

Course Outcomes(IV Year) 2019-20 II Sem		
Course Name: Low Power VLSI Circuits & Systems		
NO	Course Outcome	Taxonomy
C421.1	Explain the structure, fluid model and Electrical characteristics of MOS transistors.	Understand
C421.2	Explain the concepts of MOS Inverters and MOS Combinational Circuits.	Understand
C421.3	Summarize the power Dissipation and voltage scaling techniques in digital circuits.	Understand
C421.4	Analyse the system level and circuit level approaches for low power VLSI.	Analyse
C421.5	Describe the approaches to minimize the leakage power for VLSI system.	Understand
C421.1	Explain the structure, fluid model and Electrical characteristics of MOS transistors.	Understand
Course Name: RF Integrated Circuits		
NO	Course Outcome	Taxonomy
C422.1	Describe RF communication system components, Basic architecture and operational aspects	Understand
C422.2	Describe MOS device physics and technical specifications associated with RFIC design	Understand
C422.3	Describe various kinds of RF noise types, LNA and mixer designs in RF communication with examples	Understand
C422.4	Design various classes of RF power amplifiers, PLL and filters used in RF integrated circuits.	Create
C422.5	Describe the frequency synthesis & frequency division methods, various radio architectures used in RF communication with examples.	Understand
C422.6	Describe advanced RF applications & the state of art in Radio frequency integrated circuit designs	Understand
Course Name: Comprehension Viva		
NO	Course Outcome	Taxonomy
C423.1	Recite the fundamentals of Engineering Mathematics, Applied Physics and Engineering Chemistry.	Understand
C423.2	Explain the operation of Diodes, BJTs, FETs, Combinational and sequential circuits used in electronic circuits.	Understand
C423.3	Describe the characteristics of Signals, operations on signals and systems.	Understand
C423.4	Summarize the transmission of analog and digital signals through different media.	Understand
C423.5	Interpret the programming of 8086, 8051 and MSP 430 processors and digital processing of signals and image.	Understand
C423.6	Describe the MOS fabrication, embedded system design and data communication using networks.	Understand
Course Name: Technical Seminar		
NO	Course Outcome	Taxonomy
C424.1	Define the various existing technological developments currently in use.	Understand
C424.2	Select the specialized topic of the existing or proposed technology.	Analyse
C424.3	Summarize the information gathered from various resources.	Understand
C424.4	Prepare a technical report on the selected specialized topic.	Create
C424.5	Explain the topic using appropriate presentation tools.	Understand
C424.6	Show the interpersonal, professional and work with team skills.	Apply
Course Name: Project Work		
NO	Course Outcome	Taxonomy
C425.1	Identify the problem of social relevance to be solved.	Understand
C425.2	Summarize the existing technology, its merits and demerits used to solve the problem.	Understand
C425.3	Design the appropriate solution using the sophisticated hardware and/or software.	Create
C425.4	Compare the results of the proposed solution with the existing solution.	Analyse
C425.5	Demonstrate the project along with the complete documentation report of the project.	Understand
C425.6	Show the interpersonal, professional and work with team skills.	Apply

Course Outcomes (III Year) 2019-20 II Sem		
Course Name: Managerial Economics and Financial Analysis		
NO	Course Outcome	Taxonomy
C321.1	Explain the role and responsibilities of a managerial economist in modern business scenario.	Understand
C321.2	Predict the demand of a product by using demand forecasting methods.	Apply
C321.3	Calculate the Break Even Point (BEP) with the help of production and cost analysis.	Apply
C321.4	Explain their learning's about competitive markets and business economic environment.	Understand
C321.5	Prepare the financial statements and analyze financial position of the firm.	Create
C321.6	Discuss the sources of capital and allocation of funds for business undertaking.	Understand
Course Name: Microprocessors & Microcontrollers		
NO	Course Outcome	Taxonomy
C322.1	Understand the internal architecture and organization of 8086 processor.	Understand
C322.2	Develop assembly language programs for various operations using 8086 microprocessor.	Create
C322.3	Understand the internal architecture and organization of MSP 430 controller.	Understand
C322.4	Explain the programming concepts and the interfacing techniques of MSP 430 using embedded C programming.	Understand
C322.5	Describe register organization, memory organization and data transfer protocols.	Understand
C322.6	Differentiate various serial communications protocols and interface Wi-Fi devices.	Understand
Course Name: Electronic Measurements and Instrumentation		
NO	Course Outcome	Taxonomy
C323.1	Analyze performance characteristics of electronic measuring instruments.	Analyzing
C323.2	Explain signal generators, wave and distortion analyzers.	Understanding
C323.3	Demonstrate the functionality of oscilloscopes.	Understanding
C323.4	Analyze bridges for measurement of inductance and capacitance.	Analyzing
C323.5	Analyze active and passive transducers.	Analyzing
C323.6	Describe physical parameters force, pressure, velocity, humidity, moisture, speed proximity and data acquisition system.	Evaluating
Course Name: Digital Signal Processing		
NO	Course Outcome	Taxonomy
C324.1	Infer time domain analysis and frequency domain analysis of discrete time signals and systems.	Analyze
C324.2	Formulate DSP algorithms.	Create
C324.3	Assess structures for the realization of discrete-time systems.	Evaluate
C324.4	Design of digital filters.	Create
C324.5	Discuss Multirate signal processing.	Understand
C324.6	Use of Multirate signal processing	Apply
Course Name: VLSI Design		
NO	Course Outcome	Taxonomy
C325.1	Explain the existing device technologies and IC fabrication process.	Understand
C325.2	Determine the electrical properties of MOS and Bi-CMOS Circuits.	Apply
C325.3	Design basic logic gates, combinational and sequential circuits using stick diagrams and layouts.	Create
C325.4	Analyze the gate level circuits and basic routing concepts.	Analyze
C325.5	Illustrate subsystems and basic data path units through various design styles.	Apply
C325.6	Explain the need for testing and verification of VLSI circuits.	Understand
Course Name: MATLAB Programming		
NO	Course Outcome	Taxonomy
C326.1	Describe the Menus, tool bars, Script files, Editor , Debugger and Help System in MATLAB environment.	Understand
C326.2	Explain Multi-dimensional Arrays, Cell Arrays and Structure arrays.	Understand
C326.3	Illustrate Array Operations and Polynomial operations.	Apply
C326.4	Apply the concepts of Mathematical Functions, User Defined functions and Files.	Apply
C326.5	Describe Relational Operators, Logical Operators and Functions, Conditional Statements, Iterative Structures and Plotting.	Understand
C326.6	Develop solutions to under determined and Determined systems using Matrix methods for linear algebraic equations.	Create
Course Name: Microprocessors & Microcontrollers Laboratory		
NO	Course Outcome	Taxonomy
C327.1	Understands the MASM tool for assembly programming	Understand
C327.2	Execution of different programs for 8086 in Assembly Level Language using MASM Assembler basic operations.	Apply
C327.3	Design Programs to works on large data and strings using MASM.	Create
C327.4	Understand the Code Composer Studio for Embedded C Programming.	Understand
C327.5	Program MSP 430 for various applications.	Remember
C327.6	Design and implement some specific real time applications.	Create
Course Name: Digital Signal Processing Laboratory		
NO	Course Outcome	Taxonomy
C328.1	Experiment concepts of DSP and its applications using MATLAB Software	Analyze
C328.2	Express about the basic signal generation	Understand

C328.3	Examine Fourier Transform Concepts	Apply
C328.4	Design FIR filters	Create
C328.5	Design IIR filters.	Create
C328.6	Demonstrate their abilities towards DSP processor based implementation of DSP systems.	Apply
Course Name: Advanced English Language Communication Skills (AELCS) Laboratory		
NO	Course Outcome	Taxonomy
C329.1	Discuss the ethical values and social context of problems	Understand
C329.2	Outline the social responsibilities of an engineer, rights and qualities of moral Leadership.	Analyze
C329.3	Explain philosophy of Life and Individual qualities	Understand
C329.4	Discuss the core values that shape the ethical behavior of an engineer.	Understand
C329.5	Develop appropriate technologies and management patterns to create harmony in professional and personal life.	Create
C329.6	Outline environment conservation, enrichment and sustainability	Analyze
Course Name: Comprehensive Online Examination-II		
NO	Course Outcome	Taxonomy
C3210.1	Summarize the transmission of digital signals through different media.	Understand
C3210.2	Interpret the programming of 8086, 8051 and MSP 430 processors and digital processing of signals.	Understand
C3210.3	Describe linear integrated circuits, computer-aided design tools for development of complex digital logic circuits.	Understand
C3210.4	Explain Fundamentals of electromagnetic radiation and design of antenna arrays.	Understand
C3210.5	Describe VLSI circuit design processes and programming concepts of MATLAB.	Understand
C3210.6	Explain wave form analyzers, signal generators, sensors, Managerial Economics and Economic Environment of business.	Understand

Course Outcomes (II Year) 2019-20 II Sem

Course Name: Mathematics-IV

NO	Course Outcome	Taxonomy
C221.1	Evaluate the values of improper integrals using Beta and Gamma functions and solve ordinary differential equations using series solutions.	Evaluate
C221.2	Calculate the solutions of difference equations using Bessel's and Legendre's functions.	Apply
C221.3	Find the analytic functions using C-R equations.	Apply
C221.4	Find the image of the complex function using conformal mapping and bilinear transformation.	Apply
C221.5	Use Cauchy's theorem and Cauchy's integral formula to evaluate complex integrations and expansion of complex functions using Taylor's and Laurent's series	Apply
C221.6	Use the technique of residue theorem to evaluate real complex integrals	Apply

Course Name: Electronic Circuit Analysis

NO	Course Outcome	Taxonomy
C222.1	Analyze the various parameters of negative feedback amplifiers	Analyze
C222.2	Design Oscillator circuits using BJT & FET	Create
C222.3	Determine the high frequency parameters of BJT&FET	Apply
C222.4	Analyze multistage amplifier circuits using BJTs & FETs	Analyze
C222.5	Describe Class A, B, AB&D power amplifiers of BJT & MOSFET	Remember
C222.6	Summarize single, double & stagger tuned amplifiers	Understand

Course Name: Analog Communication Systems

NO	Course Outcome	Taxonomy
C223.1	Define the fundamental concept of the analog communication systems.	Remember
C223.2	Summarize the analog modulation and demodulation techniques.	Understand
C223.3	Apply the direct and in-direct methods for the generation of FM waves.	Apply
C223.4	Analyze the performance of AM,FM and PM systems.	Analyze
C223.5	Estimate the influence of noise on the performance of analog communication systems and compare their performances.	Evaluate
C223.6	Design analog communication systems as per the given specifications.	Create

Course Name: Electromagnetic Theory and Transmission Lines

NO	Course Outcome	Taxonomy
C224.1	Describe vector algebra, coordinate systems and fundamentals of electrostatic fields.	Understand
C224.2	Determine electric field intensity due to point, line, sheet and volume charges.	Apply
C224.3	Calculate magnetic field intensity using Biot Savart's law and Ampere's law.	Apply
C224.4	Analyze boundary conditions of EM fields for dielectric-dielectric, dielectric-conductor.	Analyze
C224.5	Describe the propagation of electromagnetic waves in Dielectric-Dielectric, Dielectric-Conductor.	Understand
C224.6	Analyze the concept of transmission lines & their applications.	Analyze

Course Name: Data Structures

NO	Course Outcome	Taxonomy
C225.1	Interpret the concepts of Asymptotic Notation, Arrays, Pointers and Linked List.	Understand
C225.2	Interpret the operations and applications of Stacks and Queues.	Understand
C225.3	Interpret the concepts of Trees and Graphs.	Understand
C225.4	Interpret different Sorting techniques with its time complexity	Understand
C225.5	Interpret different types of Searching techniques.	Understand
C225.6	Interpret different types of Hashing techniques.	Understand

Course Name: Control Systems Engineering

NO	Course Outcome	Taxonomy
C226.1	Evaluate the transfer function model for physical systems and control system components.	Evaluate
C226.2	Determine the transfer function for a given system using block diagram and signal flow graph methods.	Apply
C226.3	Compute the time response of systems and steady state errors .	Apply
C226.4	Determine the absolute and relative stability of a system using RH and root loci concepts.	Apply
C226.5	Analyse the stability of the system and design compensation networks.	Analyse
C226.6	Describe the state variable representation of physical system and solve the state equation.	Understand

Course Name: Electronic Circuit Analysis Laboratory

NO	Course Outcome	Taxonomy
C227.1	Comprehend the fundamental concepts in feedback amplifier circuits	Understand
C227.2	Analyze the Oscillators design, frequency response calculations with help of mathematical expressions	Analyze
C227.3	Describe the various cascade amplifier circuits using BJT models	Understand
C227.4	Apply the h-parameter model to power amplifier circuits design	Apply
C227.5	Discriminate the concepts of quality factor in small signal tuned amplifier	analysis
C227.6	Create the circuit design analysis and utilization of the circuits in various levels	Create

Course Name: Analog Communication Systems Laboratory		
NO	Course Outcome	Taxonomy
C228.1	Explain real time behavior of different analog modulation schemes	Understand
C228.2	Summarize real time behavior of different analog pulse modulation schemes	Understand
C228.3	Demonstrate various pulse modulation techniques	Apply
C228.4	Analyze practical behavior of different elements available in analog communication system such as filters and amplifiers	Analyze
C228.5	Evaluate analog modulated waveform in time /frequency domain and also find modulation index	Evaluate
C228.6	Calculate the different measurement characteristics of antennas	Apply
Course Name: Analog Communication Systems Laboratory		
NO	Course Outcome	Taxonomy
C229.1	Explain solutions to engineering problems using the concepts of Matrices and Numerical methods, special functions & complex variables.	Understand
C229.2	Describe the operation of Diodes, BJTs, FETs, Combinational and sequential circuits used in electronic circuits.	Understand
C229.3	Interpret the characteristics of signals and systems, analog modulated & demodulated systems and effect of noise.	Understand
C229.4	Summarize propagation of electromagnetic waves in different media	Understand
C229.5	Understand different Data Structures, Searching and Sorting techniques	Understand
C229.6	Explain Single phase transformers, Induction motors, Synchronous Machines, DC machines and their control.	Understand