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Lesson Plan (2025-26)

(Chemistry) B.Sc IInd year Sem - IIIrd Chemistry Theory

- # July 22, 2025 - s and p block elements - Salient features of hydrides, oxides, halides, hydroxides of s-block elements. Structure, preparation and properties of Diborane & Borazine.
- # August, 2025 - Catenation, Carbides, fluoro carbons, Silicates, Structure of oxides of nitrogen & phosphorus, Structure of white and Red phosphorus, Structure of oxoacids of N, P, S, Cl & Comparison, Noble gases, Chemistry of Xenon, Structure & bonding in fluorides, oxides & oxyfluorides of Xenon.
- # Sept, 2025 - Electrochemistry I - Electrolytic Conduction, factors, specific, molar conductance, equivalent conductance & relation, Kohlrausch's law, Concept of pH & pK_a, Buffer solutions, Buffer mechanism, Henderson-Hassel equation.
- # Electrochemistry II - Reversible & irreversible cell, ΔG , ΔH & ΔK , Types of electrodes, Nernst equation, Application of EMF & potentiometric titrations using glass electrode.
- # Oct 2025 - Alkynes - Nomenclature, Structure, method of formation, dehydrohalogenation, Kolbe's electrolysis, Addition reactions, Emory, ozonolysis, Acidity of alkynes. Stereochemistry, enantiomers, Relative & absolute Configuration, Conformation Analysis, Newman & Sawhorse projection formulae.
- # Nov 2025 - Benzene & its derivative - Nomenclature, Huckel's rule of aromaticity, Electrophilic Substitution, mechanism of nitration, halogenation, Sulphonation & Friedel-Crafts reaction.
- Alkyl halides - Nomenclature, method, nucleophilic Substitution, S_N2 & S_N1 reaction with energy profile diagrams.
- Alkyl halides - method, Sandmeyer rxn, addition, substitution reaction, allyl, vinyl & aryl halides.