Course Outcomes

Batch: 2023-27 **A.Y: 2023-24**

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 basics of thermal engineering and its applications	Understand
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

GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY
Department of Electronics and Communication Engineering

Course Outcomes

Batch: 2022-26 **A.Y: 2023-24**

Course Outcomes (II Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Managerial Economics & Financial Analysis (22A0022T)		
C221.1	Outline the Managerial Economic concepts for decision making and forward planning. Also know law of demand and its exceptions, to use different forecasting methods for predicting demand for various products and services.	Understand
C221.2	Assess the functional relationship between Production and factors of production and list out various costs associated with production and able to compute breakeven point to illustrate the various uses of breakeven analysis.	Evaluate
C221.3	Outline the different types of business organizations and provide a framework for analyzing money in its functions as a medium of exchange.	Understand
C221.4	Interpret various techniques for assessing the proposals of project for financial position of the business.	Understand
C221.5	Evaluate the capital budgeting techniques	Evaluate
C221.6	Identify the principles of accounting to record, classify and summarize various transactions in books of accounts for preparation of final accounts.	Remember
Electrical Engineering (22A0205T)		
C222.1	Acquire knowledge about how to determine the transient response of R-L, R-C, R-L-C series circuits for D.C and A.C excitations.	Apply
C222.2	Acquire knowledge about how to determine the relation between quality factor and band width in resonance circuits	Apply
C222.3	Analyze the filter circuits and 3-phase circuits	Apply
C222.4	Analyze the various parameters of two port networks	Analyze
C222.5	Analyze the load characteristics of DC Generaor and DC motor	Analyze
C222.6	understand the construction, operation and windings of a 1-phase Transformers and Alternator	understand
Electromagnetic Waves and Transmission Lines (22A0414T)		
C223.1	Describe vector algebra, coordinate systems, vector calculus and fundamentals of electrostatic fields duo to point, line, sheet, and volume charges using Coulomb's law and Gauss's law.	Understand
C223.2	Calculate magnetic field intensity using Biot-Savart's law and Ampere's law	Apply
C223.3	Analyze Maxwell's equations for Time-varying EM fields.	Analyze
C223.4	Analyze boundary conditions of EM fields for dielectric-dielectric, dielectric-conductor media and UPW in single medium.	Analyze
C223.5	Describe the normal and oblique incidence of UPW while incident on a perfect conductor and a perfect dielectric media, Poynting theorem.	Analyze

C223.6	Analyze the concept of transmission lines & their applications.	Analyze
Analog & Digital Communications (22A0415T)		
C224.1	Recognize the basic terminology used in analog and digital communication techniques for transmission of information/data.	Remember
C224.2	Explain the basic operation of different analog and digital communication systems at baseband and pass band level.	Understand
C224.3	Compute various parameters of baseband and pass band transmission schemes by applying basic engineering knowledge.	Apply
C224.4	Analyze the performance of different modulation & demodulation techniques to solve complex problems in the presence of noise.	Analyze
C224.5	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
C224.6	Understand the basics of information theory and error correcting codes.	Understand
Linear and Digital IC Applications (20A04403T)		
C225.1	Explain the Classification, building blocks and characteristics of linear integrated circuits.	Understand
C225.2	Discuss the various applications of linear and Non- linear OP-AMP.	Understand
C225.3	Solve the application based problems using Active Filters, Timer and Phase Locked Loops.	Apply
C225.4	Analyze various applications based circuits of Voltage Regulator and Converters.	Analyze
C225.5	Design the circuits using CMOS logic.	Create
C225.6	Design of various Combinational and Sequential Circuits.	Create
Soft Skills (20A52401)		
C226.1	Memorize various elements of effective communicative skills.	Remember
C226.2	Interpret people at the emotional level through emotional intelligence.	Understand
C226.3	Apply critical thinking skills in problem solving.	Apply
C226.4	Analyze the needs of an organization for team building.	Analyze
C226.5	Judge the situation and take necessary decisions as a leader.	Evaluate
C226.6	Develop social and work-life skills as well as personal and emotional well-being.	Create
Digital Logic Design Lab (20A04303P)		
C227.1	Understand the properties of Boolean algebra, other logic operations, and minimization of Boolean functions	Understand
C227.2	Analyze the concepts of minimization of Boolean functions using karnaugh map	Analyze
C227.3	Analyze the Combinational logic circuits	Analyze
C227.4	Analyze the Sequential logic circuits	Analyze
C227.5	Realization of FSM and PLDs	Understand
C227.6	Develop digital circuits using HDL and verilog	Analyze
Communication Systems Lab (20A04402P)		

C228.1	Explain the usage of equipment/components used to conduct the experiments in analog and Digital modulation techniques.	Understand
C228.2	Demonstrate the experiment about various modulation and demodulation schemes to find the important metrics of the communication system experimentally.	Understand
C228.3	Analyze the performance of analog modulation scheme to find the important metrics of the system theoretically.	Analyze
C228.4	Analyze the performance of digital modulation scheme to find the important metrics of the system theoretically.	Analyze
C228.5	Draw the relevant graphs between important metrics of the system from the observed measurements.	Apply
C228.6	Compare the experimental results with that of theoretical ones and infer the conclusions.	Analyze
Linear and Digital IC Applications Lab (20A04403P)		
C229.1	Explain the Classification, building blocks and characteristics of linear integrated circuits.	Understand
C229.2	Discuss the various applications of linear and Non- linear OP-AMP.	Understand
C229.3	Solve the application based problems using Active Filters, Timer and Phase Locked Loops.	Apply
C229.4	Analyze various applications based circuits of Voltage Regulator and Converters.	Analyze
C229.5	Design the circuits using CMOS logic.	Create
C229.6	Design of various Combinational and Sequential Circuits.	Create

GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY
Department of Electronics and Communication Engineering

Course Outcomes

Batch: 2021-25 **A.Y: 2023-24**

Course Outcomes (III Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Antennas & Microwave Engineering (20A04601T)		
C321.1	Learn about the antenna's basics and wire antennas.	Remember
C321.2	Gain knowledge on few types of antennas, their operation and applications.	Analyse
C321.3	Understand the uses of antenna arrays and analyze waveguides and resonators	Understand
C321.4	Analyze various microwave components	Analyse
C321.5	Understand the principles of different microwave sources..	Understand
C321.6	Gain knowledge on microwave semiconductor devices and microwave measurements.	Analyse
VLSI Design (20A04602T)		
C322.1	Describe Electrical Properties of MOS and BiCMOS Circuits	Remember
C322.2	Determine Lambda(λ)-based design rules for wires, contacts and Transistors	Apply
C322.3	Calculate Driving large Capacitive Loads, Wiring Capacitances for CMOS	Apply
C322.4	Design & develop for Full-custom and Semi-custom devices	Create
C322.5	Describe testing combinational logic –testing sequential logic	Understand
C322.6	Analyze practical design for test guide lines – scan design techniques	Analyze
Communication Networks (20A04603T)		
C323.1	Understand the basics of data communication, networking, internet and their importance.	Understand
C323.2	Analyse the services and features of various protocol layers in data networks.	Analyze
C323.3	Differentiate wired and wireless computer networks	Understand
C323.4	Analyse TCP/IP and their protocols.	Analysis
C323.5	Recognize the different internet devices and their functions.	Understand
C323.6	Student shall understand the principles and operations behind various application layer protocols like HTTP, SMTP, FTP.	Understand
Embedded System Design (20A04604b)		
C324.1	Describe the History of embedded systems, Classification of embedded systems based on generation and complexity, Purpose of embedded systems.	Understand
C324.2	Describe Core of the embedded system-general purpose and domain specific processors, ASICs, PLDs, COTs, I/O components.	Understand
C324.3	Describe the Onboard communication interfaces-I2C, SPI, CAN, parallel interface; External communication interfaces-RS232 and RS485, USB, infrared, Bluetooth, Wi-Fi, ZigBee, GPRS, GSM.	Understand
C324.4	Describe the Embedded firmware design approaches-super loop based approach, operating system based approach	Understand

C324.5	Describe the Operating system basics, types of operating systems, tasks, process and threads, multiprocessing and multitasking, task scheduling	Understand
C324.6	Describe the Task Synchronization: Task Communication /Synchronizatio Issues, Task Synchronization Techniques	Understand
Principles of Operating Systems (20A05605a)		
C325.1	Describe the fundamental organization of a computer systems	Understand
C325.2	Explain about Operating systems functions	Understand
C325.3	Differentiate between process and thread and classify scheduling algorithm	Understand
C325.4	Determine Synchronization and deadlock problems	Apply
C325.5	Describe about various memory management schemes	Understand
C325.6	Explain file systems concepts and I/O management	Understand
Antennas & Microwave Engineering Lab (20A04601P)		
C326.1	Understand the working, different microwave components and sources in a microwave bench	Understand
C326.2	Verify the characteristics of various microwave components using microwave benchsetup	Create
C326.3	Understand the Radiation pattern of different Antennas	Understand
C326.4	Verify the bandwidth and power of various Antennas	Create
C326.5	Design and study of various antennas	Create
C326.6	Analyze performance characteristics ofAntennas	Analyse
VLSID Lab (20A04503P)		
C327.1	Understand how to use Microwind software tools in the lab.	Understand
C327.2	Sketch the different circuits by using CMOS and perform AC, DC analysis.	Apply
C327.3	Apply Verilog source code for the given problem/experiment, and simulate the given circuit with suitable simulator and verify the results.	Evaluate
C327.4	Analyze the CMOS inverter, MOS amplifiers and differential amplifier results of the given experiment/problem.	Apply
C327.5	Assess the characteristics of NMOS and PMOS transistors and find the parametric sweep.	Understand
C327.6	Design and verify the experiments in 180nm technology also draw the layout diagrams.	Apply
Communication Networks Lab (20A04509)		
C328.1	Identify and use various networking components Understand different transmission media and design cables for establishing a network	Understand
C328.2	Implement any topology using network devices	Create
C328.3	Analyze performance of various communication protocols.	Analyze
C328.4	Understand the TCP/IP configuration for Windows and Linux	Understand
C328.5	Compare routing algorithms	Analyze
C328.6	Learn the major software and hardware technologies used on computer networks	Analyze

GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY

Department of Electronics and Communication Engineering

Course Outcomes

Batch: 2020-24 **A.Y: 2023-24**

Course Outcomes (IV Year- II Sem)		
S. No	**Course Outcomes Statement**	**Taxonomy**
Project (20A04801)		
C421.1	Identify the problem of social relevance to be solved.	Understand
C421.2	Summarize the existing technology, its merits and demerits used to solve the problem.	Analyze
C421.3	Design the appropriate solution using the sophisticated hardware or software.	Create
C421.4	Compare the results of the proposed solution with the existing solution.	Evaluate
C421.5	Demonstrate the project along with the complete documentation report of the project.	Evaluate
C421.6	Show the interpersonal, professional and work with team skills.	Apply