

LESSON PLAN

Class: Minor Biotech. 2nd Sem (Life Science)

Semester: 2nd sem

Paper: Introduction of Biological Chemistry

Session: 2023-24

Sr. No	Week	Topic
1.	15/01/24-20/01/24	Types of organic reactions (Substitution, Addition, Elimination, Rearrangement etc.).
2.	22/01/24-27/01/24	Concept of isomerism
1.	29/01/24-03/02/24	Types of isomerism, Optical isomerism, elements of symmetry, molecular chirality, enantiomers, chiral and achiral molecules
2.	05/02/24-10/02/24	Geometric isomerism: Configuration of geometric isomers. Cis-Trans nomenclature.
3.	12/02/24-17/02/24	Redox reactions and electrochemistry - oxidation-reduction reactions.
4.	19/02/24-24/02/24	Light and matter interactions (optical spectroscopy, fluorescence, bioluminescence)
5.	26/02/24-02/03/24	Chemical bonds (ionic, covalent, Van der Waals forces)
6.	04/03/24-09/03/24	States of matter - vapor pressure, surface tension, boiling and melting points, solubility, capillary action, suspensions
7.	11/03/24-16/03/24	colloids and solution
8.	18/03/24-22/03/24	Acids, Bases and pH - Arrhenius theory, Ionic product of water, weak acids and bases, conjugate acid-base pairs, buffers.
9.	23/03/24-31/03/24	Holi Break
10.	01/04/24-06/04/24	Chemical reactions, reaction stoichiometry, rates of reaction, rate constants, order of reactions, Arrhenius equation, Maxwell Boltzmann distributions, rate-determining steps, catalysis, free-energy,
11.	08/04/24-13/04/24	entropy and enthalpy changes during reactions; kinetic versus thermodynamic controls of a reaction, reaction equilibrium (equilibrium constant).
12.	15/04/24-20/04/24	Basic constituents of matter - elements, atoms, isotopes, atomic weights, atomic numbers, basics of mass spectrometry, molecules, Avogadro number,
13.	22/04/24-30/04/24	Molarity, Molality, Normality, gas constant, molecular weights, structural and molecular formulae, ions and polyatomic ions

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