

BSC 3rd SEM CHEMISTRY

DATE	TOPIC
28/07/2024 TO 12/08/2024	s and p-Block Elements Salient features of hydrides, oxides, halides, hydroxides of s- block elements (methods of preparation excluded). Structure, preparation and properties of Diborane and Borazine. Catenation, carbides, fluorocarbons, silicates (structural aspects), structure of oxides of Nitrogen and Phosphorous, structure of white and red phosphorus. Structure of oxyacids of Nitrogen, phosphorous, sulphur and chlorine and comparison of acidic strength of oxyacids. low chemical reactivity of noble gases, chemistry of xenon, structure and bonding in fluorides, oxides and oxyfluorides of xenon.
13/08/2024 TO 27/08/2024	Electrochemistry-I Electrolytic conduction, fac factors affecting electrolytic conduction, specific conductance, molar conductance, equivalent conductance and relation among them, their variation with concentration. Application of Kohlrausch's Law in calculation of conductance of weak electrolytes at infinite dilution (Numericals) Concepts of pH and pKa, Buffer solution, Buffer action, Henderson Hazel equation, Buffer mechanism of buffer action. Electrochemistry-II
29/08/2024 TO 11/09/2024	Reversible & irreversible cells, Calculation of thermodynamic quantities of cell reaction (ΔG , ΔH & K). Types of reversible electrodes metal- metal ion, gas electrode, metal insoluble salt- anion and redox electrodes. Nernst equation, Standard Hydrogen electrode, reference electrodes,
12/09/2024 TO 26/09/2024	Applications of EMF measurement in solubility product and potentiometric titrations using glass electrode. Alkynes Nomenclature and its structure. Methods of formation: using Calcium carbide, dehydrohalogenation, Kolbe's electrolysis.

27/09/2024 TO 14/10/2024	<p>Chemical reactions: Mechanism of electrophilic and nucleophilic addition reactions, formation of metal acetylides, addition of bromine and alkaline KMnO₄, ozonolysis. Acidity of alkynes.</p> <p>Stereochemistry of Organic Compounds Concept of isomerism: Structural and Stereoisomerism.</p>
15/10/2024 TO 29/10/2024	<p>Symmetry elements, enantiomers, optical activity, properties of enantiomers, chiral and achiral molecules (up-to 2 asymmetric centres), diastereomers, threo- and erythro-nomenclature, meso-compounds, Relative and absolute configuration, sequence rules, R and S system of nomenclature. Cis- Trans isomerism, E & Z system of nomenclature, Conformational analysis of ethane and n-butane, conformations of cyclohexane, axial and equatorial bonds. Newman and Sawhorse projection formulae.</p>
5/11/2024 TO 20/11/2024	<p>Benzene and its derivatives:</p> <p>Nomenclature, Aromatic nucleus and side chain, Huckels' rule of aromaticity.</p> <p>Aromatic electrophilic substitution, mechanism of nitration, halogenation, sulphonation, and Friedel Crafts reaction. Energy profile diagrams.</p> <p>Activating, deactivating substituents and orientation.</p>
21/11/2024 TO 28/11/2024	<p>Alkyl halides: Nomenclature, methods of formation: from alkenes and alcohol, nucleophilic substitution reactions of alkyl halides, SN₂ and SN₁ reactions with energy profile diagrams.</p> <p>Aryl halides: Methods of formation: halogenation, Sandmeyer reaction. The addition-elimination, and the elimination- addition mechanisms of nucleophilic aromatic substitution reactions.</p> <p>Relative reactivities of alkyl halides vs allyl, vinyl, and aryl halides.</p>