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

List Of Course Outcomes (CO)

Regulations: R19 **Branch: MECH**

COURSECODE &NAME	CO	CO STATEMENT
SEMESTER-1(I-I)-R19		
C101 Linear Algebra and Ordinary Differential Equations	**C101.1**	*Apply* the matrix algebra techniques to engineering applications.
	C101.2	*Apply* the concepts of eigen values and eigen vectors to free vibration of a two mass systems.
	C101.3	*Apply* mean value theorems to real world problems.
	C101.4	*Apply* the first order ordinary differential equations to solve various engineering problems.
	C101.5	*Apply* the higher order ordinary differential equations to solve various engineering problems.
C102 Engineering Physics	**C102.1**	Identify the requirements of acoustically good hall
	C102.2	Determine the Coefficient of Absorption
	C102.3	Derive the Sabine's formula for reverberation time
	C102.4	Demonstrate the Production of Ultrasonics by magnetostriction and piezoelectric experiments
	C102.5	Compare the various types of scans
C103 Basic Electrical & Electronics Engineering	**C103.1**	*apply* basic laws and theorems.
	C103.2	*understand* the operation of DC machines and DC machine testing by Swinburne's Test.
	C103.3	*analyze* the performance of single phase Transformer and to explain the operation of induction motor.
	C103.4	*analyze* the operation of low power devices.(diodes, half, full wave rectifiers).
	C103.5	*explain* the operation of op-amp and to make use of op-amp in different applications.
C104 English	**C104.1**	*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.
	C104.2	*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 Punctuation. Gain reading skills for comprehension, specific information, gist, and pleasure through extensive reading.
	C104.3	*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.
	C104.4	*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.
	C104.5	*Learn* meaningful use of language by avoiding meaningless clichés, 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.
C105 Engineering Graphics	**C105.1**	*Apply* the basics of engineering drawing to construct the polygons and curves.
	C105.2	*Draw* the orthographic projections of points and lines.
	C105.3	*Draw* the projections of planes in various conditions.
	C105.4	*Draw* the projections of regular solids inclined to one of the planes.
	C105.5	*Imagine* the isometric views of orthographic views and vice versa.
C106 Engineering Physics Laboratory	**C106.1**	*Apply* the working principles of laboratory experiments in optics, mechanics, electromagnetic and electronics and perform the experiments using required apparatus.
	C106.2	*Compute* the required parameter by suitable formula using experimental values (observed values) in mechanics, optics, electromagnetic 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 Communicative English Lab -I	**C107.1**	Enhance pronunciation with befitting tone for clarity in a speech to communicate language effectively.
	C107.2	Participate in short conversations in routine contexts on topics of interest and ask questions and make requests politely
	C107.3	Listen for specific information, gist, note-taking, note-making and comprehension and develop convincing and negotiating skills through debates

	C107.4	Acquire effective strategies for good writing and demonstrate the same in summarizing and reporting
	C107.5	Gain knowledge of grammatical structures and vocabulary for day-to-day successful conversations.
C108 Basic Electrical & Electronics Engineering Laboratory	**C108.1**	*Prove* laws and theorems.
	C108.2	*Determine* the characteristics of DC Machines.
	C108.3	*Analyze* the V-I characteristics of diode.
	C108.4	*Design* MOSFET, Inverting and Non-Inverting Amplifier.
	C108.5	*Experiments* using PSPICE.
C109 Constitution of India	**C109.1**	*Understand* historical background of the constitution making and its importance for building a democratic India.
	C109.2	*Understand* the functioning of three wings of the government i.e., executive, legislative and judiciary.
	C109.3	*Understand* the value of the fundamental rights and duties for becoming good citizen of India.
	C109.4	*Analyze* the decentralization of power between central, state and local self-government.
	C109.5	*Apply* the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy.
SEMESTER-1(I-II)-R19		
C110 Transform Techniques and Partial Differential Equations	**C110.1**	*Apply* the Laplace transform to solve differential equations and integral equations that arise in various engineering fields.
	C110.2	*Apply* multivariable calculus to solve optimization problems.
	C110.3	Find the Fourier series of periodic functions and *evaluate* Fourier integral, Fourier transform and inverse Fourier of a given function.
	C110.4	*Apply* the partial differential equations to solve various engineering problems.
	C110.5	*Understand* the concept of Z Transforms and able to solve difference equations.
C111 Engineering Chemistry	**C111.1**	*Analyze* the suitable method for industrial water treatment.
	C111.2	*Design* the metallic materials to prevent the corrosion.
	C111.3	*Illustrate* the properties and applications of polymers, understand the mechanism of setting and hardening of cement.
	C111.4	*Assess* the quality of fuels and identify the suitable one.
	C111.5	*Demonstrate* the preparation, properties and applications of nano materials and importance of green chemistry.
C112 Engineering Mechanics	**C112.1**	*Find* the resultant for any number of forces in mechanical system with (or) without application of concept of friction.
	C112.2	*Analyze* the simple Structures& estimation of the work done by the forces.
	C112.3	*Determine* the centroid/ centre of gravity/moment of inertia for composite sections.
	C112.4	*Analyze* the motion of the bodies with (or) without the

		application of force.
	C112.5	*Determine* the displacement, velocity &acceleration relations in dynamic systems.
C113 Problem Solving and Programming using C	**C113.1**	Develop algorithms and flowcharts and also Understand the compilation, debugging, execution and writing of basic C programs
	C113.2	Develop C Programs using control and iterative statements
	C113.3	Develop C programs using Arrays and functions
	C113.4	Apply the knowledge of strings and pointers in programming
	C113.5	Comprehend file handling and user defined data types
C114 Engineering Workshop & IT Workshop	**C114.1**	*Apply* wood working skills in real world applications.
	C114.2	*Build* different parts with fitting in engineering applications.
	C114.3	*Apply* forging operations for different black smith applications.
	C114.4	*Apply* different types of basic electric circuit connections.
	C114.5	*Understand* the basic components, peripherals and basic operations of a computer.
C115 Computer Aided Engineering Drawing	**C115.1**	*Draw* the projections of solids and sections of solids in different types of projecting methods.
	C115.2	*Draw* the development of surfaces is required in designing and manufacturing of the objects.
	C115.3	*Know* the various commands in AutoCAD to draw the geometric entities.
	C115.4	*Construct* 3D objects using CAD software package.
	C115.5	*Apply* the principles of engineering drawing in machine drawing.
C116 Engineering Chemistry Lab	**C116.1**	*Analyze* the quality of ground water sample.
	C116.2	*Explain* the functioning of the instruments such as pH, Viscometer, Cleve lands and Potentiometric meters.
	C116.3	*Prepare* polymers and nano materials.
	C116.4	*Estimate* the metal content in different ores (Fe & Cu).
	C116.5	*Identify* the safety precautions to carry out the experiments in the laboratory using chemicals.
C117 Problem Solving and Programming using C Lab	**C117.1**	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
	C117.2	Understand C programming development environment, compiling, debugging, and linking and executing a program using the development environment
	C117.3	Analyzing the complexity of problems modularize the problems into small modules and then convert them into programs
	C117.4	Understand and apply the in-built functions and customized functions for solving the problems.
	C117.5	Understand and apply the pointers, memory allocation techniques and use of files for dealing with variety of problems.
C118 Communicative	**C118.1**	Enabling students to use Computer assisted Language Laboratory (CALL) to *enhance* their pronunciation through

English Lab -II		stress, intonation and rhythm for routine and spontaneous interaction.
	C118.2	Attainment of communicative competence for the fulfilment of academic, professional and social purposes.
	C118.3	Attainment of language Proficiency through Contextualized, Task Based Activities to realize employment potential at the end of the course.
	C118.4	*Acquired* listening, speaking, reading and writing skills necessary for the survival in the post modern society through task-based and skill-based communication practices with judicious integration of modern tools.
	C118.5	*Development* of fluency and accuracy for effective and professional communication in real-time situations by using appropriate verbiage and contextual knowledge.
C119 Environmental Science	**C119.1**	*Understands* about the natural resources and environmental impacts and which kind of methods are to be applied for the sustainable development.
	C119.2	*Acquire* knowledge on environmental pollution and their effects on biotic and a biotic components and control measures of pollution.
	C119.3	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.
	C119.4	*identify* social issues both rural and urban environment and the possible means to apply the environmental legislations of India towards sustainable development.
	C119.5	*acquire* the knowledge on environmental assessment and stages involved in EIA and environmental audit for the self sustaining and eco friendly green campus.