

PROPERTIES OF MATTER & THERMODYNAMICS

Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Understand the concept of the center of gravity and its significance in determining stability. Solve problems involving the equilibrium of rigid bodies subjected to various forces and torques. Apply principles of equilibrium to analyze real world scenarios. Get the concept of elastic moduli and their significance in characterizing material properties.	U	C	Instructor-created exams / Quiz
CO2	Understand density and pressure in a fluid and their effects in fluid behaviour. Explain the principle of buoyancy and its application in determining the behavior of floating and submerged objects.	Ap	P	Practical Assignment / Observation of Practical Skills

	Understand Bernoulli's principle and its significance in describing the behaviour of fluids in motion. Analyse viscosity and turbulence.			
CO3	Get the concepts of temperature and thermal equilibrium. Demonstrate a clear understanding of the first law of thermodynamics, including the principles of conservation of energy and the relationships between heat, work, and internal energy. analyze various thermodynamic processes, including the work done during volume changes and the paths between thermodynamic states.	Ap	P	Seminar Presentation / Group Tutorial Work
CO4	Calculate and interpret the internal energy of ideal gases, understanding the heat capacities and behavior of ideal gases under different conditions, including adiabatic processes.	U	C	Instructor-created exams / Home Assignments
CO5	Grasp the significance of the second law of thermodynamics in determining the direction of thermodynamic processes. Analyze heat engines and refrigerators, applying the principles of the second law to evaluate their efficiency.	Ap	P	One Minute Reflection Writing assignments
CO6	understand fundamental concepts in thermodynamics and apply them in practical situations.	Ap	P	Viva Voce

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)

- Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P)

Metacognitive Knowledge (M)