



# LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

Hyderabad-500091, TS.

## Department of Mechanical Engineering

### COURSE OUTCOMES (COS)

#### Course Outcomes: C221– Basic Electrical and Electronics Engineering Year: II-II- Sem A.Y: 2019-20

C221.1	Analyze and solve basic Electric and Magnetic circuits.
C221.2	Understand and analyze Low Voltage Electrical Installations.
C221.3	Study the working principles of Electrical Machines.
C221.4	Identify and characterize diodes and various types of Rectifiers.
C221.5	Introduce components of Transistors.

#### Course Outcomes: C222– Kinematics of Machinery Year: II-II- Sem A.Y: 2019-20

C222.1	Understand the concept of mechanism, inversion of mechanism & mobility of planar mechanism and can be able to find D.O.F of mechanism & know the applications of mechanisms.
C222.2	Analyze the velocity & acceleration of the links of the mechanism by graphical method.
C222.3	Understand the steering gearing mechanism & Hooke's joint & can be able to determine correct steering angle, and can be able to analyze the shafts velocities in Hooke's joint
C222.4	Analyze the motion of the cam & follower & can be able to design the profile of the cam.
C222.5	Understand gear terminologies & the working of gear trains and working of differential gear box & can be able to analyze the train value of gear trains.

#### Course Outcomes: C223– Thermal Engineering-I Year: II-II- Sem A.Y: 2019-20

C223.1	Understand and apply the laws of Thermodynamics to analyze air standard cycles.
C223.2	Understand and evaluate the perform analysis of the major components and systems of IC engines.
C223.3	Understand working of compressors and abnormal combustion in CI and SI engines.
C223.4	Understand the principle and operation of Reciprocating Compressors
C223.5	Understand the working of gas turbines, cycles and performance of the turbines.

#### Course Outcomes: C224– Fluid Mechanics and Hydraulic Machines Year: II-II- Sem A.Y: 2019-20

C224.1	Understand the properties of fluids along with pressure measurement techniques
C224.2	Identify type of fluid flow patterns and describe continuity equation, and Apply fundamental laws of fluid mechanics and the Bernoulli's principle for practical applications.
C224.3	Demonstrate boundary layer concepts and determine the major and minor losses in pipes.
C224.4	Understand the basic of turbo machinery, concept of hydraulic machines and Design the working proportions of hydraulic machines and estimate the performance.
C224.5	Estimate performance parameters of a given Centrifugal and Reciprocating pump.

**Course Outcomes: C225– Instrumentation and Control Systems Year: II-II- Sem A.Y: 2019-20**

C225.1	Understand the basic characteristics of instruments and study error measurements. Study the working of various transducers used in displacement measurement.
C225.2	Study the working principle of temperature and pressure measuring instruments.
C225.3	Measure level, flow, speed, acceleration and vibration by using various instruments.
C225.4	Understand the concept of strain gauge for various measurement applications and study the working of Humidity, Force, Torque and power measuring instruments.
C225.5	Understand basic elements of a control system and application of Various control systems for temperature, speed and position.

**Course Outcomes: C226– Basic Electrical and Electronics Engineering Lab Year: II-II- Sem A.Y: 2019-20**

C226.1	Understand elements used in electrical engineering and its basic laws
C226.2	Determination of voltage and current in resistors by applying A.C and D.C voltage sources by various theorems
C226.3	Measure various parameters for RL, RC series circuits.
C226.4	Understand the principle and working of transformer and tests on it
C226.5	Understand the concept of Phase, Line voltage and currents in Transformer
C226.6	Understand the principle and concept of various machines like shunt motor, induction motor

**Course Outcomes: C227– Fluid Mechanics and Hydraulic Machines Lab Year: II-II- Sem A.Y: 2019-20**

C227.1	Determine the Co-efficient of impact of jet on Vane, Understand the performance of Hydraulic turbine and pumps under different working conditions.
C227.2	Calibrate flow measuring devices such as venturi meter and orifice meter
C227.3	Determine friction factor in pipes
C227.4	Determine minor losses in the pipes
C227.5	Verify Bernoulli's equation.

**Course Outcomes: C228 – Instrumentation and Control Systems Lab Year: II-II- Sem A.Y: 2019-20**

C228.1	Recognize measurement of temperature and pressures.
C228.2	Identify various types of transducers used in displacement and temperature measurements.
C228.3	Determine the stain in a cantilever beam subject point load using strain gauge setup.
C228.4	Understand the concept of measurement of flow, speed and acceleration.
C228.5	Illustration of SCADA software for pressure and temperature measurement.

**Course outcomes: C229 – Gender Sensitization Lab Year: II-II- Sem A.Y: 2019-20**

C229.1	Understanding of important issues related to gender in contemporary India
C229.2	Sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender.
C229.3	Acquire insight into the gendered division of labor and its relation to politics and economics
C229.4	Develop a sense of appreciation of women in all walks of life
C229.5	Attain a finer grasp of how gender discrimination works in our society and how to counter it.



# LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

Hyderabad-500091, TS.

## Department of Mechanical Engineering

### COURSE OUTCOMES (COS)

**Course Name: C321 Thermal Engineering-II** **Year: III-II Sem** **A.Y: 2019-20**

C321.1	Acquire knowledge about steam turbine power plants, boilers, nozzles, condensers, steam turbines, gas turbines, jet propulsive engines and rocket engines
C321.2	Gain knowledge about rankine cycles, sterling cycle, joule cycle related to the power plants. Understand working principles of mounting and accessories. Thermodynamic analysis of cycles
C321.3	Distinguish between vapour power cycles and gas power cycles related to steam power plant, gas power plant and rocket engines
C321.4	Interpret and apply tables and charts for solving problems related nozzles, condensers and performance test of steam turbines, gas turbines and rocket engines
C321.5	Comprehend the functions of major components of steam and gas turbine, condensers rocket engines and perform the analysis of components cylinder and spheres.

**Course Name: C322 Design of Machine Members – II** **Year: III-II Sem** **A.Y: 2019-20**

C322.1	Apply the basic knowledge for selection of materials, lubricating oil to design the of sliding contact bearings for different operating load, temperature and speed,
C322.2	Demonstrate the knowledge of selecting the materials, lubricating oil, and designing the roller contact bearing by adopting standard measures to avoid self-alignment and deflection errors
C322.3	Apply the knowledge of design, selection of material, shape and standard parameters of fins for piston, to withstand the buckling, tension and compressive loads for piston and connecting rod.
C322.4	Demonstrate the design, development and use of Different types of Springs, Belt drives and pulleys, and their uses in different engineering applications
C322.5	Demonstrate the basic knowledge in the designing, choosing the best materials for Spur gear, helical gear, worm gears for different operating temperature, speed and number of operating hours

**Course Name: C323 Heat transfer** **Year: III-II Sem** **A.Y: 2019-20**

C323.1	Analyze the different modes of HT, derivations related to cylindrical, spherical and Cartesian co-ordinates.
C323.2	Evaluate the 1-D steady state conduction, overall heat transfer coefficient and critical radius of insulation
C323.3	Analyze the differences between forced convection and natural convection
C323.4	Evaluate the different classifications of boiling and condensation and also of radiation heat transfer, heat exchangers and its classification
C323.5	Understand the practical applications of heat transfer and its importance in the field of mechanical engineering in practical life.

**Course Name: C324 IC Engine and Gas Turbine****Year: III-II Sem A.Y: 2019-20**

C324.1	Acquires knowledge of all types of combustion engines like SI, CI, modern automotive and gas turbines with their working
C324.2	Gain knowledge and understand working of various components used like carburetors, fuel injectors, pumps, governors, nozzles and fuels used.
C324.3	Classify between different engines and turbines and their respective application with combustion and ignition systems accordingly.
C324.4	Draw and analyze various cycles used in engines and turbines with valvetiming diagrams and methods of improving performance.
C324.5	Calculate performance parameters, efficiencies, heat balance of engines and turbines, design accordingly for higher or improved performance.

**Course Name: C325 Entrepreneurship & Small Business Enterprises Year: III-II Sem A.Y: 2019-20**

C325.1	Understand the concept of entrepreneurship, entrepreneurial development.
C325.2	Knowledge of presenting business plan & setting up enterprise.
C325.3	Determine the problems of industrial sickness in India. And rehabilitation of sick units.
C325.4	Understand the essentials of marketing.
C325.5	Evaluate the challenges in entrepreneurs. And the new techniques in marketing and strategic growth in entrepreneurship.

**Course Name: C326 Heat Transfer Lab Year: III-II Sem****A.Y: 2019-20**

C326.1	Determine the thermal conductivity of given metal rod, Lagged pipe and concentric sphere.
C326.2	Determine the coefficient of convective heat transfer in natural and forced convection also to determine the critical heat flux by using critical heat flux apparatus.
C326.3	Determine the Stefan Boltzman Constant using Stefan Boltzman Apparatus.
C326.4	Determine the Effectiveness of Pin-Fin and also to determine the LMTD by using parallel and counter flow heat exchanger
C326.5	Demonstrate the heat pipe

**Course Name: C327 CADD and MATLAB****Year: III-II Sem A.Y: 2019-20**

C327.1	Apply computer methods for solving a wide range of engineering problems.
C327.2	Use computer engineering software to solve and present problem solutions in a technical format.
C327.3	Create and manipulate geometric models in a computer program.
C327.4	Utilize computer skills to enhance learning and performance in other engineering and science courses.
C327.5	Demonstrate professionalism in interactions with colleagues, faculty and staff.

**Course Name: C328 Advanced English Communication Skills Lab Year: III-II Sem A.Y: 2019-20**

C328.1	Acquire vocabulary and use it contextually
C328.2	Listen and speak effectively
C328.3	Develop proficiency in academic reading and writing
C328.4	Increase possibilities of job prospects
C328.5	Communicate confidently in formal and informal contexts
C328.6	Adopt professional behavior and develop team spirit.



# LORDS INSTITUTE OF ENGINEERING & TECHNOLOGY

Hyderabad-500091, TS.

## Department of Mechanical Engineering

### COURSE OUTCOMES (COS)

**Course Name: C421 Health, Safety and Environment in Petroleum Industry Year: IV-II Sem A.Y: 2019-20**

C421.1	Remember an overview of environment control during drilling and production operations.
C421.2	Understand various drilling fluids handling and safe disposal of such toxic products.
C421.3	Have Knowledge of various Acts related to safety, Health and environment in petroleum Industry
C421.4	Have knowledge of hazard studies and occupational health hazards in the industry
C421.5	Have Knowledge of disaster management to fight any crisis

**Course Name: C422 Production Planning and Control**

**Year: IV-II Sem A.Y: 2019-20**

C422.1	Understanding the basic concepts of production planning and control functions and systems. Apply principles and techniques in the forecasting of these systems to optimize/make best use of resources in achieving their objectives.
C422.2	Understand the importance and function of inventory and to be able to apply selected techniques for its control and management under dependent and independent demand circumstances.
C422.3	Understand Method of line balancing, largest candidate method, route sheet and factors affecting route procedures
C422.4	Apply scheduling and material control techniques to various specified situations. Include an explanation of the need for inventory minimization procedures and how these might conflict with delivery response objectives.
C422.5	The ability to measure the effectiveness, identify likely areas for improvement, develop and implement improved planning and control methods for dispatching.

**Course Name: C423 Unconventional Machining Processes**

**Year: IV-II Sem A.Y: 2019-20**

C423.1	Understand the need and importance of non-traditional machining processes and their applications.
C423.2	Understand the principle, equipment's, process parameters & mechanics of abrasive jet, water jet and abrasive water jet machining processes.
C423.3	Understand the fundamentals of electrochemical processes & analyze the metal removal rate.
C423.4	Understand and analyze the principle of thermal metal removal process & EDM in tool designing.
C423.5	Apply the knowledge of plasma application in manufacturing industries and understand the principle of chemical machining.

**Course Name: C424 Major Project**

**Year: IV-II Sem A.Y: 2019-20**

C424.1	Classify the projects and describe the phases involved in project formulation with feasibility studies and SWOT (strengths, weaknesses, opportunities, and threats) analysis.
C424.2	Devise a projects development cycle and get acquainted with the different appraisals in the process of deciding the worthiness of project.
C424.3	Exhibit and apply the managerial skills and knowledge of financial aspects required during the implementation of project.
C424.4	Identify sources for project finance and select the method of project implementation which is best suited for a particular project.