DRONACHARYA
College of Engineering

Khentawas, Farrukh Nagar, Gurugram, Haryana
Approved by: All India Council for Technical Education (AICTE), New Delhi
Affiliated to: Gurugram University, Gurugram

DEPARTMENT OF MECHANICAL ENGINEERING

ACADEMIC YEAR 2023-24

SEMESTER IV

Applied Thermodynamics

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand various practical power cycles and heat pump cycles.
(CO2)	Analyze energy conversion in various thermal devices such as combustors, air coolers, nozzles, diffusers,steam turbines and reciprocating compressors
(CO3)	Understand phenomena occurring in high speed compressible flows

Machine Tools and Machining

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Demonstrate a clear understanding of different types of machine tools, their components, and their functions.
(CO2)	Identify the various types of machine tools commonly used in machining operations. Interpret engineering drawings
(CO3)	Interpret geometric dimensions and tolerances (GDandT) and select appropriate machiningstrategies accordingly.
(CO4)	Understand the principles of cutting tool technology and select appropriate cutting tools fordifferent machining operations.
(CO5)	Optimize machining processes for improved productivity and quality
(CO6)	Analyze and troubleshoot machining issues

Kinematics of Machine

Course Outcome (CO)	Details of Course Outcomes
(CO1)	To understand about the applications of mechanism and machines.
(CO2)	To understand about the basics Cams and Friction
(CO3)	Familiarize about power transmitted with Belts and pulleys and also Gears and Gear Trains.
(CO4)	Students having familiarization with calculate Kinematics Analysis of Plane Mechanisms
(CO5)	Students would be able to know the Kinematics synthesis of Mechanisms.
(CO6)	Perform kinematics synthesis of mechanisms

Instrumentation and Control

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the measurement of various quantities using instruments, their accuracy and range, and thetechniques for controlling devices automatically.
(CO2)	Identify and select appropriate sensors for common engineering measurements, such as temperature,pressure, flow, and displacement
(CO3)	Design and configure instrumentation systems for specific measurement tasks
(CO4)	Analyze transducer performance and calibration
(CO5)	Explore ionization and mechano-electronic transducers
(CO6)	Design and analyze block diagrams to represent control systems

Production Process-II

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Acquire knowledge about mechanics of chip formation and to identify the factors related to tool wearand machinability
(CO2)	Learn about different gear manufacturing and gear finishing operations.
(CO3)	Select the proper cutting tool material and components of jigs and fixtures.
(CO4)	Understand the basics principles of non-conventional machining processes and their applications.
(CO5)	Identify and select different measuring instruments for the inspection of different components.

Computer Aided Design and Manufacturing

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Demonstrate the knowledge of Computer Aided design and Additive Manufacturing.
(CO2)	Understand the concept of wireframe modeling, surface modeling and solid modeling.
(CO3)	Understand the method of manufacturing of liquid based, powder based and solid based techniques
(CO4)	Apply the FEM to perform structural analysis and solve engineering problems
(CO5)	Analyze 1D and 2D structural problems
(CO6)	Evaluate the benefits and challenges of implementing FMS in manufacturing environments.

Kinematics of Machine_ Lab

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Understand the various practical demonstrations of mechanism.
(CO2)	Knowledge of Motions in mechanism with practical demonstration
(CO3)	Learning the Special purpose machine members used in designing of a machine.
(CO4)	Synthesis of working model using the various linkages.

Computer Aided Design and Manufacturing _Lab

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Display of the basic fundamentals of modeling package.
(CO2)	Explore the surface and solid modeling features.
(CO3)	Learning the techniques of 3D modeling of various mechanical parts.
(CO4)	To expedite the procedure and benefits of FEA and CAE.

Production Process-II _Lab (P)

Course Outcome (CO)	Details of Course Outcomes
(CO1)	vapour power cycles and find and compare different cycles based on their performance parameters anddefficiencies.
(CO2)	steam boilers, their types and components.
(CO3)	fundamentals of flow of steam through a nozzle.
(CO4)	steam turbines and can calculate their work done and efficiencies.
(CO5)	types and working of condensers and compressors and define their different types of efficiencies

Instrumentation and Control _Lab

Course Outcome (CO)	Details of Course Outcomes
(CO1)	To understand about the applications of measurement systems.
(CO2)	To understand about the basics and working principle of pressure, temperature and flow measurement.
(CO3)	Identify the different variation of measurement parameter with various input conditions.
(CO4)	To analyze the primary, secondary and tertiary measurements.
(CO5)	To learn about the various control devices and parts of measurement systems

Scientific and Technical writing Skills*

Course Outcome (CO)	Details of Course Outcomes
(CO1)	Read technical texts and write area- specific texts effortlessly.
(CO2)	Listen and comprehend lectures and talks in their area of specialisation successfully.
(CO3)	Speak appropriately and effectively in varied formal and informal contexts.
(CO4)	Write reports and winning job applications. ecialisation.