



Course Outcomes

Batch: 2023-27

A.Y: 2023-24

Course Outcomes (I Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Engineering Physics (23A0003T)		
C111.1	Analyze the intensity variation of light due to polarization, interference and diffraction.	Analyze
C111.2	Familiarize with the basics of crystals and their structures.	Understand
C111.3	Summarize various types of polarization of dielectrics and classify the magnetic materials.	Understand
C111.4	Apply fundamentals of quantum mechanics to one dimensional motion of particles.	Apply
C111.5	Identify the type of semiconductor using Hall effect and explain Superconductivity.	Remember
Linear Algebra and Calculus (23A0001T)		
C112.1	Solving systems of linear equations that is needed by engineers for practical applications.	Apply
C112.2	Find the eigen values and eigen vectors to facilitate the calculation of matrix characteristics.	Apply
C112.3	Utilize mean value theorems to real life problems.	Understand
C112.4	Apply the technique of partial differentiation to find the Jacobian and the extreme values of functions of several variables.	Apply
C112.5	Apply the techniques of multiple integrals to find the areas and volumes.	Apply
Introduction to Programming (23A0501T)		
C113.1	Understand various programming paradigms and environment required for solving problems and also formulates an algorithm / flowchart for the problems.	Understand
C113.2	Understand the basic concepts of C programming language.	Understand
C113.3	Choose the best programming constructs for solving the given problem	Apply
C113.4	Formulate C programs to demonstrate the applications of derived data types such as arrays, strings.	Apply
C113.5	Distinguish between the concepts of structures, unions, user defined data types and also use the concepts of pointers	Analyze
C113.6	Solve a problem by dividing it into functions and also demonstrate the basic concepts of files.	Apply
Basic Electrical & Electronics Engineering (23A0201T)		
C114.1	Analyse simple electrical circuits with DC excitation, Network theorems and simple AC circuits consists of RL, RC and RLC elements	Analyze
C114.2	Explain construction and operation of AC and DC machines, measuring instruments	Understand
C114.3	Understand about different power generation mechanisms, Electricity billing concept and safety measures related to electrical operations	Understand
C114.4	Understand the characteristics of Semiconductor diodes, Zener diodes and BJT	Understand
C114.5	Understand the characteristics of rectifiers, amplifiers and Electronic Instrumentation	Understand
C114.6	Understand the number systems codes, Boolean algebra and logic gates,	Understand

	working mechanism of different combinational, sequential circuits.	
Engineering Graphics (23A0301)		
C115.1	Explain the Principles of Engineering Graphics and sketch the various Curves used in Engineering Practice	Understand
C115.2	Construct the projections of points in different quadrants.	Understand
C115.3	Construct the projections of lines and planes in different orientations	Understand
C115.4	Construct the projections of solids in different orientations	Apply
C115.5	Construct the sectional views and development of lateral surface of simple solids in different orientations	Apply
C115.6	Construct the isometric and orthographic views and their conversions	Apply
Electrical & Electronics Engineering Workshop (23A0202P)		
C116.1	Experimentally verify the basic circuit theorems, KVL, KCL and Super Position theorem.	Analyze
C116.2	Draw the open circuit characteristics of DC shunt Generator circuits Experimentally.	Understand
C116.3	Apply the theoretical concepts to obtain calculations for the measurement of resistance, power and power factor and calculation of Electrical Energy for Domestic Premises.	Apply
C116.4	understand the characteristics of Different semiconductor devices like PN junction diode, Zener diode ,BJT by conducting Suitable Experiments.	Understand
C116.5	Experimentally verify the working of Half wave and Full wave Rectifier by using PN junction Diodes.	Analyze
	Understand the characteristics of various electronic devices and explain the operation of a digital circuit.	Understand
IT Workshop (23A0503P)		
C117.1	Perform Hardware trouble shooting.	Apply
C117.2	Understand Hardware components and interdependencies.	Understand
C117.3	Safeguard computer systems from viruses/worms.	Understand
C117.4	Document/ Presentation preparation.	Apply
C117.5	Perform calculations using spreadsheets.	Apply
Engineering Physics Lab (23A0006P)		
C118.1	Operate optical instruments and measure the wavelength of Light sources.	Evaluate
C118.2	Estimate dielectric constant of capacitor and magnetic induction of current carrying coil	Apply
C118.3	Identify the type of semiconductor and calculate band gap of it.	Remember
C118.4	Evaluate Acceleration due to gravity and different modulus of materials.	Evaluate
C118.5	Measure the frequency of tuning fork and verify the laws in Sonometer.	Evaluate
Computer Programming Lab (23A0502P)		
C119.1	Identify various programming environments to implement programming concepts.	Understand
C119.2	Interpret the algorithms and flowcharts to the given problem.	Apply
C119.3	Apply decision-making and looping constructs for developing the C programs.	Apply
C119.4	Identify different data-structures such as arrays, strings, structures, unions and pointers for solving problems.	Apply
C119.5	Divide the problem into simpler tasks to provide solutions.	Apply
C119.6	Understand memory allocation techniques and use of files to deal with dynamic memory allocation problems.	Understand



Course Outcomes

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Course Outcomes (II Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Complex Variables and Numerical Methods (22A0015T)		
C211.1	Understand the functions of complex variables and its properties, analyticity of complex functions.	Understand
C211.2	Understand the integration of complex functions; apply Cauchy's integral theorem & Cauchy's integral formula, singularity of complex functions.	Understand
C211.3	Applying Residue theorem to find the improper integrals of complex functions.	Apply
C211.4	Applying interpolation formula, find interpolating polynomials & solve differentiation and integration numerically.	Apply
C211.5	Solve differential equations numerically.	Apply
Probability Theory and Stochastic Processes (22A0020T)		
C212.1	Understanding the concepts of Probability, Random Variables, Random Processes and their characteristics learn how to deal with multiple random variables, conditional probability, joint distribution and statistical independence.	Understand
C212.2	Formulate and solve the engineering problems involving random variables and random processes.	Apply
C212.3	Analyze various probability density functions of random variables.	Analyze
C212.4	Derive the response of linear system for Gaussian noise and random signals as inputs.	Apply
C212.5	Understand and analyze continuous and discrete-time random processes.	Understand
C212.6	Evaluate the single and multiple random variable concepts to expectation, variance and moments.	Evaluate
Signals and Systems (22A0404T)		
C213.1	Describe the mathematical description and Fourier series representation of continuous-time and discrete-time signals.	Understand
C213.2	Change the signals and sequences from time-domain to frequency-domain using the concepts of Fourier transform techniques.	Apply
C213.3	Use the sampling theorem to convert continuous-time signals into discrete-time signals.	Apply
C213.4	Examine the time-domain signals, S-domain signals and its RoC using the concepts of Laplace transform techniques.	Analyze
C213.5	Describe the system and impulse response, output response for input signals.	Understand
C213.6	Examine the time-domain sequences, Z-domain sequences and its RoC using the concepts of Z-transform techniques.	Analyze

Digital Logic Design (22A0405T)		
C214.1	Understand various types of Code conversions.	Understand
C214.2	Apply the Boolean theorems to Simplify Complex Boolean Function through logical gates.	Apply
C214.3	Design and implement various logical devices using combinational circuits.	Create
C214.4	Design and implement various logical devices using sequential circuits.	Create
C214.5	Analyze sequential circuits like Registers and Counters using flip-flops.	Analyze
C214.6	Demonstrate and compare the construction of programmable logic devices and different types of ROM.	Apply
Universal Human Values (22A0021T)		
C215.1	Understand and analyse the essentials of human values and skills, self exploration, happiness and prosperity.	Understand
C215.2	Evaluate coexistence of the “I” with the body.	Evaluate
C215.3	Identify and evaluate the role of harmony in family, society and universal order.	Understand
C215.4	Understand and associate the holistic perception of harmony at all levels of existence.	Understand
C215.5	Develop appropriate technologies and management patterns to create harmony in professional and personal lives.	Create
C215.6	Understand the harmony in the human being, family, society and nature/existence.	Understand
Analog Circuits (22A0406T)		
C216.1	Understand the characteristics of multistage amplifiers.	Understand
C216.2	Determine the response of tuned amplifiers and multivibrators.	Apply
C216.3	Analyze the response of tuned amplifiers and multivibrators	Analyze
C216.4	Design amplifiers using BJT & MOSFETs at low and high frequencies.	Create
C216.5	Compare different oscillator circuits based on the application.	Evaluate
C216.6	Design the electronic circuits for the given specifications and for a given application.	Create
Simulation Lab (22A0407P)		
C217.1	Develop various standard signals and sequences, random data and Gaussian noise.	Apply
C217.2	Perform various operations on signals and sequences.	Apply
C217.3	Find Trigonometric Fourier series, exponential Fourier series, Fourier transform, convolution, autocorrelation and cross correlation on signals/sequences	Apply
C217.4	Examine linearity, time invariance of a continuous/discrete system.	Analyze
C217.5	Observe the magnitude, phase and response of LPF &HPF.	Analyze
C217.6	Examine sampling theorem and stability of a signal.	Analyze
Digital Logic Design Lab (22A0408P)		
C218.1	Know the basic operation of gates.	Understand
C218.2	Construct basic combinational circuits and verify their functionalities	Create

C218.3	Apply the design procedures to design basic sequential circuits.	Apply
C218.4	Learn about counters.	Remember
C218.5	Learn about Shift registers	Remember
C218.6	Simulate basic digital circuits and to verify their operation in PSPICE /VHDL	Apply
Analog Circuits Lab (22A0409P)		
C219.1	Know about the usage of equipment/components used to conduct the experiments in analog circuits.	Understand
C219.2	Conduct the experiment based on the knowledge acquired in the theory about various analog circuits using BJT to find the important parameters of the circuit experimentally.	Apply
C219.3	Design and develop electronic circuits such as feedback amplifiers, oscillators and power amplifiers for the given specifications.	Create
C219.4	Compare the experimental results with that of theoretical ones and infer the conclusions.	Analyze
C219.5	Able to analyze and design analog circuits such as Differential Amplifier circuit.	Analyze
C219.6	Draw the relevant graphs between important metrics of the system from the observed measurements.	Understand
Python Programming (22A3205)		
C2110.1	Understand various data types like lists, tuples, strings etc.	Understand
C2110.2	Illustrate the practical and contemporary applications using Command Functions.	Apply
C2110.3	Demonstrate the usage of Object-oriented concepts to solve Real-life problems	Understand
C2110.4	Interpret Python packages in developing software applications	Apply
C2110.5	Solve mathematical problems using Python programming language	Apply
C2110.6	Analyze the flow control, looping statements and its functions in Python.	Analyze
Constitution of India (22A0029M)		
C2111.1	Understand historical background of the constitution making and its importance for building a democratic India.	Understand
C2111.2	Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.	Understand
C2111.3	Understand the value of the fundamental rights and duties for becoming good citizen of India.	Understand
C2111.4	Analyze the decentralization of power between central, state and local self-government	Analyze
C2111.5	Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy	Apply
C2111.6	Evaluate various commissions viz SC/ST/OBC and women	Evaluate



Course Outcomes

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Course Outcomes (III Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Control Systems Engineering (20A04501)		
C311.1	Determine the transfer function for a given system using block diagram and signal flow graph methods	Apply
C311.2	Formulate Mathematical Model for physical systems and control systems concepts	Evaluate
C311.3	Compute the time response of systems and steady state errors	Evaluate
C311.4	Determine the absolute and relative stability of a system using RH Criterion and root loci concepts	Apply
C311.5	Design closed-loop control system to satisfy dynamic performance specifications using frequency response	Analyse
C311.6	Describe the state variable representation of physical system and solve the state equation	Understand
Digital Signal Processing (20A04502T)		
C312.1	Understand the basic concepts of discrete-time signals and systems, classify systems based on their properties.	Understand
C312.2	Determine the frequency response for the given LTI systems using difference equations and also plot its pole-zero.	Apply
C312.3	Analyze discrete-time signals and systems using discrete time Fourier transform (DFT) and Fast Fourier transform (FFT).	Analyze
C312.4	Design and implement digital filters (FIR & IIR) for the given specifications	Design
C312.5	Compare the digital filters and also realize the various filters for different structures in discrete-time systems	Evaluate
C312.6	Understand and develop the sampling rate conversion techniques, find the quantization errors in digital signal processing.	Understand
Microprocessors and Microcontrollers (20A04503T)		
C313.1	Explain the Architecture, Register sets and Memory organization of 8086 Microprocessors.	Understand
C313.2	Understand the Instruction set, Addressing modes and Assembler directives of 8086 Microprocessor	Apply
C313.3	Demonstrate memory and I/O interfacing with various peripheral devices with 8086 Microprocessor	Analyze
C313.4	Explain the Architecture and features of 8051 Microcontroller.	Design
C313.5	Explain the Interfacing of I/O peripherals of 8051 Microcontroller.	Evaluate
C313.6	Develop Various Programs of 8086 Microprocessor & 8051 Microcontroller.	Understand
Computer Architecture & Organization (20A04504a)		
C314.1	Understand the basics of instructions sets and their impact on processor design.	Understand
C314.2	Understand the Instruction set, Addressing modes and Assembler directives of 8086 Microprocessor.	Apply
C314.3	Evaluate performance in designing and constructing a computer processor	Evaluate

	including memory.	
C314.4	Design a pipeline for consistent execution of instructions with minimum hazards.	Apply
C314.5	Understanding various representations of numbers stored in digital computers.	Understand
C314.6	Applying various Arithmetic operations with examples using algorithms	Apply
Java Programming (20A05505a)		
C315.1	Understand the syntax, semantics of Java Programming Language and apply object-oriented programming principles to real world problems	Understand
C315.2	Apply code reusability through inheritance, packages and interfaces	Apply
C315.3	Develop User defined Exceptions in real world problems	Apply
C315.4	Develop applications by using parallel streams for better performance.	Remember
C315.5	Use multithreading and collection framework for real world problems	Apply
C315.6	Build GUI using applets, swings and access the database using JDBC	Apply
Digital Signal Processing Lab (20A04502P)		
C316.1	Demonstrate DSP and its applications using MATLAB software	Understand
C316.2	Examine the frequency response of discrete-time LTI systems	Apply
C316.3	Designs of IIR, FIR digital filters for the given specifications also observe the frequency response.	Evaluate
C316.4	Learn the architecture details of floating point DSPs.	Apply
C316.5	Implement DSP algorithms in software using CCS with DSP floating point Processor.	Understand
C316.6	Analyze the basic signals and also find the discrete Fourier transform (DFT) for discrete-time signals/sequences.	Apply
Microprocessors and Microcontrollers Lab (20A04503P)		
C317.1	Design and implement programs on 8086 microprocessor	Understand
C317.2	To provide solid foundation on interfacing the external devices to the processor according to the user requirements	Apply
C317.3	Design and implement 8051 microcontroller based systems	Evaluate
C317.4	To Understand the concepts related to I/O and memory interfacing	Apply
C317.5	To learn about interfacing stepper motor working and its interfacing	Understand
C317.6	To learn about generation of waveforms using microcontroller	Apply
PCB Design and Prototype development (20A04509)		
C318.1	Demonstrate the performance of PCB Design and Prototype Development.	Apply
C318.2	Analyze the Fundamentals of basic electronics: Component identification, Component symbols & their footprints	Analyze
C318.3	Calculate the PCB layers, Design rule checking, Track width selection, Component selection, Routing and completion of the design.	Apply
C318.4	Describe the various Types of PCB, Classes of PCB Design Terminology in PCB Design	Understand
C318.5	Analyze the various PCB Design Flow, Placement and routing, Steps involved in layout design, Artwork generation Methods - manual and CAD.	Create
C318.6	Evaluate General design factors for digital and analogue circuits, Layout and Artwork making for Single-side, double-side and Multilayer Boards, Design for manufacturability, Design-specification standards	Evaluate



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Batch: 2020-24

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Course Outcomes (IV Year- I Sem)		
S. No	Course Outcomes Statement	Taxonomy
Satellite Communications(20A04701c)		
C411.1	Able to learn the dynamics of Satellite	Understand
C411.2	Study the Satellite launch systems and their performance	Understand
C411.3	Understand the spacecraft and subsystems.	Understand
C411.4	Understand how analog and digital technologies are used for satellite communication networks.	Understand
C411.5	Understand the radio frequency channel from Earth station to Satellite	Understand
C411.6	Study the design of Earth station and tracking of the satellites.	Understand
Digital Image Processing(20A04702b)		
C412.1	Compare different methods for image acquisition, storage and representation in digital devices and computers.	Understand
C412.2	Determine the role of image transforms in representing, highlighting, and modifying image features.	Apply
C412.3	Interpret the mathematical principles in digital image enhancement and apply them in spatial domain and frequency domain	Understand
C412.4	Understand various methods for segmenting image and identifying image components	Understand
C412.5	Summarize different reshaping operations on the image.	Understand
C412.6	Apply image representation techniques that enable encoding and decoding images. Describe the architecture, hardware details and memory organization of 8051 microcontroller.	Apply
Cellular & Mobile Communications(20A04703c)		
C413.1	Know about cell coverage for signal and traffic, diversity techniques and mobile antennas by the use of Engineering Mathematics	Understand
C413.2	Explain impairments due to multipath fading channel, fundamental techniques to overcome different fading effects, frequency management, Channel assignment and types of handoff	Understand
C413.3	Apply concepts to solve problems on mobile antennas and cellular systems	Apply
C413.4	Analyze Co-channel and Non Co-channel interferences, different Hand-offs and dropped call rates	Analyse
C413.5	Evaluate performance of dropped call rate and false alarm rate	Evaluate
C413.6	Compare different handoffs	Analyse
Management Science(20A52701b2)		
C414.1	Discuss the basic concepts of management in modern contexts.	Analyse
C414.2	Analyse the organization chart & structure for an enterprise.	Evaluate
C414.3	Demonstrate production and marketing aspects.	Remember
C414.4	Apply Managerial and operative functions of HRM	Apply

C414.5	Formulate strategies for successful completion of the project	Apply
C414.6	Understand modern management techniques	Evaluate
Cost Effective Housing Techniques (20A01704)		
C415.1	Interpret about the housing scenario and housing financial systems of urban poor	Understand
C415.2	Recite the different innovative cost effective construction techniques	Remember
C415.3	Restate the alternative building materials for low cost housing	Remember
C415.4	Illustrate the traditional practices of rural housing	Apply
C415.5	Paraphrase the repair and restore action of Natural disaster non engineered buildings	Understand
C415.6	Explore knowledge on low cost infrastructure services	Apply
Cyber Security(20A05705a)		
C416.1	Classify the cyber crimes and understand the Indian ITA 2000	Understand
C416.2	Analyse the vulnerabilities in any computing system and find the solutions	Analyse
C416.3	Predict the security threats of the future	Apply
C416.4	Investigate the protection mechanisms	Apply
C416.5	Design security solutions for organizations	Create
C416.6	Design security solutions for Social media marketing	Create
Industrial IoT & Automation (20A04707)		
C417.1	Choose the sensors and actuators for an IoT application	Understand
C417.2	Select protocols for a specific IoT application	Remember
C417.3	Utilize the cloud platform and APIs for IoT application	Analyse
C417.4	Experiment with embedded boards for creating IoT prototypes	Analyse
C417.5	Design a solution for a given IoT application	Understand
C417.6	Simulation of PLC to understand the process control concept	Understand