand
Renewable Energy Sources (23A0232T)		
C326.1	Understand principle operation of various renewable energy sources.	Understand
C326.2	Identify site selection of various renewable energy sources	Understand
C326.3	Analyze various factors affecting on solar energy measurements, wind energy conversion techniques, Geothermal, Biomasss, Tidal Wave and Fuel cell energies.	Analyze
C326.4	Design of Solar PV modules and considerations of horizontal and vertical axis Wind energy systems.	Create
C326.5	Apply the concepts of Geo Thermal Energy, Ocean Energy, Bio mass and Fuel Cells for generation of power.	Apply
Microwave and Optical Communications Lab (23A0423P)		
C327.1	Understand the working of microwave bench set up and characteristics of microwave sources	Understand
C327.2	Verify the characteristics of various microwave components and to draw the radiation pattern of antennas	Analyze
C327.3	Verify the characteristics of optical sources & detectors and to study about losses in optical fiber	Analyze
C327.4	Characterize optical sources such as LEDs and Laser Diodes and assess their performance in optical communication systems	Analyze
C327.5	Demonstrate and experiment with analog and digital optical links to determine data rate, numerical aperture, and transmission losses	Apply
C327.6	Design and perform experiments on intensity modulation through optical fiber and interpret results to assess signal transmission behavior	Create
VLSI Design Lab (23A0424P)		
C328.1	Design a logic circuit using CMOS transistor using 180 nm technology in terms of schematic, symbol.	Create
C328.2	Evaluate different schematics &output responses for AOI logic by using different software tools.	Evaluate
C328.3	Design CMOS circuits using Full & Semi custom IC designs for analyzation.	Create
C328.4	Design different layouts using different software tools for analog circuits	Create
C328.5	Design a logic circuit using CMOS transistor using 180 nm technologies in terms of test bench, DC and AC analysis	Create
C328.6	Evaluate output responses for AOI logic by using different software tools	Evaluate
Machine Learning and DSP (23A0430P)		
C329.1	Understand the modules and dependencies for machine learning	Understand

	corresponding to different applications	
C329.2	Learn a range of machine learning regression techniques & clustering along with their datasets	Understand
C329.3	Write the programs and implement k-Nearest Neighbor algorithm to classify the iris data sets, images & CNN	Apply
C329.4	Simulate the basic signal processing operations like convolution and correlation	Apply
C329.5	Simulate the DSP operations like DFT, FFT	Apply
C329.6	Implement IIR and FIR filters using simulation software and verify their frequency responses	Apply
Technical Paper Writing & IPR (23A0053T)		
C3210.1	Identify key secondary literature related to their proposed technical paper writing	Remember
C3210.2	Explain various principles and styles in technical writing	Understand
C3210.3	Use the acquired knowledge in writing a research/technical paper	Apply
C3210.4	Analyse rights and responsibilities of holder of Patent, Copyright, Trademark, International Trademark etc	Analyze
C3210.5	Evaluate different forms of IPR available at national & international level	Evaluate
C3210.6	Develop skill of making search of various forms of IPR by using modern tools and techniques	Create

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Course Outcomes (I Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Communicative English (23A0009T)		
C121.1	The learner will acquire the ability to understand the academic text from multiple dimensions employing ethical and logical reasoning based on accurate comprehension	Understand
C121.2	The learner will build strong vocabulary skills to enhance language skills	Apply
C121.3	The learner will be able to speak and write grammatically accurate sentences through applications of principles of English grammar.	Apply
C121.4	The learner will understand the potential of standard reading & listening strategies to grasp the core essence and spirit of the text.	Understand
C121.5	The learner will gain mastery on speaking & writing skills through the application of relevant guidelines, through consistent practice of functional English expression.	Apply
Chemistry (23A0004T)		
C122.1	Apply the basic principles of quantum theory and molecular orbital theory for Diatomic molecules to predict the structure	Apply
C122.2	Demonstrate the semiconductors, super conductors, super capacitors and nano materials.	Understand
C122.3	To impart knowledge on different types of batteries , potentiometry, conductometry and electrochemical sensors	Remember
C122.4	Understand the mechanism and applications of different polymers in electronic devices.	Understand
C122.5	Summarize the concepts of different Instrumental methods.	Understand
Differential Equations & Vector Calculus (23A0002T)		
C123.1	Solve the Various types of Ordinary Differential equations	Understand
C123.2	Solve the linear differential equations with constant coefficients by appropriate method.	Understand
C123.3	Apply a range of techniques to find solutions of standard partial differential equations	Apply
C123.4	Calculate gradient, divergence, curl of point functions and directional derivative of scalar point function.	Understand
C123.5	Apply Green's, Stokes and Divergence theorem in the evaluation of line, double and triple integrals.	Apply
Basic Civil & Mechanical Engineering (23A0101T)		
C124.1	Understand various sub-divisions of Civil Engineering and to appreciate their role in ensuring better society and basic characteristics of Civil Engineering Materials	Understand
C124.2	Know the concepts of surveying and to understand the measurement of distances, angles and levels through surveying.	Apply
C124.3	Realize the importance and the engineering measures related to Transportation and to Understand the importance of Water Storage and Conveyance Structures	Remember
C124.4	understand the properties of various engineering materials and their applications	Understand
C124.5	Understand the different manufacturing processes and explain the	Understand

	basics of thermal engineering and its applications	
C124.6	Describe the working of different mechanical power transmission systems and power plants, learn basics of robotics	Understand
Network Analysis (23A0205T)		
C125.1	Understand basic electrical circuits with nodal and mesh analysis.	Understand
C125.2	Apply network theorems to the complicated networks.	Apply
C125.3	Find Transient response and Steady state response of a network.	Apply
C125.4	Understand the fundamental concepts of coupled circuits	Understand
C125.5	Explain the electrical networks in the Laplace domain.	Understand
C125.6	Compute the parameters of a two-port network.	Apply
Engineering Workshop (23A0302P)		
C126.1	Apply wood working skills in real life applications	Apply
C126.2	Build different parts with metal sheets in real life applications	Apply
C126.3	Develop various fitting models in industrial applications	Apply
C126.4	Apply different types of basic electric circuit connections	Apply
C126.5	Demonstrating Joining operations like welding and Plumbing	Apply
	Develop various patterns in foundry in real life applications	Apply
Communicative English Lab (23A0010P)		
C127.1	Understand the English speech sounds, stress, and intonation for better Listening practice	Understand
C127.2	Apply communication skills through various language learning activities	Apply
C127.3	Application of writing skills through design and preparation of professional Resume & email writing.	Apply
C127.4	Construct Team Spirit by participating in team activities	Apply
C127.5	Prepare effective resonate and prepare themselves to face interviews and deliver Presentation in future.	Apply
Chemistry Lab (23A0007P)		
C128.1	Determine the cell constant and conductance of solutions and the strength of an acid by conductometry	Understand
C128.2	Synthesize of advanced polymer and nano materials	Remember
C128.3	Measure the strength of an acid present in secondary battery and Ferrous ion using volumetric analysis	Remember
C128.4	Identify the EMFs and pH of solutions using potentiometer and pH meter.	Apply
C128.5	Apply the principle of beer- lamberts law	Apply
Network Analysis Lab (23A0206P)		
C129.1	Verify Kirchoff's laws and network theorems.	Understand
C129.2	Measure time constants of RL & RC circuits.	Apply
C129.3	Analyze behavior of RLC circuit for different cases.	Analyse
C129.4	Determine the band width and Q-Factor for resonant circuit for given specifications.	Apply
C129.5	Study the Frequency response of first and second order circuits.	Understand
C129.6	Characterize and model the network in terms of all network parameters.	Apply

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