LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution)

ELECTRICAL AND ELECTRONICS ENGINEERING

AY:2021-22
EVEN SEMESTER
COURSE OUTCOMES

Semester: IV Semester (OU)

Course Outcomes:**C221** Effective Technical Communication in English

Student will able to

CO. No.	Description
C221.1	Acquire and applied technical communication professionally
C221.2	Correspond technically through various methods and style of technical writing
C221.3	Gain and apply different technical writing skills of report writing
C221.4	Obtain efficient skills in creating and designing technical manuals
C221.5	Utilize and apply various styles of information transfer

Course Outcomes:**C222** Power Systems I

Student will able to

CO. No.	Description
C222.1	Understand economics of power generation Concepts and Evaluate the power tariff methods
C222.2	Understand the operation of conventional generating stations of electrical power
C222.3	Understand the operation of nuclear and renewable sources based generation of electrical power
C222.4	Understand underground cables and over head line insulators
C222.5	Determine the electrical circuit parameters of transmission lines

Course Outcomes:**C223** Energy Sciences and Engineering

Student will able to

CO. No.	Description
C223.1	Understand the basics of various sources of energy
C223.2	Analyze the present status of conventional energy sources.
C223.3	Understand the working principles of Renewable Energy systems
C223.4	Design and develop waste heat recovery systems.
C223.5	Relate energy economics, standards and future challenges.

Course Outcomes:**C224** Electrical Machines II

Student will able to

CO. No.	Description
C224.1	Understand the construction and working of 3-φ Induction machines.
C224.2	Understand the characteristics and different speed control methods of 3-φ Induction motor.
C224.3	Understand the construction and working of Alternator and Analyze different methods to find the regulation of it.
C224.4	Understand the operation of synchronous motor and its characteristics
C224.5	Understand the working and construction of single phase and special type of machines.

Course Outcomes:**C225** Digital Electronics and Logic Design

Student will able to

CO. No.	Description
C225.1	Understand and apply the Boolean algebra, including CMOS gates and arithmetic circuits.
C225.2	Apply combinational digital circuits for logic functions
C225.3	Use the concepts of Boolean Algebra for the analysis & design of sequential logic circuits
C225.4	Design various A/D and D/A converters
C225.5	Design various logic gates starting from simple ordinary gates to complex programmable logic devices and arrays.

Course Outcomes:**C226** Power Electronics

Student will able to

CO. No.	Description
C226.1	Understand the characteristics and performance of various power electronic devices.
C226.2	Analyze single and three phase controlled rectifier circuits.
C226.3	Understand choppers circuits and AC voltage controllers
C226.4	Understand the performance of single phase inverter circuits.
C226.5	Analyse the operation of three phase voltage source inverters.

Course Outcomes:**C227** Electrical Machines Lab I

Student will able to

CO. No.	Description
C227.1	Estimate the efficiency and voltage regulation of D.C. generator and transformers under various loading conditions.
C227.2	Acquire the knowledge of efficiency and speed regulation D.C. Motors under various loading conditions.
C227.3	Able to understand the speed control of DC motor by conducting different experiments
C227.4	Able to perform Open circuit and short circuit and load test on a single phase transformer.
C227.5	Able to understand the Three phase to two phase transformation and open delta connection.

Course Outcomes:**C228** Power Electronics Lab

Student will able to

CO. No.	Description
C228.1	Students have the capability to get the power electronic converters and their applications.
C228.2	They are able to do certain projects like simulation of control of electrical apparatus.
C228.3	Ability to design controlling of AC and DC power using converters with basics.
C228.4	Analyze the Applications on AC and CD power using converters.
C228.5	Frequency control by using cyclo converter

Course Outcomes:**C229** Digital Electronics and Logic Design Lab

Student will able to

CO. No.	Description
C229.1	Understand working of logic families and logic gates.
C229.2	Design and implement Combinational and Sequential logic circuits.
C229.3	Analysis of synchronous and asynchronous counters
C229.4	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
C229.5	Use PLCs to implement the given logical problem.

COURSE OUTCOME
(Academic Year: 2021-22 Even Semester)
VI Semester (OU)

Course Outcomes:**C321** Power Systems – II

Student will able to

CO. No.	Description
C321.1	Acquire modelling of different short, medium and long transmission lines.
C321.2	Understand the impact of different types of faults on overhead transmission lines.
C321.3	Explain the reasons for voltage variation, importance of maintaining constant voltage in power system and different voltage control methods.
C321.4	Acquire the knowledge of natural impedance of transmission line and significance in the operation of power system network
C321.5	Calculation of fault currents and their significance.
C321.6	Power system and different voltage control methods

Course Outcomes:**C322** Electrical Measurements and Instrumentation

Student will able to

CO. No.	Description
C322.1	Choose the suitable instrument like Ammeter, Voltmeter for AC/DC applications
C322.2	Understand the concepts of energy meter, frequency meter
C322.3	Select suitable Bridge for measurement of electrical parameters and quantities.
C322.4	Use the operation and applications of Ballistic Galvanometer, Flux meter and DC/AC Potentiometer.
C322.5	Use the application of CRO for measurement of Amplitude, Phase and frequency of sinusoidal signals.

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

Student will able to

CO. No.	Description
C323.1	Able to learn the basics of signal and systems and calculate Z-transforms for discrete time signals and system functions
C323.2	Ability to calculate frequency domain analysis of signals using discrete Fourier transform
C323.3	Ability to develop Fast Fourier Transform (FFT) algorithms for faster realization of signals and systems.
C323.4	Able to design Digital IIR filters from Analog filters using various techniques
C323.5	Able to design Digital FIR filters using window techniques, Fourier methods and frequency sampling technique
C323.6	Able to learn the introduction of Advanced Digital Signal processors and Architecture of TMS 320C5X

Course Outcomes:**C324** Utilization of Electrical Energy

Student will able to

CO. No.	Description
C324.1	Understand the various methods of electrical heating.
C324.2	Acquire the knowledge of connection diagrams for motor control.
C324.3	Understand the concepts of illumination and various discharge lamps.
C324.4	Acquire the knowledge of electric traction, traction motors and train lighting.
C324.5	Acquire the knowledge of train lighting, Single battery system and Double battery parallel block system.

Course Outcomes:**C325** Disaster Mitigation & Management
Student will able to

CO. No.	Description
C325.1	Define and explain the terms and concepts related to disaster management
C325.2	Describe the various categories of disasters and their specific characteristics
C325.3	Explain the pre-disaster, during disaster and post-disaster measures and framework
C325.4	Describe the disaster management acts and frameworks specific to India
C325.5	List and explain the various technological applications to aid disaster management

Course Outcomes:**C326** Entrepreneurship
Student will able to

CO. No.	Description
C326.1	Understand Indian Industrial Environment, Entrepreneurship and Economic growth, Small and Large Scale Industries, Types and forms of enterprises.
C326.2	Identify the characteristics of entrepreneurs, Emergence of first generation entrepreneurs, Conception and evaluation of ideas and their sources.
C326.3	Practice the principles of project formulation, Analysis of market demand, Financial and profitability analysis and Technical analysis
C326.4	Apply the concepts of Project Management during construction phase, project organization, project planning and control using CPM, PERT techniques
C326.5	Understand the Behavioural aspects of entrepreneurs, Time Management, Various approaches of time management, their strengths and weakness. The urgency addiction and time management matrix.

Course Outcomes:**C327** Electrical Machines Lab – II
Student will able to

CO. No.	Description
C327.1	Understand Performance characteristics of single-phase induction motor.
C327.2	Understand the importance of Voltage regulation of an alternator.
C327.3	Explain different methods used to measure the voltage regulation of an alternator.
C327.4	Determination of V curves and inverted V curves of synchronous motor.

Course Outcomes:**C328** Measurements and Instrumentation Lab
Student will able to

CO. No.	Description
C328.1	Measure the inductance, capacitance and resistance using various bridges.
C328.2	Measure resistance and calibrate ammeter.
C328.3	Measure voltmeters and wattmeter using A.C. and D.C. potentiometers.
C328.4	Have hands on experience on the operation of CRO.

Course Outcomes:**C329** Microprocessors and Microcontrollers Lab
Student will able to

CO. No.	Description
C329.1	Familiarize with the assembly language programming
C329.2	Write programs for given task using different addressing modes
C329.3	Interface various IO devices using 8255 PPI
C329.4	Write programs using various interrupts
C329.5	Interface the microcontroller for some real life applications.

Course Outcomes:**C3210** Summer 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 OUTCOME
(Academic Year: 2021-22 Even Semester)
IV Year -II Semester (R18)

Course Outcomes:**C421** Non-Conventional Sources of Energy
Student will able to

CO. No.	Description
C421.1	Identify renewable energy sources and their utilization.
C421.2	Understand the basic concepts of solar radiation and analyze the working of solar and thermal systems.
C421.3	Understand principles of energy conversion from alternate sources including wind, geothermal, ocean, biomass, biogas and hydrogen
C421.4	Understand the concepts and applications of fuel cells, thermoelectric convertor and MHD generator
C421.5	Identify methods of energy storage for specific applications

Course Outcomes:**C422** Smart Grid Technologies
Student will able to

CO. No.	Description
C422.1	Understand the features of small grid in the context of Indian grid.
C422.2	Understand the role of automation in transmission and distribution.
C422.3	Apply evolutionary algorithms for smart grid.
C422.4	Understand operation and maintenance of PMUs, PDCs, WAMs, and voltage and frequency control in micro grid

Course Outcomes:**C423** Power Quality & FACTS
Student will able to

CO. No.	Description
C423.1	Understand the concept of voltage sag transformation from up stream to down stream
C423.2	Choose proper controller for the specific application based on system requirements
C423.3	Understand the control circuits of Shunt Controllers SVC & STATCOM
C423.4	Understand the power and control circuits of series controllers GCSC, TSSC and TCSC
C423.5	Understand various systems thoroughly and their requirements

Course Outcomes:**C424** Major Project
Student will able to

CO. No.	Description
C424.1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
C424.2	Evaluate different solutions based on economic and technical feasibility
C424.3	Effectively plan a project and confidently perform all aspects of project management
C424.4	Demonstrate effective written and oral communication skills