LENDI INSTITUTE OF ENGINEERING AND TECHNOLOGY
(Autonomous)
(Approved by A.I.C.T.E & Affiliated to JNTU, Kakinada)
Accredited by NAAC with "A" Grade & NBA
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DEPARTMENT OF SCIENCE AND HUMANITIES

List Of Course Outcomes (CO)

Regulations: R20 **Branch: ECE**

COURSECODE &NAME	CO	CO STATEMENT
SEMESTER-1(I-I)-R20		
C101 Communicative English	**C101.1**	Understand the value of Human Conduct for career development through life skills: Ethics & Values and use root words and Prepositions without errors. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading. Enhance pronunciation with befitting tone for clarity in a speech to communicate language effectively.
	C101.2	Observe the significance of imagery in poetry to use it in real-time contexts and learn to use and misuse of Articles, Prefixes, Suffixes, and Punctuations. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading. Participate in short conversations in routine contexts on topics of interest and ask questions and Make requests politely.
	C101.3	Acquire conversation skills through drama and enhance the correct use of Nouns, Pronouns, Verbs and Concord to write paragraphs effectively. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading. Listen for specific information, gist, note-taking, note-making and comprehension and develop convincing and negotiating skills through debates.
	C101.4	Develop reading for inspiration, interpretation & innovation and learn to use modifiers, synonyms and antonyms to write essays effectively. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading
	C101.5	Learn meaningful use of language by avoiding meaningless cliches, bureaucratic euphemisms and academic jargon in order to acquire the skill of summarizing. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading
	C102.1	*Apply* numerical methods and implement interpolation techniques to solve real-world problems in engineering.

C102 Numerical Method and Ordinary Differential Equations	**C102.2**	*Apply* numerical methods to solve ordinary differential equations that arise in various engineering fields.
	C102.3	*Apply* the first order ordinary differential equations to solve various engineering problems.
	C102.4	*Apply* the higher order ordinary differential equations to solve various engineering problems.
	C102.5	*Apply* the Laplace transform to solve differential equations and integral equations that arise in various engineering fields.
C103 Engineering Physics	**C103.1**	*Interpret* the interaction of optic energy with matter on the basis of interference
	C103.2	*Apply* the principles of diffraction & polarization to the electronics & communication systems
	C103.3	*Enumerate* the properties of Lasers and Fiber Optics
	C103.4	*Describe* the fundamentals of semiconductors
	C103.5	*Identify* the principles of Quantum computing based on Quantum Physics
C104 Engineering Chemistry	**C104.1**	*Distinguish* thermoplastics and thermosetting plastics.
	C104.2	*Design* the metallic materials to prevent the corrosion.
	C104.3	*Discuss* the working principle and applications of primary, secondary battery cells, fuel cells and Photo Voltaic Cell.
	C104.4	*Compare* the working principle and materials used in Floppy, CD and pen drive & explain the applications of semiconductors and superconductors.
	C104.5	*Illustrate* the preparation, properties and applications of Nano materials and importance of liquid crystals.
C105 Network Analysis	**C105.1**	*Understand* the concepts of passive elements, types of sources and various network reduction techniques.
	C105.2	*Analyze* steady state behavior of single phase and three phase AC electrical circuits.
	C105.3	*Solve* DC and AC electrical circuits using theorems, mesh and nodal analysis techniques.
	C105.4	*Determine* two port network parameters such as Z, Y, ABCD and h parameters for given electrical network.
	C105.5	*Analyze* transient and steady state behaviour of RL, RC & RLC circuits in time and Frequency domain.
C106 Engineering Physics Lab	**C106.1**	*Apply* the working principles of laboratory experiments in optics, electrical and electronics.
	C106.2	*Compute* the required parameter by suitable formula using experimental values (observed values) in optics, electrical and electronic experiments.
	C106.3	*Analyze* the experimental results through graphical interpretation.
	C106.4	*Recognize* the required precautions to carry out the experiment and handling the apparatus in the laboratory.
	C106.5	*Demonstrate* the working principles, procedures and applications.
C107 Engineering Chemistry Lab	**C107.1**	*Explain* the functioning of the instruments such as Conductivity and pH meters.
	C107.2	*Interpret* the graphical values to analyze the experimental results.
	C107.3	*Determine* the concentrations of Acid, Zinc and Copper.
	C107.4	*Prepare* polymers and nano materials.

	C107.5	*Identify* the safety precautions to carry out the experiments in the laboratory using chemicals.
C108 Electronics Workshop Lab	**C108.1**	*Identify* various electronic components, devices and measuring instruments used in electronic circuit design.
	C108.2	*Test* different electronic components, devices and instruments.
	C108.3	*Apply* various electronic components devices & EDA, office tools in electronic and communications field.
	C108.4	*Differentiate* the method of assembling and dissembling the basic electronic circuits & devices using PCB, EDA tools and other techniques.
	C108.5	*Illustrate* on electronic components instruments & devices using documentation tools, such as spread sheets, PPT's etc.,
SEMESTER- 2 (I-II)-R20		
C109 Environmental Science	**C109.1**	*Understand* about the environment and natural resources.
	C109.2	*Understands* about various attributes of different types of pollution and their impacts on the environment and control methods along with waste management practices.
	C109.3	*Illustrate* about the ecosystem and knows the importance of conservation of biodiversity.
	C109.4	*Relate* the current environmental impacts with the societal problems.
	C109.5	*Identify* the current population explosion and their impacts environment.
C110 Linear Algebra and Multivariable Calculus	**C110.1**	Apply the matrix algebra techniques to engineering applications.
	C110.2	Apply the concepts of eigen values and eigen vectors to free vibration of a two-mass system.
	C110.3	Apply partial differentiation to find maxima and minima of functions of several variables
	C110.4	Evaluate the volume and surface area of solids using multiple integrals.
	C110.5	Apply vector differential operators to find potential functions and estimate the work done against a field, circulation and flux using vector integral theorems.
C111 Mathematical Techniques	**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	Compare the working principle and materials used in Floppy, CD and pen drive & explain the applications of semiconductors and liquid crystals.
	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.
	C112.1	*Understand* the basics of Engineering Graphics to construct the polygon, curves and scales.
	C112.2	*Apply* the principles of orthographic projection to projections of

C112 Engineering Drawing		points and straight lines located in different quadrants, including lines inclined to one or both reference planes.
	C112.3	*Draw* the projections of regular planes in various orientations relative to the reference planes.
	C112.4	*Construct* the projections of solids, including polyhedra and solids of revolution, in different orientations relative to the reference planes.
	C112.5	*Develop* the isometric views into orthographic views and vice-versa
C113 Computer Programming In C	**C113.1**	*Acquire* the knowledge on basic computer components, algorithms and flowcharts.
	C113.2	*Develop* C Programs using control and iterative statements.
	C113.3	*Develop* C programs using Arrays and pointers.
	C113.4	*Apply* the knowledge of strings and functions in programming.
	C113.5	*Comprehend* structures and unions.
C114 BASIC ELECTRICAL ENGINEERING	**C114.1**	*Determine* the losses and efficiency of a DC Machine.
	C114.2	*Determine* the losses, efficiency and voltage regulation of a transformer under specific operating conditions.
	C114.3	*Illustrate* working principles of induction motor and synchronous generator.
	C114.4	*Understand* the different measuring instruments.
	C114.5	*Describe* working principles of protection devices used in electrical circuits.
C115 Communicative English Lab	**C115.1**	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.
	C115.2	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.
	C115.3	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.
	C115.4	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.
	C115.5	Develop advanced listening skills for an 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.
C116 Computer Programming In C	**C116.1**	*Illustrate* the Fundamental concepts of Computers and basics of computer programming.
	C116.2	*Make* use of Control Structures and Arrays in solving complex

Lab		problems.
	C116.3	*Develop* modular program aspects and Strings fundamentals.
	C116.4	*Demonstrate* the ideas of pointers usage.
	C116.5	*Solve* real world problems using the concept of Structures and Unions.
C117 Basic Electrical Engineering Lab	**C117.1**	*Prove* the laws and theorems.
	C117.2	*Examine* the performance of a Transformer.
	C117.3	*Determine* the performance characteristics of DC machines.
	C117.4	*Examine* the performance of a Three Phase Induction Motor.
	C117.5	*Examine* the speed of a DC Shunt motor.
C118 MATLAB for Computational Methods	**C118.1**	*Construct* and apply small programs in MATLAB to mathematical problems.
	C118.2	*Develop* a program to find a real root of an equation using various numerical methods.
	C118.3	*Develop* programs to find the interpolation values using Lagrange's and Newton's interpolation formulae for a given set of points.
	C118.4	*Develop* programs to find solutions of ordinary differential equations using various numerical methods.
	C118.5	*Develop* programs to solve system of linear equations using Gauss elimination and iteration methods.