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: MECH**

COURSECODE &NAME	CO	CO STATEMENT
SEMESTER-1(I-I)-R20		
C101 Communicative English-I	**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 Numerical Method and Ordinary Differential Equations	**C102.1**	*Apply* numerical methods and implement interpolation techniques to solve real-world problems in engineering.
	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 Chemistry	**C103.1**	*Illustrate* the properties and applications of polymers.
	C103.2	*Design* the metallic materials to prevent the corrosion.
	C103.3	*Assess* the quality of fuels and identify the suitable one.
	C103.4	*Analyze* the suitable method for industrial water treatment.
	C103.5	*Demonstrate* the preparation, properties and applications of nano materials and importance of green chemistry.
C104 Computer Programming In C	**C104.1**	*Develop* Algorithms and flowcharts and also Understand the compilation, debugging , execution and writing of basic C programs
	C104.2	*Develop* C Programs using control and iterative statements
	C104.3	*Develop* C programs using Arrays and pointers
	C104.4	*Apply* the knowledge of strings and functions in programming
	C104.5	*Comprehend* structures and unions
C105 Engineering Graphics	**C105.1**	*Understand* the basics of Engineering Graphics to construct the polygon, curves and scales.
	C105.2	*Apply* the principles of orthographic projection to projections of points and straight lines located in different quadrants, including lines inclined to one or both reference planes
	C105.3	*Draw* the projections of regular planes in various orientations relative to the reference planes.
	C105.4	*Construct* the projections of solids, including polyhedra and solids of revolution, in different orientations relative to the reference planes.
	C105.5	*Develop* the isometric views into orthographic views and vice-versa
C106 Engineering Chemistry Lab	**C106.1**	*Prepare* polymers and nano materials.
	C106.2	*Explain* the functioning of the instruments such as Conductivity meter, pH meter, Viscometer, Cleveland's apparatus.
	C106.3	*Analyze* the quality of ground water sample.
	C106.4	*Compare* kinematic viscosity, acid number, and flash and fire points of different lubricating oils.
	C106.5	*Identify* the safety precautions to carry out the experiments in the laboratory using chemicals.

C107 Engineering Workshop &IT Workshop	**C107.1**	*Apply* wood working skills in real world applications.
	C107.2	*Build* different parts with fitting in engineering applications.
	C107.3	*Develop* various basic prototypes in black smith & tiny smith applications.
	C107.4	*Apply* different types of basic electric circuit connections.
	C107.5	*Understand* the basic components, peripherals and basic operations of a computer.
C108 Computer Programming In C Lab	**C108.1**	*Learn* Basic computer Installations and Office Tools, Document and present the algorithms, flowcharts and programs in form of user-manual and also apply and practice logical ability to solve the problems.
	C108.2	*Understand* C programming development environment and also how to compiling, debugging, and linking a Program using C Language.
	C108.3	*Apply* arrays, strings concepts to solve problems.
	C108.4	*Understand* and apply the in-built functions and customized functions for solving the problems.
	C108.5	*Understand* and apply the pointers, memory allocation techniques and use of files for dealing with variety of problems.
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 Material Science & Engineering	**C111.1**	*Explain* the structure of metals, unit cells, and different defects in solids.
	C111.2	*Interpret* phase diagrams and describe how microstructures develop in metals and alloys.

	C111.3	*Apply* heat treatment methods to predict changes in microstructure and material properties.
	C111.4	*Classify* different types of steels and cast irons based on their properties and uses.
	C111.5	*Identify* the properties and uses of non-ferrous alloys, ceramics, polymers, and composites.
C112 Engineering Physics	**C112.1**	*Interpret* the interaction of optic energy with matter
	C112.2	*Explicate* the crystal structure in detail
	C112.3	*Classify* the properties of lasers and acoustics
	C112.4	*Analyze* the ultrasonics properties with detailed applications
	C112.5	*Identify* the usage of modern engineering materials for the present society.
C113 Engineering Mechanics	**C113.1**	*Find* the resultant for any number of forces in mechanical system.
	C113.2	*Apply* equilibrium conditions on different force systems with or without application of friction.
	C113.3	*Determine* the centroid /centre of gravity/moment of inertia for composite sections
	C113.4	*Determine* the displacement, velocity &acceleration relations in dynamic systems.
	C113.5	*Analyze* the motion of the bodies with (or) without the application of force.
C114 Basic Electrical & Electronics Engineering	**C114.1**	Able to *Apply* concept of KVL/KCL and network theorems in solving electrical circuit
	C114.2	Able to *Measure* the performance quantities such as losses, efficiency of DC machines and transformers
	C114.3	Able to *Measure* the performance quantities such as losses, efficiency of transformers and Induction motor
	C114.4	Able to *analyze* Understand the importance and applications of p-n junction diode & Rectifiers.
	C114.5	Able to *Understand* the configurations and applications of Op-Amps.
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 Engineering Physics Lab	**C116.1**	*Identify* the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics.
	C116.2	*Apply* the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics and perform the experiments using required apparatus.
	C116.3	*Compute* the required parameter by suitable formula using experimental values (observed values) in mechanics, optics, electromagnetic and electronic experiments.
	C116.4	*Analyze* the experimental results through graphical interpretation.
	C116.5	*Recognize* the required precautions to carry out the experiment and handling the apparatus in the laboratory.
C117 Basic Electrical & Electronics Engineering Lab	**C117.1**	*Prove* laws and theorems.
	C117.2	*Analyze* the characteristics of DC Machines.
	C117.3	*Identify* the performance of a transformer.
	C117.4	*Analyze* the V-I characteristics of diode
	C117.5	*Develop* Inverting and Non-Inverting Amplifier using PSPICE