



Course Outcomes

Batch: 2024-28

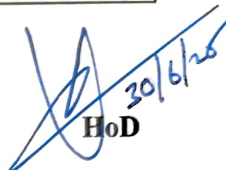
A.Y: 2025-26

Course Outcomes (II Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Probability and Complex Variables (23A0014T)		
C211.1	Understand the concepts of Probability, Random Variables and their characteristics	Understand
C211.2	Learn how to deal with multiple random variables, conditional probability, joint distribution and statistical independence	Apply
C211.3	Formulate and solve the engineering problems involving random variables	Apply
C211.4	Understand Cauchy-Riemann equations, analytic functions and various properties of analytic functions	Understand
C211.5	Understand Cauchy theorem, Cauchy integral formulas and apply these to evaluate complex contour integrals. Classify singularities and poles, residues	Apply
Universal Human Values (23A0021T)		
C212.1	Define the terms like natural acceptance, Happiness and Prosperity.	Remember
C212.2	Identify one's self and one's surroundings (family, society and nature).	Understand
C212.3	Apply what they have learnt to their own self in different day-to-day settings in real life.	Apply
C212.4	Relate human values with human relationship and human society.	Analyze
C212.5	Justify the need for universal human values and harmonious existence.	Evaluate
C212.6	Develop as socially and ecologically responsible Engineers.	Create
Signals, Systems and Sochastic Processes (23A0401T)		
C213.1	Understand the mathematical description and representation of continuous-time and discrete-time signals and systems.	Understand
C213.2	Understand the concepts of various transform techniques and Random Processes.	Understand
C213.3	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.	Apply
C213.4	Formulate and solve engineering problems involving random processes.	Apply
C213.5	Analyze the frequency spectra of various continuous-time signals using different transform methods.	Analyze
C213.6	Classify the systems based on their properties and determine the response of them.	Analyze
Electronic Devices and Circuits (23A0402T)		
C214.1	Describe the operation of semiconductor physics and characteristics of p-n junction diode with diode's applications in electronic circuits	Understand
C214.2	Analyze the different types of diodes, operation and their characteristics	Analyze
C214.3	Describe various diode circuits for different applications such as rectifiers,	Understand

	clippers and clampers	
C214.4	Illustrate the various Configurations and Biasing circuits Using BJT	Analyze
C214.5	Analyze the DC bias circuitry of FET and MOSFET, understand the need to avoid the failure of electronic circuits due to thermal effects	Analyze
C214.6	Analyze the frequency response of single stage amplifiers using JFET & MOSFET at Low frequencies	Analyze
Digital Circuits Design (23A0403T)		
C215.1	understand binary number systems , properties of Boolean algebra and minimization of Boolean functions	Understand
C215.2	analyze combinational logic circuits and it's applications	Analyze
C215.3	understand verlog hardware description language and CAD tools	Understand
C215.4	analyze sequential logic circuits	Analyze
C215.5	Apply verilog programming language to combinational and sequential circuits design	Apply
C215.6	Understand the concept of FSM and various PLD devices	Understand
Electronic Devices and Circuits Lab (23A0404P)		
C216.1	Describe the use of RPS and CRO	Understand
C216.2	Recognize the characteristics and applications of basic electronic devices	Understand
C216.3	Observe the characteristics of electronic devices by plotting graphs	Understand
C216.4	Categorize the Characteristics of UJT, BJT, FET, and SCR	Analyze
C216.5	Design BJT, FET Amplifiers for Voltage Amplification	Create
C216.6	Simulation of all Electronic circuits in PSPICE /Multisim	Analyze
Digital Circuits & Signal Simulation Lab (23A0405P)		
C217.1	Verify the truth tables of various logic circuits	Understand
C217.2	Understand how to simulate different types of signals and system response	Understand
C217.3	Design sequential and combinational logic circuits and verify their functionality	Apply
C217.4	Analyze the response of different systems when they are excited by different signals and plot power spectral density of signals	Analyze
C217.5	Generate different random signals for the given specifications	Evaluate
Python Programming (23A0510)		
C218.1	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	Analyze
C218.2	Apply Python programming concepts to solve a variety of computational problems	Apply
C218.3	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	Apply
C218.4	Proficient in using commonly used Python libraries and frameworks such as JSON, XML, NumPy, pandas	Understand
C218.5	Exhibit competence in implementing and manipulating fundamental data structures such as lists, tuples, sets, dictionaries	Apply

Environmental Science (23A0025T)		
C219.1	Gain the knowledge about environment, natural resources and different techniques involved in its conservation.	Understand
C219.2	Get the information about different eco-systems and its functions	Understand
C219.3	Recognize the types of bio-diversity along with values and conservation methods.	Understand
C219.4	Gain the knowledge about various environmental pollutions and able to design the environmental friendly process in engineering	Understand
C219.5	Gain the knowledge about sustainable development concept and practice it in life, society and Industry.	Understand
C219.6	Understand the both impacts of population growth on environment and needed measures to protect the environment	Understand


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30/6/20
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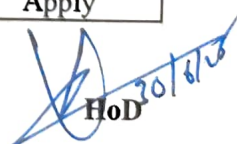
Batch: 2023-27

A.Y: 2025-26

Course Outcomes (III Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Analog and Digital IC Applications (23A0413T)		
C311.1	Understand the classification of Integrated Circuits, internal blocks and characteristics of Op-Amp.	Understand
C311.2	Analyse linear and non-linear applications of Op-Amp .	Analyze
C311.3	Gain knowledge on active filters, timers and phased locked loops.	Apply
C311.4	Understand the working of Voltage Regulators	Understand
C311.5	Understand The theory of ADC and DAC	Understand
C311.6	Know about different types of Digital ICs and their applications.	Remember
Antennas & Wave Propagation (23A0414T)		
C312.1	Understand the antennas basic terminology and radiation mechanism of antennas.	Understand
C312.2	Gain knowledge on VHF and UHF antennas, their operation and applications	Apply
C312.3	Design and analyze the working and applications of Microwave antennas	Create
C312.4	Analyze different techniques involved in the design of antenna arrays and antenna parameter measurements	Analyze
C312.5	Gain a comprehensive knowledge about the types of radio wave propagation methods	Remember
C312.6	Compare the performance of various types of the antennas.	Analyze
Microprocessors and Microcontrollers (23A0415T)		
C313.1	Learn the fundamental architectural concepts of microprocessors	Understand
C313.2	Gain knowledge about assembly language programming concepts	Apply
C313.3	Understand the concepts of 8086 interfacing.	Understand
C313.4	Learn the fundamentals of the 8051 Microcontroller	Understand
C313.5	Know the interfacing with the 8051 Microcontroller	Remember
C313.6	Understand the concepts of interfacing 8051 Microcontroller	Understand
Introduction To Quantum Technologies And Applications (23A0522T)		
C314.1	Explain core quantum principles in a non-mathematical manner	Understand
C314.2	Compare classical and quantum information systems	Analyze
C314.3	Identify theoretical issues in building quantum computers	Remember
C314.4	Discuss quantum communication and computing concepts	Understand
C314.5	Recognize applications, industry trends, and career paths in quantum technology	Understand
Computer Architecture & Organization (23A0543T)		
C315.1	Learn the design of various functional units of digital computers and performance issues of computer systems	Understand
C315.2	Understand the basic processing unit and their connections	Understand
C315.3	Know about different types of Data representation and Computer Arithmetic operations	Understand
C315.4	Learn about different types of memory and their interconnections	Understand

C315.5	Understand the basics of parallel computing	Understand
C315.6	Understand the basics of pipelining	Understand
Electrical Safety Practices and Standards (23A0222T)		
C316.1	Understanding the Fundamentals of Electrical Safety	Understand
C316.2	Identifying and Applying Safety Components	Remember
C316.3	Analyzing Grounding Practices and Electrical Bonding	Analyze
C316.4	Applying Safety Practices in Electrical Installations and Environments	Apply
C316.5	Evaluating Electrical Safety Standards and Regulatory Compliance	Evaluate
Analog & Digital IC Applications Lab (23A0413P)		
C317.1	Design an Inverting and Non-inverting Amplifier using an Op Amp.	Create
C317.2	Demonstrate the Linear and Non-Linear Applications using IC 741.	Apply
C317.3	Design Astable and Monostable Multivibrator using timer ICs.	Apply
C317.4	Analyse the DAC and ADC converter.	Analyze
C317.5	Design Counters and Registers using digital ICs.	Create
C317.6	Acquaintance with lab equipment about the operation and its use.	Understand
Microprocessors and Microcontrollers Lab (23A0415P)		
C318.1	Formulate a program and implement algorithms using Assembly language.	Create
C318.2	Describe an Assembly language program for the 8086 Microprocessor.	Understand
C318.3	Develop programs for different applications in the 8086 Microprocessor.	Create
C318.4	Interface peripheral devices with 8086 and 8051.	Analyze
C318.5	Use an Assembly programming approach for solving real-world problems.	Apply
C318.6	Use an Embedded C programming approach for solving real-world problems.	Apply
PCB Design and Prototype development (23A0419)		
C319.1	Students can design a schematic of their circuit	Create
C319.2	Students can design PCB layout of their design	Create
C319.3	Detailed description and practical of PCB designing	Create
Tinkering Lab (23A0420)		
C320.1	Demonstrate Creativity and Innovation	Apply
C320.2	Apply Hands-on Skills and Technical Knowledge	Apply
C320.3	Work Effectively in Teams and Collaborate	Apply
C320.4	Integrate Interdisciplinary Knowledge	Apply
C320.5	Solve Real-World Problems with Prototypes	Create
C320.6	Use Modern Tools and Emerging Technologies	Create
Evaluation of Community Service Internship (23A0421)		
C321.1	Positive impact on students' academic learning	Understand
C321.2	Improves students' ability to apply what they have learned in "the real world"	Apply
C321.3	Improved ability to understand complexity and ambiguity	Analyze
C321.4	Improved social responsibility and citizenship skills	Create
C321.5	Greater academic learning, leadership skills, and personal efficacy can lead to greater opportunity	Apply
C321.6	Greater interpersonal development, particularly the ability to work well with others, and build leadership and communication skills	Apply


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A.Y: 2025-26

Course Outcomes (IV Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Embedded Real Time Operating Systems (22A0451T)		
C411.1	Understand the basics of an embedded system and RTOS	Understand
C411.2	Understand the architecture of Microcontroller and quality attributes	Understand
C411.3	Analyze the various types of Scheduling algorithms in Embedded systems RTOS	Analyze
C411.4	Analyze the different types of task communication protocol to design the RTOS based embedded systems	Analyze
C411.5	Describe the problems related to the RTOS for design of embedded systems	Understand
C411.6	Analyze the various tools to available to test the designed embedded system	Analyze
Internet of Things(22A0454T)		
C412.1	Understand the concepts of Internet of Things	Understand
C412.2	Identify hardware, software components and basic communication protocols of Internet of things	Analyze
C412.3	Understand different types of sensors and actuators	Understand
C412.4	Design IoT applications in different domain and be able to analyze their performance	Understand
C412.5	Understand how to analyze and organize the data	Analyze
C412.6	Compare IOT Applications in real world.	Apply
Digital Image Processing(22A0456T)		
C413.1	Understand various image transform techniques	Understand
C413.2	Understand image manipulations and different digital image processing techniques	Understand
C413.3	Understand basic operations like – Enhancement, segmentation, compression, Image transforms	Understand
C413.4	Classify Image transforms and restoration techniques on image	Analyze
C413.5	Analyze pseudo and full color image processing techniques	Analyze
C413.6	Apply various morphological operators on images	Apply
Disaster Management(22A0151T)		
C414.1	Know about the natural hazards and its management	Understand
C414.2	Know about the fire hazards and solid waste management	Understand
C414.3	Understand about the emerging infectious diseases and aids their management	Understand
C414.4	Know about the regulations of building codes and land use planning related to risk and vulnerability	Understand

C414.5	Impart the education related to risk reduction in schools and communities	Understand
C414.6	Describe public awareness and economic incentive possibilities	Understand
Cyber Security (22A0534a)		
C415.1	Understand Cyber Security architecture principles	Understand
C415.2	Identifying System and application security threats and vulnerabilities	Understand
C415.3	Identifying different classes of attacks	Analyze
C415.4	Cyber Security incidents to apply appropriate response	Apply
C415.5	Describing risk management processes and practices	Understand
C415.6	Demonstrate the role security management in cyber security defense	Apply
Management Science (22A0023T)		
C416.1	Understand the concepts & principles of management and designs of organization in a practical world	Understand
C416.2	Apply the knowledge of Work –study principles& Quality Control techniques in industry	Apply
C416.3	Analyze the concepts of HRM in Recruitment, Selection and Training & Development	Analyze
C416.4	Evaluate PERT/CPM Techniques for projects of an enterprise and estimate time& cost of project	Evaluate
C416.5	Analyze the business through SWOT	Analyze
C416.6	Create Modern technology in management science	Create
Mobile Application Development (22A0458P)		
C417.1	Identify various concepts of mobile programming that make it unique from programming for other platforms	Remember
C417.2	Create and Run Android project using SDK	Create
C417.3	Develop first level Android applications that can accept information from the users	Create
C417.4	Design Android application screen with various elements for improving users experience	Create
C417.5	Utilize various Android API's for improving users experience	Understand
C417.6	Understand simple GUI applications, use built-in widgets and components, work with the database to store data locally	Understand


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 30/6/20
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