



# LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution)

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

(Academic Year: 2022-2023 Even Sem)

B.E IV Semester

## Course Outcomes:C221 : Mathematics-III (Probability Theory & Complex Variables)

Student will able to

CO. No.	Description
C221.1	To find probability, to tabulate statistical information, to use graphical techniques to interpret.
C221.2	understand various specifications of probability density function
C221.3	Identify curves and regions in the complex plane defined by simple expressions
C221.4	Demonstrate knowledge of all derivatives
C221.5	To formulate the techniques of integration in complex plane

## Course Outcomes:C222: English for Technical Communication

Student will able to

CO. No.	Description
C222.1	Apply technical communication skills effectively.
C222.2	Adapt different types of official correspondence
C222.3	Construct report writing using various techniques
C222.4	Develop adequate skills of manual writing
C222.5	Interpret the information transfer from verbal to non-verbal and vice-vers

## Course Outcomes:C223 :Digital Electronics

Student will able to

CO. No.	Description
C223.1	Understand the fundamental concepts and techniques used in logical operations.
C223.2	Analyze and design various combinational circuits using k Maps.
C223.3	Design and implement Sequential logic circuits like counters shift registers and sequence generators
C223.4	Understand the process of Analog to Digital conversion and Digital to Analog conversion
C223.5	Design the Programmable logic devices and understand the concept of memory

## Course Outcomes:C224 : Electrical Machines-II

Student will able to

CO. No.	Description
C224.1	Understand the construction and working of 3- $\phi$ Induction machines.
C224.2	Analyse the characteristics and apply different speed control methods of 3- $\phi$ Induction motor.
C224.3	Understand the construction and working of Alternator and apply different methods to find the regulation of it.
C224.4	Understand the operation of synchronous motor and analyse its characteristics
C224.5	Understand the working and construction of single-phase induction motors and few other special types of machines.

## Course Outcomes:C225 : Power Systems-I

Student will able to

CO. No.	Description
C225.1	Understand economics of power generation concepts and evaluate the power tariff methods
C225.2	Understand the operation of conventional generating stations of electrical power Understand the operation of nuclear and renewable
C225.3	Understand the operation of nuclear and renewable sources based generation of electrical power
C225.4	Understand underground cables and over head line insulations
C225.5	Determine the electrical circuits parameters of transmission lines

**Course Outcomes:C226 : Signals and Systems**

Student will able to

CO. No.	Description
C226.1	Define and differentiate types of signals and systems in continuous and discrete time
C226.2	Apply the properties of Fourier transform for continuous time signals
C226.3	Relate Laplace transforms to solve differential equations and to determine the response of the Continuous Time Linear Time Invariant Systems to known inputs
C226.4	Apply Z-transforms for discrete time signals to solve Difference equations
C226.5	Obtain Linear Convolution and Correlation of discrete time signals with graphical representation

**Course Outcomes:C227 : Advanced Communication Skills Lab**

Student will able to

CO. No.	Description
C227.1	Organise ideas relevantly and coherently in their communication
C227.2	Analyze and comprehend the text inferentially
C227.3	Write resume/CV and cover-letter effectively
C227.4	Practice oral presentation confidently
C227.5	Participate in group discussion dynamically and face interviews optimistically

**Course Outcomes:C228 : Digital Electronics Lab**

Student will able to

CO. No.	Description
C228.1	Understand the working of logic gates
C228.2	Design and implementation of combinational logic circuits
C228.3	Design and implementation of sequential circuits
C228.4	Understand the process of conversion of A/D and D/A .
C228.5	Implement the logical functions using PLD's

**Course Outcomes:C229 : Electrical Machines-II Lab**

Student will able to

CO. No.	Description
C229.1	Understand the performance characteristics of single phase induction motor
C229.2	Understand the importance of voltage regulation of alternator
C229.3	Explain different methods used to measure voltage regulation of alternator
C229.4	Asses the performance of different machines using different testing methods
C229.5	Control the active and reactive power flows in synchronous machines

**Course Outcomes:C2210 : Basic Electrical Simulation Lab**

Student will able to

CO. No.	Description
C2210.1	Acquire Knowledge about the generation of various signals and operation on various signals in MATLAB /simulink
C2210.2	Get awareness about designing and analyzing performance of different AC an DC circuit in simulation
C2210.3	Understand the working and performance of three phase AC circuits
C2210.4	Understand the working and performance of rectifiers and filter circuits
C2210.5	Undertand different circuits time constants

**Course Outcomes:C2211: Programming Language – II Lab**

Student will able to

CO. No.	Description
C2211.1	Develop python programs using library modules
C2211.2	Implement python programmes using pandas
C2211.3	Develop python programs using Matplotlib module
C2211.4	Write, Test, Debug python library modules
C2211.5	Debug python image programs using various modules

**COURSE OUTCOMES**  
**(Academic Year: 2022-23 Even Semester)**  
**VI Semester(OU)**

**Course Outcomes:C321 :Finance and Accounting**

Student will able to

CO. No.	Description
C321.1	Evaluate the financial performance of the bussines unit
C321.2	Take decissions on selection of projects.
C321.3	Take decissions on procurement of finances
C321.4	Analysis the liquidity solvency and profitability of the business unit.
C321.5	Evaluate the overall financial functing of an Enterprises.

**Course Outcomes:C322 :Microprocessors and Microcontrollers**

Student will able to

CO. No.	Description
C322.1	Learn the Fundamentals and the Arhitecture of 8086 Microprocessor.
C322.2	Recognize the different addressing modes and basic programming concept
C322.3	Interface different peripherals to 8086 microprocessor
C322.4	learn the arhitecture of 8051 microcontroller and the concept of timers and interrupts
C322.5	Get familiarize with the basic programming using the instruction set of 8051 microcontroller

**Course Outcomes:C323:Digital Signal Processing and Applications**

Student will able to

CO. No.	Description
C323.1	Understand different types of signals and systems
C323.2	Analyze the applications of z transform on LTI systems
C323.3	Evaluate discrete Fourier transform and fast Fourier transform algorithms
C323.4	Design FIR and IIR filters using different methods
C323.5	Acquire the knowledge onArchitecter of DSP processor

**Course Outcomes:C324: Switchgear and Protection**

Student will able to

CO. No.	Description
C324.1	Acquire the knowledge of construction, working principles of different electromagnetic and static relays used to protect generators, transformers, transmission lines and distribution feeders.
C324.2	Analyze the Characteristics of over current, over voltage, distance and differential relays and also their applications in power system networks.
C324.3	Acquire the knowledge of generator and transformer protection
C324.4	Explain the working principle, construction, rating and applications of different types of circuit breakers used in power system networks.
C324.5	Understand the construction details, advantages, disadvantages of Gas Insulation substations.

**Course Outcomes:C325 :Electrical Vehicles**

Student will able to

CO. No.	Description
C325.1	To identify and discribe the history and evolvment of electric & hybrid electric vehicles to emphasize on the need and importance of EV/HEV Sustainable futures
C325.2	To identify and discribe the principle of various EV/HEVs drives train topologies along with their power flow control fuel efficiency estimation
C325.3	To design and select electrical propulson systems components for EV/HEV suitability for the desire performance
C325.4	To compare and evaluate various energy source and energy storage components for EV &HEV Applicentions
C325.5	Get knowledge on diffeerent types of electric vehicles charging stations

**Course Outcomes:C326: Disaster Mitigation:**

Student will able to

CO. No.	Description
C326.1	Apply the concepts of disaster management to evaluate a disaster situation
C326.2	Classify the various categories of disasters and their specific characteristics
C326.3	Select appropriate pre-disaster, during disaster and post-disaster measures and frame work
C326.4	Identify the disaster management acts and frameworks specific to India relevant to a situatiol
C326.5	Identify a suitable technological application to aid disaster management

**Course Outcomes:C327: Microprocessors and Microcontrollers Lab**

Student will able to

CO. No.	Description
C327.1	Apply the design concepts for development of a process and interpret data.
C327.2	Demonstrate knowlegde of programming environment, compiling, debugging, linking and executing variety of programs
C327.3	Demonstrate documentation and presentation of the algorithms/flowcharts/programs in a record form.
C327.4	Validate the process using known input-output parameters

**Course Outcomes:C328: Digital Signal Processing Lab**

Student will able to

CO. No.	Description
C328.1	Compute and write MATLAB code to generate basic waves and perform basic operations on them.
C328.2	Compute and write MATLAB code to apply sampling theorem, to obtain convolution and compute DFT and FFT.
C328.3	Compute and write MATLAB code to design FIR and IIR filters.
C328.4	Compute and write MATLAB code to obtain convolution of sequences, Design of FIR and IIR filters
C328.5	Compute DFT and FFT algorithms, Impulse response and generate basic waves using DSP kit

**Course Outcomes:C329: Internship**

Student will able to

CO. No.	Description
C329.1	Design/develop a small and simple product in hardware or software.
C329.2	Complete the task or realize a pre-specified target, with limited scope, rather than taking up a complex task and leave it.
C329.3	Learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre-specified criteria.
C329.4	Implement the selected solution and document the same.
C329.5	Able to write a technical report and present it to appropriate audience.

**COURSE OUTCOMES**  
**(Academic Year: 2022-23 Even Semester)**  
**VIII Semester(OU)**

**Course Outcomes:C421: AI Techniques in Electrical Engineering**

Student will able to

CO. No.	Description
C421.1	Understand how the soft computing techniques can be used for solving the problems of Electrical Engineering.
C421.2	Design of ANN based systems for function approximation used in load forecasting.
C421.3	Design of Fuzzy based systems for load frequency control in power systems
C421.4	Understand the concept of genetic algorithms
C421.5	Solve problem of Optimization in power systems.

**Course Outcomes:C422: Smart Grid Technology**

Student will able to

CO. No.	Description
C422.1	Understand technologies for smart grid.
C422.2	Appreciate the smart transmission as well distribution systems.
C422.3	Realize the distribution generation and smart consumption.
C422.4	Know the regulations and market models for smart grid.
C422.5	Understand operation and importance of PMUs, PDCs, WAMS, Voltage and Frequency control in Micro Grids.

**Course Outcomes:C423: Road Safety Engineering**

Student will able to

CO. No.	Description
C423.1	Understand fundamental of Traffic Engg.
C423.2	Investigate & determine the collective factors & remedies of accident involved.
C423.3	Design & planning various road geometrics.
C423.4	Manage the traffic system from road safety point of view.
C423.5	Carry out economic and statistical appraisals

**Course Outcomes:C424 : Digital Signal Processing Lab**

Student will able to

CO. No.	Description
C424.1	Compute and write MATLAB code to generate basic waves and perform basic operations on them.
C424.2	Compute and write MATLAB code to apply sampling theorem, to obtain convolution and compute DFT and FFT.
C424.3	Compute and write MATLAB code to design FIR and IIR filters.
C424.4	Compute and write MATLAB code to obtain convolution of sequences, Design of FIR and IIR filters, compute DFT and FFT algorithms, Impulse response and generate basic waves using DSP kit

**Course Outcomes:C425: Project Work Phase – II**

Student will able to

CO. No.	Description
C425.1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
C425.2	Evaluate different solutions based on economic and technical feasibility
C425.3	Effectively plan a project and confidently perform all aspects of project management
C425.4	Demonstrate effective written and oral communication skills