

SYLLABUS :-

Laws of thermodynamics: zeroth, first, second & third; Entropy, free energy, enthalpy, and their implications and applications, Maxwells thermodynamic relations. Heat engines, Carnot engine, thermodynamic phase transitions, Clausius-Clapeyron equation, phase equilibrium and Gibbs phase rule, blackbody radiation (Stefans law), thermodynamic description of magnetism, superconductivity and ionic phenomena, Joule-Thomson effect.

Kinetic Theory of gases: Brownian motion, Maxwell-Boltzmann distribution law, collision parameters and its experimental determination; transport phenomena: diffusion, effusion, thermal conduction; viscosity, relaxation time, principle of equipartition of energy, specific heat capacity of solids and gases, classical theory of specific heat of solids.