



# LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

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

NBA Accredited UG Programmes: ME, ECE, CSE

## ELECTRICAL AND ELECTRONICS ENGINEERING

AY:2020-21

### COURSE OUTCOMES

**Year & Semester: II Year II Semester**

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

**Student will able to**

CO. No	Description
C221.01	Acquire and apply Technical Communication professionally
C221.02	Correspond technically through various methods and style of technical writing
C221.03	Gain and apply different technical writing skills of report writing
C221.04	Obtain efficient skills in creating and designing technical manuals
C221.05	Utilize and obtain various styles of information transfer

**Course Outcomes:C222 Finance and Accounting**

**Student will able to**

CO. No	Description
C222.01	To understand the basic concepts of financial accounting, cost accounting and management accounting
C222.02	To understand Accounting Standards and their Importance in Global Accounting Environment, to prepare, understand, interpret and analyze financial statements
C222.03	To Understand the procurement of Finance in Financial Markets for Strengthening countries economy
C222.04	To understand Capital budgeting techniques
C222.05	To understand the different types of Ratios like Liquidity, Turn over, Profitability, Leverage and Structural Ratios
C222.06	To Acquire knowledge on Finance and Accounting

**Course Outcomes:C223 Mathematics-III (Probability & Statistics)**

**Student will able to**

CO. No	Description
C223.01	Understand real life and Engineering Problems through mathematics
C223.02	Get logical thinking and creativity
C223.03	Obtain the knowledge of Probability, Random variables, distributions and its applications
C223.04	Learn the concepts of discrete and continuous distributions
C223.05	Get the knowledge of curve fitting, regression and testing of hypothesis for various parameters
C223.6	Know the Concepts of F-distribution and chi-square distribution, goodness of fit and test for dependence

**Course Outcomes:C224 Elements of Mechanical Engineering**

**Student will able to**

CO. No	Description
C224.01	Explaining about the working, functions and applications of engines and explaining the different parts of the engines and classifying the different parts and explaining the concepts of Turbines and their applications.
C224.02	Analyze the governing equations of heat exchangers, and their applications of heat exchangers and solving the problems

<b>C224.03</b>	Demonstration of hydraulic turbines and pumps with calculations
<b>C224.04</b>	classification of power transmission with the mechanisms
<b>C224.05</b>	Different types of manufacturing processes and advance machining and additive manufacturing processes

**Course Outcomes:C225 Electrical Machines-I**

**Student will able to**

<b>CO. No</b>	<b>Description</b>
<b>C225.01</b>	Understand the concepts of magnetic circuits
<b>C225.02</b>	Understand working principle, laws and working of DC machines
<b>C225.03</b>	Analyze the construction, characteristics and applications of various types of DC generators
<b>C225.04</b>	Analyze the construction, characteristics and applications of various types of DC motors and testing of DC motors
<b>C225.05</b>	Understand working principle, laws and working of 1-Phase Transformer, losses, efficiency and various tests on transformers

**Course Outcomes:C226 Digital Electronics and Logic Design**

**Student will able to**

<b>CO. No</b>	<b>Description</b>
<b>C226.01</b>	Examine the structure of number systems and perform the conversion among different number systems
<b>C226.02</b>	Illustrate reduction of logical expressions using boolean algebra, k-map and tabulation method and implement the functions using logic gates
<b>C226.03</b>	Realize combinational circuits for given application
<b>C226.04</b>	Design and analyses synchronous and asynchronous sequential circuits using flipflops
<b>C226.05</b>	Implement combinational logic 3 circuits using programmable logic devices

**Course Outcomes:C227 Power Electronics**

**Student will able to**

<b>CO. No</b>	<b>Description</b>
<b>C227.01</b>	Understand the characteristics and performance of various power electronic devices.
<b>C227.02</b>	Analyze single and three phase controlled rectifier circuits.
<b>C227.03</b>	Understand choppers circuits and AC voltage controllers
<b>C227.04</b>	Understand the performance of single phase inverter circuits.
<b>C227.05</b>	Analyze the operation of three phase voltage source inverters.
<b>C227.06</b>	Analyze single and three phase controlled rectifier circuits.

**Course Outcomes:C228 Electrical Machines Lab-I**

**Student will able to**

<b>CO. No</b>	<b>Description</b>
<b>C228.01</b>	Understand electrical principle, laws, and working of DC machines.
<b>C228.02</b>	Analyse the construction and characteristics and application of various type of DC generators.
<b>C228.03</b>	Analyse the construction and characteristics and application of various type of DC motors and testing of motors.
<b>C228.04</b>	Understand electrical principle, laws, and working of 1 phase transformer and losses and also conduct various test on the transformer
<b>C228.05</b>	Understand the performance of various DC and AC machines

**Course Outcomes:C229 Digital Electronics and Logic Design Lab****Student will able to**

<b>CO. No</b>	<b>Description</b>
<b>C229.01</b>	Understand working of logic families and logic gates
<b>C229.02</b>	Design and implement Combinational and Sequential logic circuits
<b>C229.03</b>	Understand the process of Analog to Digital conversion and Digital to Analog conversion.
<b>C229.04</b>	Use PLCs to implement the given logical problem.
<b>C229.05</b>	Analysis of synchronous and asynchronous counters.



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**AY:2020-21**

### COURSE OUTCOMES

**Year : III Year**

**Semester: II Semester**

**Course Outcomes:C321 Fundamentals of Internet of Things**

**Student will able to**

CO. No.	Description
C321.01	Understand the definition, concepts and significance of the Internet of Things.
C321.02	Understand basics of networking concepts and communication protocols in wireless network.
C321.03	Understand the basic concepts of programing for Python Language.
C321.04	Understand the basic concepts of interfacing of Raspberry pi.
C321.05	Understand the programing and configuration on Arduino boards for various designs
C321.06	Analyze and design IOT applications in different domains.

**Course Outcomes:C322 Wind and Solar Energy systems**

**Student will able to**

CO. No.	Description
C322.01	Knowledge the energy scenario and the consequent growths of the Power generates renewable energy sources.
C322.02	Understand the basic physics of wind power generation.
C322.03	Understand the basics of solar power generation.
C322.04	Design suitable power controller for wind and solar applications
C322.05	Analyze the issues involved in the integration of solar and wind energy systems to grid
C322.06	Understand the solar thermal power generation

**Course Outcomes:C323 Signals and Systems**

**Student will able to**

CO. No.	Description
C323.01	Able to Understand mathematical description and representation of continuous and discrete time signals and systems.
C323.02	Able to derive Fourier series for continuous time signals and can find Fourier transform for different signals.
C323.03	Able to develop input output relationship for linear shift invariant system and understand the convolution operator for continuous and discrete time system
C323.04	Classify systems based on their properties and determine the response of LSI system using convolution.
C323.05	Apply the Laplace transform and Z- transform for analyze of continuous-time and discrete-time signals and systems.
C323.06	Able to Understand the process of sampling and the effects of under sampling.

**Course Outcomes:C324 Microprocessors & Microcontrollers****Student will able to**

CO. No.	Description
C324.01	Learn the internal architecture ,memory organization and can develop assembly language programming of 8086 processors.
C324.02	Know about the internal architecture ,memory organization and can develop assembly language programming of 8051 microcontroller.
C324.03	Understand the interfacing techniques to 8051 based systems
C324.04	Get the knowledge of Communication between peripherals and the processors and controllers will be clear
C324.05	Learn the internal architecture of ARM Processors and basic concepts of ARM processors
C324.06	Learn the internal architecture and instruction set of CORTEX Processors and basic concepts of CORTEX processors

**Course Outcomes:C325 Power System Protection****Student will able to**

CO. No.	Description
C325.01	Compare and contrast electromagnetic, static and microprocessor-based relays
C325.02	Apply technology to protect power system components.
C325.03	Select relay settings of over current.
C325.04	Analyze quenching mechanisms used in air, oil and vacuum circuit breakers
C325.05	Understand the concept of distance relays.
C325.06	Understand the protection schemes employed for AC Machines and Bus Zone Protection

**Course Outcomes:C326 Power System Operation and Control****Student will able to**

CO. No.	Description
C326.01	Understand the importance of Load flow studies and approach to proper method for investigating problems in power system operating and planning
C326.02	Analyze various functions of Energy Management System (EMS) functions and can understand the importance to reduce the operating cost of generation to the minimum
C326.03	To Understand importance of transient deviations and to restore the balance between load and generation
C326.04	Analyze whether the machine is can able to meet the demand or not
C326.05	Understand the need of computer in power systems

**Course Outcomes:C327 Power System Lab****Student will able to**

CO. No.	Description
C327.01	Perform various load flow techniques.
C327.02	Analyze the Characteristic of different relays.
C327.03	To perform fault analysis on Transmission line and Generators.
C327.04	Understand Different protection methods
C327.05	Formation of bus
C327.06	Analyze the experimental data and draw the conclusions.

**Course Outcomes:C328 Microprocessors & Microcontrollers Lab****Student will able to**

<b>CO. No.</b>	<b>Description</b>
<b>C328.01</b>	Students will be familiar with the instruction set of 8086 and programming principles
<b>C328.02</b>	Students will be able to learn the basic programming skills
<b>C328.03</b>	student will be able to write simple ALP using different instructions
<b>C328.04</b>	Students can develop the applications like interfacing and the concept of communication.
<b>C328.05</b>	Students can program and interface with the external devices like matrix, converters etc.

**Course Outcomes:C329Signals and Systems Lab****Student will able to**

<b>CO. No.</b>	<b>Description</b>
<b>C329.01</b>	Able to use MATLAB simulation tool and know its advantages and capable to generate various signals and sequences using MATLAB tool
<b>C329.02</b>	Able to get knowledge about removal of noise from any signal
<b>C329.03</b>	Able to get practical knowledge on how to perform different operations on various signals and sequences.
<b>C329.04</b>	Able to get clear idea about spectrum and converting various time domain signals in to frequency domain
<b>C329.05</b>	Analyze various signals to avoid aliasing effect while generating various signals of different frequencies
<b>C329.06</b>	Will get Practical knowledge about generating random noise using Gaussian distribution

**Course Outcomes:C3210 Environmental Science****Student will able to**

<b>CO. No.</b>	<b>Description</b>
<b>C3210.01</b>	Understand ecological principles which in turn helps in sustainable development
<b>C3210..02</b>	Analyze Environmental regulations which in turn helps in development
<b>C3210..03</b>	Develop technologies on the basis of ecological principles and environmental regulations
<b>C3210..04</b>	Apply principles and environmental regulations which in turn helps in sustainable development
<b>C3210..05</b>	Evaluate environmental regulations which in turn helps in sustainable development
<b>C3210.06</b>	Understand ecological principles which in turn helps in sustainable development



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### COURSE OUTCOMES

**Year : IV Year**

**Semester: II Semester**

**Course Outcomes:C421 Electronic Measuring Instruments**

**Student will able to**

CO. No.	Description
C421.01	Identify the various electronic instruments based on their specifications for carrying out a particular task of measurement.
C421.02	Measure various physical parameters by appropriately selecting the transducers
C421.03	Use various types of signal generators, signal analyzers for generating and analyzing various real-time signals.
C421.04	understanding of use of various measuring techniques for measurement of different physical parameters using different classes of transducers.
C421.05	understanding of principle of operation, working of different electronic instruments
C421.06	Strain Gauges, Bounded, unbounded; Force and Displacement Transducers, Resistance Thermometers.

**Course Outcomes:C422 Wind, Solar and Hybrid Energy Systems**

**Student will able to**

CO. No.	Description
C422.01	Understand the energy scenario and the consequent growths of the power generate renewable energy sources.
C422.02	Understand the basic physics of wind generation.
C422.03	Understand the of wind generation topologies with different configurations.
C422.04	Understand the basic physics of solar power generation.
C422.05	Understand the power electronic interfaces for wind and solar generation.
C422.06	Understand the issues related to the grid-integration of solar and wind energy systems

**Course Outcomes:C423 Utilization of Electric Power**

**Student will able to**

CO. No.	Description
C423.01	Acquire knowledge on, electric drives characteristics and their applicability in industry based on the nature of different types of loads and their characteristics
C423.02	Understands the concepts and methods of electric heating, welding, illumination and electric traction
C423.03	Apply the above concepts to real-world electrical and electronics problems and applications.
C423.04	Design and Understand Calculations of tractive effort, power, specific energy
C423.05	Apply Knowledge for System of electric traction and track electrification
C423.06	Apply Speed-time curves for different services

**Course Outcomes:C423 Major Project****Student will able to**

<b>CO. No.</b>	<b>Description</b>
<b>C424.01</b>	Demonstrate the ability to synthesize and apply the knowledge and skills acquired in the academic program to the real-world problems.
<b>C424.02</b>	Evaluate different solutions based on economic and technical feasibility
<b>C424.03</b>	Effectively plan a project and confidently perform all aspects of project management
<b>C424.04</b>	Demonstrate effective written and oral communication skills