



**DEPARTMENT OF SCIENCE AND HUMANITIES**

**LIET/SH/D-45/2022-23**

**REV.: 0.0:0.0**

**LIST OF COURSE OUTCOMES (CO's)**

**ACADEMIC YEAR: 2022-23**

**Branch: CSIT**

<b>COURSE CODE &amp; NAME</b>	<b>CO</b>	<b>CO STATEMENT</b>
<b>C101 Communicative English</b>	C101.1	Enable students to use Computer Assisted Language Laboratory (CALL) to enhance their pronunciation through stress, intonation and rhythm for routine and spontaneous interaction
	C101.2	Attain communicative competency for the fulfillment of academic, professional and social purposes.
	C101.3	Attain language Proficiency through Contextualized, Task Based Activities to realize employment potential at the end of the course.
	C101.4	Acquire listening, speaking, reading and writing skills necessary for survival in the post modern society through task-based and skill-based communication practices with judicious integration of modern tools.
	C101.5	Develop fluency and accuracy for effective and professional communication in real-time situations by using appropriate verbiage and contextual knowledge.
	C101.6	Realize the technical communicative competence and attainment of group dynamism and problem solving skills through standard oral and written language models.
	C102.1	Able to solve non-linear equations using various numerical methods. Construct interpolation polynomials for a given data

C102 Numerical Methods and Ordinary Differential Equations (NMODE)		using Lagrange's and Newton's interpolation formulae
	C102.2	Apply numerical methods to find derivatives, integrations and solutions of ordinary differential equations.
	C102.3	Able to solve the first order ordinary differential equations related to various engineering fields and solve the real world problems
	C102.4	Able to solve the higher order differential equation and analyze physical situations.
	C102.5	Apply the Laplace transform for solving differential equations and integral equations.
C103 Problem Solving and Programming using C (PSPC)	C103.1	Illustrate the Fundamental concepts of Computers and basics of computer programming.
	C103.2	Use Control Structures and conditional statements in solving complex problems.
	C103.3	Demonstrate the ideas of pointers usage. And Arrays in solving complex problems.
	C103.4	Develop modular program aspects and Strings fundamentals.
	C103.5	Solve real world problems using the concept of Structures, Unions and File operations.
C104 Applied Physics	C104.1	Interpret the interaction of optic energy with matter
	C104.2	Explain the properties of diffraction
	C104.3	Classify the properties of polarization and lasers
	C104.4	Analyze the optical fiber properties with detailed applications
	C104.5	Identify the wave function behavior quantum mechanically.
C105 Essentials of Electrical & Electronics Engineering (EEEE)	C105.1	Able to Apply concept of KVL/KCL and network theorems in solving electrical circuits
	C105.2	Able to Measure the performance quantities such as losses, efficiency of DC machines and transformers
	C105.3	Able to Measure the performance quantities such as losses, efficiency of transformers and Induction motor
	C105.4	Able to analyze Understand the importance and applications of

		p-n junction diode& Rectifiers.
	C105.5	Able to Understand the configurations and applications of Op-Amps.
C106 Problem Solving and Programming using C Lab	C105.1	Implement basic programs in C and design flowcharts in Raptor.
	C105.2	Use Conditional and Iterative statements to solve real time scenarios in C.
	C106.3	Implement the concept of Arrays and Modularity and Strings.
	C106.4	Apply the Dynamic Memory Allocation functions using pointers.
	C106.5	Develop programs using structures and Files.
C107 Applied Physics lab	C107.1	Identify the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics.
	C107.2	Apply the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics and perform the experiments using required apparatus.
	C107.3	Compute the required parameter by suitable formula using experimental values (observed values) in mechanics, optics, electromagnetic and electronic experiments.
	C107.4	Analyze the experimental results through graphical interpretation.
	C107.5	Recognize the required precautions to carry out the experiment and handling the apparatus in the laboratory.
C108 Essentials of Electrical & Electronics Engineering Lab	C108.1	Prove laws and theorems.
	C108.2	Analyze the characteristics of DC Machines.
	C108.3	Identify the performance of a transformer.
	C108.4	Analyze the V-I characteristics of diode
	C108.5	Develop Inverting and Non-Inverting Amplifier using PSPICE
C109	C109.1	Apply the matrix algebra techniques to engineering applications.
	C109.2	Apply the concepts of Eigen values and Eigen vectors to free vibration of a two mass system.

Linear Algebra and Multivariable Calculus	C109.3	Apply partial differentiation to find maxima and minima of functions of several variables
	C109.4	Evaluate the volume and surface area of solids using multiple integrals.
	C109.5	Apply vector differential operators to find potential functions and estimate the work done against a field, circulation and flux using vector integral theorems
C110 Mathematical Methods	C110.1	Apply mean value theorems to real world problems.
	C110.2	Apply elementary number theory concepts, including the divisibility properties of numbers to perform modulo arithmetic and use them in cryptographic applications.
	C110.3	Apply simplex method to solve an LPP.
	C110.4	Find the Fourier series of periodic functions and evaluate Fourier integral, Fourier transform and inverse Fourier of a given function.
	C110.5	Solve partial differential equations of first order using analytical methods.
C111 Applied Chemistry	C111.1	Distinguish thermoplastics, thermosetting plastics, elastomers and analyze the importance of smart polymers.
	C111.2	Discuss the working principle and applications of primary, secondary battery cells and fuel cells.
	C111.3	Understand the applications of semiconductors, liquid crystals, and materials used in Floppy, CD & pen drive
	C111.4	Demonstrate the working principle of Photo Voltaic Cell, Ocean Thermal Energy Conversion (OTEC).
	C111.5	Illustrate the preparation, properties and applications of Nano materials and applications of computational chemistry.
C112 Engineering Drawing	C112.1	Apply the basics of engineering drawing to construct the polygons and curves.
	C112.2	Draw the orthographic projections of points and lines.
	C112.3	Draw the projections of planes in various conditions.
	C112.4	Draw the projections of regular solids inclined to one of the

		planes.
	C112.5	Develop 3D isometric views from 2D orthographic views and vice versa
C113 Data Structures	C113.1	Analyze different searching and sorting Techniques.
	C113.2	Analyze concepts of linked lists and with their implementation of different Linked Lists
	C113.3	Apply the concepts of stacks and queues in real time applications
	C113.4	Analyze the non linear data structures trees and their operations
	C113.5	Implementation of different advanced Trees with their applications.
C114 Communicative English Lab	C114.1	Acquire Listening skills for answering questions, make formal presentations without graphical elements, prioritize information from reading texts, paraphrase short academic texts and get awareness about plagiarized content and academic ethics.
	C114.2	Comprehend academic lectures by taking notes, make formal presentations on academic topics using PPT slides with relevant graphical elements, distinguish facts from opinions while reading, write formal letters and emails and use a range of vocabulary in formal speech and writing.
	C114.3	Participate in group discussions using appropriate language strategies, comprehend complex texts, produce logically coherent argumentative essays and use appropriate vocabulary to express ideas and opinions
	C114.4	Draw inferences and conclusions using prior knowledge and verbal cues, express thoughts and ideas accurately and fluently, develop advanced reading skills for a deeper understanding of texts, prepare a CV with a cover letter to seek internship/ job, and understand the use of passive voice in academic writing.
	C114.5	Develop advanced listening skills for in-depth understanding of academic texts, make presentations collaboratively ,understand

		the structure of Project Reports and use grammatically correct structures with a wide range of vocabulary
C115 Applied Chemistry Lab	C115.1	Apply the working principles of laboratory experiments in electronics, pH meter, and Conductivity meter to perform the experiments.
	C115.2	Determine the amount of zinc and copper using classical methods of titration
	C115.3	Analyze the experimental results through graphical interpretation.
	C115.4	Recognize the required precautions to carry out the experiment and handling the apparatus in the laboratory.
	C115.5	Synthesize polymers using condensation polymerization
C116 Data Structures using C Lab	C116.1	Analyze different searching and sorting Techniques.
	C116.2	Analyze concepts of linked lists and with their implementation of different Linked Lists
	C116.3	Apply the concepts of stacks and queues in real time applications
	C116.4	Analyze the non-linear data structures trees and their operations
	C116.5	Implementation of different advanced Trees with their applications.
C117 Environmental Science	C117.1	Understands about the natural resources and environmental impacts and which kind of methods are to be applied for the sustainable development.
	C117.2	Acquire knowledge on environmental pollution and their effects on biotic and a biotic components and control measures of pollution.
	C117.3	Student will be able to know about the environment, components, structure, functions of the environment and ecosystem. Ability to understand the biodiversity of India and identifies its threats. Apply the knowledge about the conservation practices to protect the biodiversity.
	C117.4	Able to identify social issues both rural and urban environment

		and the possible means to apply the environmental legislations of India towards sustainable development.
	C117.5	Able to acquire the knowledge on environmental assessment and stages involved in EIA and environmental audit for the self sustaining and eco friendly green campus