

Department of Mechanical Engineering

B.E. 7th Sem

Course: Machine Design and Drawing-II

Course Code: (7ME01)

At the end of Machine Design and Drawing-II course the student will be able:

- CO 1:** To analyze and design power transmission shafts carrying various elements like coupling, flywheel and gears under different service conditions.
- CO 2:** To select and analyze proper bearings, lubrication method, mounting and enclosure.
- CO 3:** To design belt drives and select wire rope for given load.
- CO 4:** To design spur, helical, bevel and worm gears.
- CO 5:** To design I.C. Engine parts Cylinder, Piston, Connecting rod and Crank.
- CO 6:** To understand design and drawing procedure of Governor ((Parts and Assembly).

Course: Energy Conversion-II

Course Code: (7ME02)

At the end of Energy conversion-II course the student will be able:

- CO 1:** To classify air compressors and analyze working of reciprocating air compressors.
- CO 2:** To describe rotary compressors and their operations.
- CO 3:** To understand basics of refrigeration and air conditioning systems and to solve simple numerical.
- CO 4:** To explain working of gas Turbine power plants and jet propulsion methods.
- CO 5:** To describe the working of nuclear power plant and its components.
- CO 6:** To explain various renewable energy sources like solar, wind, biomass, MHD, Geothermal etc. and their importance for present energy scenario.

Course: Industrial Management & Costing

Course Code: (7ME03)

At the end of Industrial Management & Costing course the student will be able:

- CO 1:** To understand the meaning of business, Identify various Forms of Business organization and differentiate between administration and Organization.
- CO 2:** To understand the concepts of the Marketing and Sales Management, the Problems of international marketing and Import & Export procedure.
- CO 3:** To describe the Functions of personnel management and Materials management.
- CO 4:** To estimate the weights and materials, machining time and fabrication cost.
- CO 5:** To describe the costing and costing Techniques, and also differentiate between normal and abnormal losses in process.
- CO6:** To prepare profit and loss statement, balance sheet, and to calculate the depreciation.

Course: Automation Engineering

Course Code: (7ME04)

At the end of Automation Engineering course the student will be able:

- CO 1:** To analyze various automated flow lines, explain assembly system and line balancing method.
- CO 2:** To prepare manual and computer assisted part programme for machining operation
- CO 3:** To understand applications of robotics in manufacturing.
- CO 4:** To classify manufacturing parts according to their design and manufacturing attributes and describe the CAPP for the product development.
- CO 5:** To describe the importance of automated material handling and storage system.
- CO 6:** To understand use of computers in the area of manufacturing to reduce manual processing and to increase productivity, reduce cost.

Course: Tool Engineering

Course Code: (7ME05)

At the end of Tool Engineering course the student will be able:

- CO 1:** To describe fundamental concepts and nomenclature of single point cutting tool and form tool by graphical method
- CO 2:** To understand the types of location, clamps and principles of clamping devices
- CO 3:** To design of various fixtures such as turning, milling
- CO 4:** To evaluate forces in various tools such as twist drills, reamers
- CO 5:** To calculate the drawing and bending forces and classify the presses, press working operations.
- CO 6:** To describe the types of dies construction, function and nomenclature of die components.

B.E. 8th Sem

Course: Automobile Engineering

Course Code: (8ME01)

At the end of Automation Engineering course the student will be able:

- CO 1:** To classify various automobiles and their different parts, also explain the detailed construction and functions of power unit.
- CO 2:** To explain the working of Fuel feed systems and cooling systems of automobile and apply knowledge for trouble shooting cooling systems of automobile .
- CO 3:** To describe the electrical system and Ignition systems of Automobile.
- CO 4:** To describe operation of Transmission system, clutch and Gear box and apply the knowledge for shooting clutch troubles and suggesting remedies.
- CO 5:** To explain the operation of steering system and braking systems, also apply the knowledge for Fault finding and maintenance of brakes.
- CO 6:** To describe the Suspensions and Lubrication in Automobile, and apply knowledge for solving Engine lubrication troubles and suggesting remedies.

Course: Refrigeration and Air-conditioning

Course Code: (8ME02)

At the end of Refrigeration and Air-conditioning course the student will be able:

- CO 1:** To explain the working of vapour compression refrigeration systems and evaluate the effects of operating conditions on the performance of the system.
- CO 2:** To compare various multi stage pressure systems and predict the performance of these systems.
- CO 3:** To describe the working and applications of different components and controls of refrigeration systems.
- CO 4:** To define psychometric properties and represent processes on psychometric chart.
- CO 5:** To classify various air-conditioning systems, air-distribution systems and the duct design methods.
- CO 6:** To estimate cooling load and design air-conditioning systems.

Course: IC Engine

Course Code: (8ME03)

At the end of IC Engine course the student will be able:

- CO 1:** To understand the basic components, design and operating characteristics of internal combustion engines.
- CO 2:** To describe alternative fuels, conventional fuels for IC Engines and to make aware of different types of fuel feed system.
- CO 3:** To analyze combustion process of SI & CI Engines, and to predict the factors affecting the engine performance
- CO 4:** To analyze the performance and heat balance of IC engines.
- CO 5:** To develop an ability to optimize exhaust pollutants and demonstrate an understanding of the generation of undesirable exhaust emissions and methods used to reduce them.
- CO 6:** To analyze the exhaust pollutants, its causes and describe methods to reduce them.

Course: Operation Research Techniques

Course Code: (8ME04)

At the end of Operation Research Techniques course the student will be able:

- CO 1:** To formulate real life optimization problems and solve by using Linear Programming methods.
- CO 2:** To solve transportation and assignment problems to optimize the cost.
- CO 3:** To apply network models (PERT & CPM) in project management to optimize the cost and time of project.
- CO 4:** To optimize the time in queues by waiting line models
- CO 5:** To apply replacement policy for items whose efficiency deteriorates with time.
- CO 6:** To formulate decision problem into mathematical model and solve by using dynamic programming.