



Course Outcomes

Batch: 2020-24

A.Y: 2020-21

<b>Course Outcomes (I Year- II Sem)</b>		
<b>S. No</b>	<b>Course Outcomes Statement</b>	<b>Taxonomy</b>
<b>Differential Equations and Vector Calculus (20A54201)</b>		
C121.1	Solve the linear differential equations with constant coefficients	Understand
C121.2	Solve simultaneous linear differential equations and Formulate and solve the higher order differential equation by analyzing physical situations.	Understand
C121.3	Form the PDE and solve the first order linear partial differential equations	Understand
C121.4	Calcify the PDE and apply the technique of PDE to solve the One dimensional wave and Heat equations with initial & boundary conditions	Remember
C121.5	Find the gradient of scalar point functions, divergence and curl of vector point functions.	Remember
C121.6	Apply Green's, Stokes and Gauss's divergence theorems to evaluate double and triple integrals.	Apply
<b>Chemistry (20A51101T)</b>		
C122.1	Describe Planck's quantum theory, dual nature of matter, Schrodinger equation, molecular orbital Theory and molecular orbital energy level diagram of different molecules	Understand
C122.2	Explain Crystal field theory, splitting in octahedral and tetrahedral geometry and the magnetic behaviour, Oxidation state, coordination and colour of complexes.	Understand
C122.3	Explain the principle of Band diagrams of conductors, superconductor, semiconductors and insulator and nonmaterial	Understand
C122.4	Discuss the principles of electrochemistry in potentiometry, conductometry, battery and electrochemical sensors	Understand
C122.5	Explain polymerization and the preparation, properties, and applications of thermoplastics &thermosetting, elastomers, & conducting polymers	Understand
C122.6	Discuss the different applications of analytical instruments	Understand
<b>C-Programming &amp; Data Structures (20A05201T)</b>		
C123.1	Interpret the basic concepts of C-programming language	Understand
C123.2	Develop programs using Functions, Pointers, Strings, Structures and Unions	Apply
C123.3	Make use of Stacks and Queues in real world problems	Apply
C123.4	Interpret various operations on different types of Linked lists	Understand
C123.5	Illustrate the concept of Trees and Graphs	Understand
C123.6	Demonstrate programs on Sorting and Searching	Apply
<b>Electronic Devices &amp; Circuits (20A04101T)</b>		
C124.1	Recognize the transport phenomena of the charge carriers in a semiconductor	Understand
C124.2	Study the characteristics and operation of p-n junction diode	Understand
C124.3	Study the characteristics operation and applications of Special Diodes	Understand
C124.4	Illustrate diode circuits for different applications such as rectifiers, clippers and clampers	Analyze
C124.5	Design various biasing circuits for BJT and FET	Create
C124.6	Compare the performance of various semiconductor devices	Evaluate
<b>Engineering Workshop (20A03202)</b>		
C125.1	Apply wood working skills in real world applications.	Apply
C125.2	Build different parts with metal sheets in real world applications	Apply
C125.3	Apply fitting operations in various applications.	Apply
C125.4	Apply different types of basic electric circuit connections	Apply
C125.5	Demonstrate soldering and brazing	Apply

C125.6	Repair the punctured tire of bicycle.	Apply
<b>IT Workshop (20A05202)</b>		
C126.1	Disassemble and Assemble a Personal Computer and prepare the computer ready to use.	Apply
C126.2	Install different operating systems in a computer and utilize the features of operating system.	Apply
C126.3	Prepare the Documents using Word processors and LAtEX, Prepare spread sheets for calculations using excel and prepare Slide presentations using presentation tool.	Create
C126.4	Install Antivirus software in a computer and use it to check for threats to the computer	Apply
C126.5	Interconnect two or more computers for information sharing.	Apply
C126.6	Access the Internet and Browse it to obtain the required information	Apply
<b>C-Programming &amp; Data Structures Lab (20A05201P)</b>		
C127.1	Develop programs using the basic concepts of C-programming language	Apply
C127.2	Develop programs using Functions, Pointers, Strings, Structures and Unions	Apply
C127.3	Make use of Stacks and Queues in real world problems	Apply
C127.4	Develop programs involving various operations on Linked lists	Apply
C127.5	Develop programs using Trees and Graphs	Apply
C127.6	Demonstrate programs on Sorting and Searching	Apply
<b>Chemistry Lab (20A51101P)</b>		
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 materials	Understand
C128.3	Measure the strength of an acid present in secondary battery and Ferrous ion using volumetric analysis	Understand
C128.4	Determine the potentials and EMFs of solutions by Potentiometry	Understand
C128.5	Identify some organic and inorganic compounds by instrumental methods	Remember
C128.6	Synthesize of nano materials by simple methods	Understand
<b>Electronic Devices &amp; Circuits Lab (20A04101P)</b>		
C129.1	Describe the use of RPS and CRO	Understand
C129.2	Recognize the characteristics and applications of basic electronic devices	Understand
C129.3	Observe the characteristics of electronic devices by plotting graphs	Understand
C129.4	Categorize the Characteristics of UJT, BJT, FET, and SCR	Analyze
C129.5	Design BJT, FET Amplifiers for Voltage Amplification	Create
C129.6	Simulation of all Electronic circuits in PSPICE /Multisim	Analyze
<b>Environmental Science (20A99201)</b>		
C1210.1	Recognize the knowledge about environment, natural resources and different techniques involved in its conservation.	Understand
C1210.2	Describe the information about different eco-systems and its functions.	Understand
C1210.3	Explain the different types of bio-diversity along with values and conservation methods.	Understand
C1210.4	Predict various environmental pollutions and able to design the environmental friendly process in engineering.	Apply
C1210.5	Apply the sustainable development concepts in life, society and industry.	Apply
C1210.6	Understand the impacts of population growth on environment and take suitable measures to protect the environment.	Understand



**Course Outcomes**

**Batch: 2019-23**

**A.Y: 2020-21**

<b>Course Outcomes (II Year II Sem)</b>		
<b>Course Name: Electromagnetic Waves and Transmission lines (19A04401)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C221.1	Describe vector algebra, coordinate systems ,fundamentals of electrostatic fields, electric field intensity duo to point, line, sheet and volume charges	Understand
C221.2	Calculate magnetic field intensity using Biot-Savart’s law and Ampere’s law	Apply
C221.3	Derive Maxwell’s equations for time varying fields.	Apply
C221.4	Analyze boundary conditions of EM fields for dielectric-dielectric, dielectric-conductor, propagation of EM field in good conductor & dielectric,	Analyze
C221.5	Describe the propagation of EM waves that incident obliquely and normally on a perfect dielectric and conductor.	Understand
C221.6	Analyze the concept of transmission lines & their applications.	Analyze
<b>Course Name: Electronic Circuit –Analysis and Design (19A04402T)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C222.1	Understand the concepts and equivalent circuit models of small signal amplifiers using BJT & FET	Understand
C222.2	Analyze the frequency response of single stage amplifiers using BJT & FET at high and low frequencies	Analyze
C222.3	Understand basic concepts of Differential and multistage amplifiers	Understand
C222.4	Understand concept of different feedback topologies.	Understand
C222.5	Understand the working principle of oscillators.	Understand
C222.6	Analyze different types of large signal amplifiers and Tuned amplifiers	Analyze
<b>Course Name: Control Systems (19A02404)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C223.1	Evaluate the transfer function model for physical systems and control system components.	Evaluate
C223.2	Determine the transfer function for a given system using block diagram and signal flow graph methods.	Apply
C223.3	Compute the time response of systems and steady state errors.	Apply
C223.4	Determine the absolute and relative stability of a system using RH and root loci concepts.	Apply
C223.5	Analyse the stability of the system and design compensation networks.	Analyse
C223.6	Describe the state variable representation of physical system and solve the state equation.	Understand
<b>Course Name: Analog Communications (19A04403T)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C224.1	Analyze AM and its derived systems; and understand the concept of FDM.	Analyze
C224.2	Analyze FM and PM systems	Analyze
C224.3	Analyze the noise performance of AM, DSB,SSB,FM and PM systems	Analyze
C224.4	Under the concept of PAM, pulse time modulations; and analyze the AM and FM receivers.	Analyze
C224.5	Solve problems on information, entropy and information rate and analyse communication channel.	Analyze
C224.6	Compute Huffman code and calculate code efficiency.	Apply
<b>Course Name: Python Programming (19A05304T)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
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

<b>Course Name: Computer Architecture and organization (19A04404)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C226.1	Interpret the concepts of Asymptotic Notation, Arrays, Pointers and Linked List.	Understand
C226.2	Interpret the operations and applications of Stacks and Queues.	Understand
C226.3	Interpret the concepts of Trees and Graphs.	Understand
C226.4	Interpret different Sorting techniques with its time complexity	Understand
C226.5	Interpret different types of Searching techniques.	Understand
C226.6	Interpret different types of Hashing techniques.	Understand
<b>Course Name: Universal Human Values (19A52301)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C227.1	Understand the need , concept and content of value-education individual's life and modifies their aspiration for happiness & prosperity	Understand
C227.2	Comprehend the term self-exploration and its application for self-evaluation and development	Understand
C227.3	Reconstruct the concepts about different values and discriminate between them	Understand
C227.4	Understand the concept of co-existence & evaluate the program to ensure self regulation	Understand
C227.5	Identify the holistic perception of harmony at level of self, family, society and nature	Understand
C227.6	Apply professional ethics in their future profession & contribute for making a value based society	Remember
<b>Course Name: Electronic Circuit –Analysis and Design Lab (19A04402P)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C228.1	Understand Characteristics and frequency response of various Single stage amplifiers	Understand
C228.2	Understand Characteristics and frequency response of various Multi stage amplifiers for Low, Mid and High frequencies	Understand
C228.3	Analyze Feedback amplifier ,Oscillator Circuits for Specified gain	Analyze
C228.4	Determine the efficiencies of Class A, B power amplifiers using BJT	Apply
C228.5	Analyze of Tuned Amplifiers	Analyze
C228.6	Simulate and Summarize all the types of amplifiers	Understand
<b>Course Name: Analog Communications Lab (19A04403P)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C229.1	Analyze AM,DSB-SC and FM modulation techniques.	Analyze
C229.2	Design and verify demodulator circuits for AM and FM system	Analyze
C229.3	Design and verify Mixer, pre-emphasis and de-emphasis systems.	Analyze
C229.4	Understand PAM, PWM and PPM systems.	Understand
C229.5	Measure the performance characteristics of Radio Receiver.	Apply
C229.6	Simulate AM,FM,PAM,PWM,PPM,AM plus Noise signal with demodulator	Apply
<b>Course Name: Environmental Science (19A99301)</b>		
<b>No.</b>	<b>Course Outcome</b>	<b>Taxonomy</b>
C2210.1	Gain the knowledge about environment, natural resources and different techniques involved in its conservation.	Understand
C2210.2	Get the information about different eco-systems and its functions.	Understand
C2210.3	Recognize the types of bio-diversity along with values and conservation methods.	Understand
C2210.4	Gain the knowledge about various environmental pollutions and able to design the environmental friendly process in engineering.	Understand
C2210.5	Gain the knowledge about sustainable development concept and practice it in life, society and Industry.	Understand
C2210.6	Understand the both impacts of population growth on environment and needed measures to protect the environment.	Understand



Course Outcomes

Batch: 2018-22

A.Y: 2020-21

Course Outcomes (III Year- II Sem)		
S. No	Course Outcomes Statement	Taxonomy
<b>Managerial Economics and Financial Analysis (15A52301)</b>		
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
<b>Microprocessors &amp; Microcontrollers (15A04601)</b>		
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
<b>Electronic Measurements and Instrumentation (15A04602)</b>		
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
<b>Digital Signal Processing (15A04603)</b>		
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
<b>VLSI Design (15A04604)</b>		
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
<b>MATLAB Programming (15A04605)</b>		
C326.1	Describe the Menus, tool bars, and 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
<b>Microprocessors &amp; Microcontrollers Laboratory (15A04607)</b>		
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
<b>Digital Signal Processing Laboratory (15A04608)</b>		
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
<b>Advanced English Language Communication Skills (AELCS) Laboratory (15A52602)</b>		
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
<b>Comprehensive Online Examination-II (15A04609)</b>		
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**

Batch: 2017-21

A.Y: 2020-21

<b>Course Outcomes (IV Year- II Sem)</b>		
<b>S. No</b>	<b>Course Outcomes Statement</b>	<b>Taxonomy</b>
<b>Low Power VLSI Circuits &amp; Systems (15A04802)</b>		
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
<b>RF Integrated Circuits (15A04804)</b>		
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
<b>Comprehension Viva (15A04805)</b>		
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
<b>Technical Seminar (15A04806)</b>		
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
<b>Project Work (15A04807)</b>		
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