

DEPARTMENT OF MECHANICAL ENGINEERING

Academic Year -2024-25

Course Outcomes

B.TECH.6th SEM

**Refrigeration & Air
Conditioning (BME601)**

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the basic concepts of Refrigeration & Air-Conditioning and its future prospects
(CO2)	Explain the construction and working of various components in Refrigeration & Air-Conditioning systems.
(CO3)	Understand the different types of RAC systems with their respective applications.
(CO4)	Apply the basic laws to the thermodynamic analysis of different processes involved in Refrigeration and Air-Conditioning.
(CO5)	Apply the basic concepts to calculate the COP and other performance parameters for different RAC systems
(CO6)	Analyze the effects of performance parameters on COP.

CAD/ CAM (BME602)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Able to explain the 2D and 3D transformations, clipping algorithm, Manufacturing models and Metrics
(CO2)	Able to explain the fundamentals of geometric modeling, parametric curves, surfaces And Solids
(CO3)	Summarize the different types of Standard systems used in CAD
(CO4)	Able to apply NC & CNC programming concepts to develop part programme for Lathe & Milling Machines
(CO5)	Understand the different types of techniques used in Cellular Manufacturing and FMS

Theory of Machines (BME 603)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the principles of kinematics and dynamics of machines.
(CO2)	Calculate the velocity and acceleration for 4-bar and slider crank mechanism
(CO3)	Develop cam profile for followers executing various types of motions
(CO4)	Apply the concept of gear, gear train and flywheel for power transmission
(CO5)	Apply dynamic force analysis for slider crank mechanism and balance rotating & reciprocating masses in machines
(CO6)	Apply the concepts of gyroscope, governors in fluctuation of load and brake & dynamometer in power transmission

Refrigeration & Air Conditioning Lab (BME 651)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Determine the performance of different refrigeration and air-conditioning systems.
(CO2)	Apply the concept of psychrometry on different air cooling systems
(CO3)	Interpret the use of different components, control systems and tools used in RAC systems
(CO4)	Demonstrate the working of practical applications of RAC systems.

CAD/ CAM Lab (BME652)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the fundamentals of Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) systems.
(CO2)	Develop 2D and 3D models of mechanical components using industry-standard CAD software.
(CO3)	Generate part programming for CNC machines using G and M codes.
(CO4)	Simulate and verify tool paths for machining operations using CAM software.
(CO5)	Integrate CAD and CAM tools for product design and manufacturing, enhancing productivity and precision.

Theory of Machines Lab (BME653)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Demonstrate various mechanisms, their inversions and brake and clutches in automobiles
(CO2)	Apply cam-follower mechanism to get desired motion of follower.
(CO3)	Apply the concepts of gears and gear train to get desired velocity ratio for power transmission
(CO4)	Apply the concept of governors to control the fuel supply in engine
(CO5)	Determine the balancing load in static and dynamic balancing problem

Constitution of India (BNC601)

Course Outcome (CO)	Details of Course Outcomes	Bloom's Knowledge Level (KL)
(CO1)	Understand the historical evolution and significance of the Constitution of India.	K3
(CO2)	Identify the key features, preamble, and philosophy embedded in the Indian Constitution.	K4
(CO3)	Explain the structure and functions of the Union and State governments, including the legislative, executive, and judiciary branches.	K3
(CO4)	Interpret the provisions related to Fundamental Rights, Directive Principles of State Policy, and Fundamental Duties.	K5
(CO5)	Analyze the role and responsibilities of various constitutional bodies and institutions such as the Election Commission, UPSC, and CAG.	K5

Automotive Electrical & Electronics (BAU061)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the basic concepts of electrical systems used in automobile.
(CO2)	Understand the constructional features of charge storage devices and methods to test these devices for their healthy operation
(CO3)	Understand the principles and characteristics of charging and starting system of automobile and study the various faults occurring in system.
(CO4)	Understand the ignition and auxiliary system- types & constructional features used in automobile.
(CO5)	Describe the principles and architecture of electronics systems and its components present in an automobile related to data transfer, instrumentation, control, and security systems

Innovation & Entrepreneurship (BOE 060)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the role of innovation in entrepreneurship & Identify entrepreneurial opportunities.
(CO2)	Develop business models and strategies for startups
(CO3)	Create a business plan
(CO4)	Learn about funding options and financial management for startups
(CO5)	Explore the challenges and risks of entrepreneurship