



LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution)

Approved by AICTE | Affiliated to Osmania University | Accredited 'A' grade by NAAC |

NBA Accredited UG Programmes: ME, ECE, CSE

ELECTRICAL AND ELECTRONICS ENGINEERING

AY:2023-24

ODD SEMESTER COURSE OUTCOMES

Semester: V Semester(Autonomous)

Course Outcomes: C311 Control Systems

Student will able to

CO. No.	Description
C311.1	Understand different mathematical models for any electrical and mechanical LTI systems and determine the transfer function of an LTI system using block diagram & signal flow graph.
C311.2	Analyze the given first and second order systems based on their performance parameters & PID controllers.
C311.3	Analyze absolute and relative stability of an LTI system using time domain techniques.
C311.4	Analyze the stability of an LTI system using frequency domain techniques and understand the concepts of compensators.
C311.5	Determine various state space models for LTI systems and to determine its Controllability and Observability.

Course Outcomes: C312 Power Electronics

Student will able to

CO. No.	Description
C312.1	Understand and compare the characteristics of switching devices like SCR, TRIAC, BJT and MOSFET.
C312.2	Evaluate the performance of single phase and three phase rectifier circuits, Dual converters.
C312.3	Evaluate different types of DC-DC converter.
C312.4	Analyze and evaluate the operation of single-phase and three phase inverter circuits and different PWM techniques.
C312.5	Analyze and evaluate the operation of A.C. Voltage Controllers, Cycloconverters.

Course Outcomes: C313 Power System-II

Student will able to

CO. No.	Description
C313.1	Apply different methods to analyze power system load flows.
C313.2	Evaluate the impact of different types of faults on overhead transmission lines
C313.3	Analyze and describe different types of power system stability.
C313.4	Apply the voltage control and compensation methods in power system.
C313.5	Understand the concepts of power system protection.

Course Outcomes: C314 Disaster Preparedness and Management**Student will able to**

CO. No.	Description
C314.1	Apply the various concept of disaster management to evaluate a disaster situation.
C314.2	Classify the various categories of disasters and their specific charecterstics.
C314.3	Select appropriate pre-disaster, during disaster and post disaster measures and frame work.
C314.4	Identify the disaster management acts and frameworks specific to India relevant to a situation.
C314.5	Identify a suitable technological application to aid disaster management.

Course Outcomes: C315 Renewable Energy Sources**Student will able to**

CO. No.	Description
C315.1	Understand the Energy Scenario, Need and Importance of Renewable Energy for Sustainable Development
C315.2	Apply concepts of solar energy for diffirent applications and Electrical power generation using Solar Photovoltaics
C315.3	Understand the concepts of wind energy and principles of wind based power generation & control
C315.4	Understand the concepts of Energy from Bio Mass & Bio Gas,Geothermal Energy Systems
C315.5	Understand the Principal and Operation of Ocean Energy Systems

Course Outcomes: C316 Conytrol Systems Lab**Student will able to**

CO. No.	Description
C316.1	Derive the transfer function of Synchronos, AC servomotor and DC Motor.
C316.2	Analyze the LTI second order system performance and Understand effect of P, PI and PID Controllers.
C316.3	Acquire the knowledge on frequency response of LTI system and able to design compensators.
C316.4	Able to develop PLC programs for certain applications.
C316.5	Analyze the stability of time invariant control system using root locus, bode plot, polar plot, nyquist criterions

Course Outcomes: C317 Power Electronics Lab**Student will able to**

CO. No.	Description
C317.1	Describe the operation and characteristics of SCR, MOSFET and IGBT.
C317.2	Analyze the operation of controlled bridge converters and dual converters for different loads.
C317.3	Discuss the operation of different types of choppers and rectifiers.
C317.4	Illustrate the concepts of single phase series and parallel inverters with R and RL loads
C317.5	Analyze the single phase cyclo-converter and AC voltage controller by using MATLAB Simulation.

Course Outcomes: C318 Power Systems Lab**Student will able to**

CO. No.	Description
C318.1	Able to analyze and determine the efficiency and ABCD parameters for transmission line.
C318.2	Determine the sequence impedance of three phase synchronous machine and transformer.
C318.3	Able to simulate different fault current of transmission line using MATLAB
C318.4	Comprehend the importance of protection relays in power system.
C318.5	Understand the CT's and PT's and Determine the dielectric strength of coil.

Course Outcomes: C319 Electrical Simulation Tools Lab**Student will able to**

CO. No.	Description
C319.1	Simulate and analyses electrical and power electronic circuits
C319.2	Model, Simulate and analyze the performance of DC Machines
C319.3	Analyze performance of feedback and load frequency control systems
C319.4	Evaluate the performance of transmission lines
C319.5	Validate simulated results from programs/Simulink models with theoretical calculations.

Course Outcomes: C3110 Internship**Student will able to**

CO. No.	Description
C3110.1	Design/develop a small and simple product in hardware or software
C3110.2	Complete the task or realize a pre-specified target, with limited scope, rather than taking up a complex task and leave it.
C3110.3	Learn to find alternate viable solutions for a given problem and evaluate these alternatives with reference to pre-specified criteria.
C3110.4	Implement the selected solution and document the same.

COURSE OUTCOMES

Semester: VII Semester(OU)

Course Outcomes: C411 Control of Electric Drives

Student will able to

Course.No	Outcomes
C411.1	Understand the control circuits for remote control and interlocking of electric drives
C411.2	Make use of circuit breakers and relays for protection of motors.
C411.3	Explain the control of Induction Motor.
C411.4	Explain the control of synchronous Motor and DC Motor.
C411.5	Explain the control of stepper Motor.

Course Outcomes: C412 Power System Operation and Control

Student will able to

Course.No	Outcomes
C412.1	Solve load flow by appropriate modelling of the given power system and formulation of Ybus.
C412.2	Evaluate generation mix for economic operation with and without transmission losses.
C412.3	Explain load frequency control and estimate the frequency deviation through modelling.
C412.4	Analyse and describe different types of power system stability and establish SSSL.
C412.5	Identify various methods of voltage control and study the reactive power compensation.

Course Outcomes: C413 Power Electronic Applications to Power Systems

Student will able to

Course.No	Outcomes
C413.1	Understand the need for FACTS devices in Power Transmission system.
C413.2	Explain and apply shunt and series compensators.
C413.3	Explain and apply UPFC and IPFC for real and reactive power control
C413.4	Explain and apply the power transmission schemes for HVDC Transmission
C413.5	Analyze and compare control schemes of HVDC system

Course Outcomes: C414 Utilization of Electrical Energy

Student will able to

Course.No	Outcomes
C414.1	Understand electrical heating and welding for industrial applications.
C414.2	Explain the control methods of induction and synchronous motors.
C414.3	Design illumination for different application.
C414.4	Understand the traction mechanics.
C414.5	Understand the characteristics of traction motors

Course Outcomes: C415 Power Quality Engineering

Student will able to

Course.No	Outcomes
C415.1	Describe the different PQ disturbances and state remedies to improvePQ.
C415.2	Determine voltage sag for different network configurations.
C415.3	Explain the effect of ASD systems on powerquality and the effect of voltage sags on operation of various electrical machines
C415.4	Analyze the harmonic levels in industrial distribution systems
C415.5	Describe powerquality monitoring and measuring techniques.

Course Outcomes: C416 Entrepreneurship

Student will able to

Course.No	Outcomes
C416.1	Understand Indian Industrial Environment, Entrepreneurship and Economic growth, Small and Large Scale Industries, Types and forms of enterprises.
C416.2	Identify the characteristics of entrepreneurs, Emergence of first generation entrepreneurs, Conception and evaluation of ideas and their sources.
C416.3	Practice the principles of project formulation, Analysis of market demand, Financial and profitability analysis and Technical analysis
C416.4	Apply the concepts of Project Management during construction phase, project organization, project planning and control using CPM, PERT techniques
C416.5	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: C417 Power Systems Lab

Student will able to

Course.No	Outcomes
C417.1	Determine ABCD constants of transmission lines and evaluate regulation, efficiency.
C417.2	Acquire knowledge in relay setting for safe operating of power system.
C417.3	Determine sequence parameters of transformer and alternator and draw its importance.
C417.4	Determine the time constant of an alternator.
C417.5	Determine the dielectric strength of oil and calculate the efficiency of string insulators

Course Outcomes: C418 Electrical Simulation Lab

Student will able to

Course.No	Outcomes
C418.1	Simulate the concepts of Electrical Circuits,Control Systems and Power Systems and interpret data.
C418.2	Demonstrate the knowledge of programming environment,compiling,debugging,linking and executing variety of programsin MATLAB.
C418.3	Demonstrate ability to develop Simulink models for various electrical systems.
C418.4	Validate simulated results from programs/Simulink models with theoretical calculations.

Course Outcomes: C419 Project Work Phase - I**Student will able to**

Course.No	Outcomes
C419.1	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems
C419.2	Evaluate different solutions based on economic and technical feasibility
C419.3	Effectively plan a project and confidently perform all aspects of project management
C419.4	Demonstrate effective written and oral communication skills

Course Outcomes: C419 Summer Internship**Student will able to**

Course.No	Outcomes
C419.1	Get Practical experience of software design and development, and coding practices within Industrial/R&D Environments
C419.2	Gain working practices within Industrial/R&D Environments.
C419.3	Prepare reports and other relevant documentation.