Lesson Plan

B.Sc. Semester 2 Chemistry Physical Sciences & Life Sciences

February 2024:

Covalent Bond: Valence bond theory approach, shapes of simple inorganic molecules and ions based on VSEPR theory and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements, Molecular orbital theory of homonuclear and heteronuclear diatomic molecules e.g. N_2, O_2, CO, NO.

March 2024:

Dipole moment and percentage ionic character in covalent Bond.

Ionic Solids: Ionic structures (NaCl, CsCl, ZnS, CaF_2) size effects, radius ratio rules and its limitations, Concept of lattice energy, Born-Haber cycle, Solvation energy and its relationship with solubility of ionic solids, Polarising power and polarisability of ions, Fazan's rule,

April 2024:

Chemical Kinetics: reaction rates, factors influencing reaction rate, rate equation, order, molecularity, integrated rate eqn of zero order and first order Arrhenius equation.

Distribution law: Nernst's distribution law, Derivation Effect of association & dissociation, Determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride.

Alkanes and cycloalkanes: Nomenclature, classification, Isomerism, Sources, Methods of preparation Physical and chemical properties.

Cycloalkanes, Bayer's Stain theory:, theory of Strainless rings.

May 2024:

Alkenes: Nomenclature, methods of preparation physical and chemical properties. Isomerism.

Hydrogen Bonding and Vander Waal's forces:

Metallic Bond and semiconductors.

Valance Bond theory, Band theory,

Semiconductors: Introduction, types and applications.

Vivek kumar