

Lesson Plan (2023-2024 Odd Semester)

Professor – Ms. Kanika Sikri

Class and Section- B.Sc. II (medical and non medical) III semester

Subject-Physical Chemistry (Aug 2023 to Nov 2023)

Week/Month	Name of Topics
1 week of Aug	Student will be able to learn and define Thermodynamics, Definition of thermodynamic terms: system, surrounding etc.
2 week of Aug	Student will be able to learn and define Types of systems, intensive and extensive properties.
3 week of Aug	Student will be able to learn and define State and path functions and their differentials.
4 week of Aug	Student will be able to learn and define Thermodynamic equilibrium, Concept of heat and work, First law of thermodynamics statement.
1 week of Sep	Student will be able to learn and define concepts of internal energy and enthalpy, heat capacity, heat capacities at constant volume and pressure and their relationship.
2 week of Sep	Student will be able to learn and define Joule–Thomson coefficient for ideal gas and real gas and inversion temperature.
3 week of Sep	Student will be able to learn and define Calculation of w , q , dU & dH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process. Revision and Class test of thermodynamics.
4 week of Sep	Student will be able to learn and define Chemical Equilibrium Equilibrium constant and free energy, concept of chemical potential.
1 week of Oct	Student will be able to learn and define Thermodynamic derivation of law of chemical equilibrium. Temperature dependence of equilibrium constant.
2 week of Oct	Student will be able to learn and define Clausius–Clapeyron equation and its applications.
3 week of Oct	Student will be able to learn and define Distribution Law, Nernst distribution law – its thermodynamic derivation.
4 week of Oct	Student will be able to learn and define Applications of distribution law: (i) Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride.
1 week of Nov	Student will be able to learn and define (ii) Determination of equilibrium constant of potassium tri-iodide.
2 week of Nov	Student will be able to learn and define (iii) Process of extraction.
3 week of Nov	Student will be able to do numerical problems.
4 week of Nov	Revision and Class test of distribution Law.