DAV PUBLIC SCHOOL, HEHAL, RANCHI

Syllabus 2025-26

Subject- Chemistry **Class-XII**

MONTH	CHAPTER	CONTENT
April 2025	1. Solutions	• Types of solutions. • Expression of concentration of solutions of solids in liquids. • Solubility of gases in liquid, solid in liquid. • Colligative properties: relative lowering of vapour pressure, Raoult's law, elevation of boiling point, depression of freezing point, osmotic pressure • Determination of molecular masses using colligative properties • Abnormal molecular mass, Vant Hoff factor
	2. Electrochemistry	• EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells. • Relationship between Gibbs free energy change and EMF of the cell.
May 2025	2.Electrochemistry	• Conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration. Kohlrausch's Law. • Electrolysis and laws of electrolysis • Dry cell, Electrolytic cells. Galvanic cells, Lead accumulator, Fuel cells , Corrosion
June 2025	3.Chemical kinetics	• Rate of a reaction (average and instantaneous) • Factors affecting rates of reaction. Order and molecularity of a reaction • Rate law and specific rate constant, integrated rate equations and half life (only for zero and first order reactions) • Activation energy, Arrhenius equation • Concept of collision theory (elementary idea, no mathematical treatment)
	4.d- and f- block elements	• General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first-row transition metals – metallic character, ionization enthalpy, oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation.
July 2025	4.d- and f- block elements	• Preparation and properties of $K_2Cr_2O_7$ and $KMnO_4$. • Lanthanoids – electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. • Actinoids – Electronic configuration, oxidation states and comparison with lanthanoids.
	5.Coordination compounds	• Coordination compounds: Introduction, Werner's theory, ligands, coordination number, colour, magnetic properties and shapes • IUPAC nomenclature of mononuclear coordination compounds • isomerism (structural and stereo),bonding, VBT, CFT • Importance of coordination compounds.
August 2025	6.Haloalkanes and haloarenes	• Haloalkanes: Nomenclature, nature of C-X bond, physical and chemical properties, mechanism of substitution reactions. Optical isomerism. • Haloarenes: Nature of C-X bond, substitution reactions (directive influence of halogen for mono substituted compounds only). • Uses and environmental effects of – dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.

	7.Alcohols,phenols and ethers	● Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only),identification of primary, secondary and tertiary alcohols; mechanism of dehydration, uses, with special reference to methanol and ethanol. ● Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophillic substitution reactions, uses of phenols. ● Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.
September 2025	**HALF YEARLY EXAMINATION 2025**	
October 2025	8.Aldehydes,Ketones and carboxylic acids	● Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, and mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes; uses. ● Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties, uses
November 2025	9. Amines 10. Biomolecules	● Preparation, physical and chemical properties, uses, identification of primary secondary and tertiary amines. ● Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry. ● Carbohydrates – Classification (aldoses and ketoses), monosaccharide (glucose and fructose), D-L configuration, oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen): importance of carbohydrates. ● Proteins - Elementary idea of a - amino acids, peptide bond, polypeptides, proteins, primary structure, secondary structure, tertiary structure and quaternary structure (qualitative idea only), denaturation of proteins; enzymes. ● Vitamins – Classification and functions. ● Nucleic Acids: DNA and RNA
December 2025	**Revision from Sample Paper and First Pre Board Examination**	
January 2025	**Revision from Sample Paper and Second Pre Board Examination**	
February 2025	**Board Examination**	