BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session

2025-26

Class: XII
Subject: Chemistry

SYLLABUS			
MONTH	**CHAPTER (NCERT Text book)**	**CONTENT**	**Practical/Activities**
April	**Unit 1:** Solutions	Solutions: Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gases in liquids, solid solutions, Raoult's law, colligative properties - relative lowering of vapour pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, Van't Hoff factor.	Determination of concentration/ molarity of KMnO4 solution by titrating it against a standard solution of Ferrous Ammonium Sulphate .
	Unit 2: Electrochemistry	Redox reactions, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and EMF of a cell, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.	Determination of strength of a given solution of Sodium hydroxide by titrating it against standard solution of Oxalic acid

May	**Unit 3:** Chemical Kinetics **Unit 4:** d and f block elements	Rate of a reaction (Average and instantaneous), factors affecting rate of reaction: concentration, temperature, catalyst; 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), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation. 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 interstitial compounds, alloy formation, preparation and properties of K2Cr2O7 and KMnO4.	Preparation of one lyophilic Lyophilic sol - starch, egg albumin and gum Effect of concentration and temperature on the rate of reaction between Sodium Thiosulphate and Hydrochloric acid.
July	**Unit 4:** d and f block elements **(cont't)** **Unit 5:** Coordination Compounds	Lanthanoids – Electronic configuration, oxidation states, chemical reactivity and lanthanoid contraction and its consequences. Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids Coordination compounds - Introduction, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's theory, VBT, and CFT; structure and stereoisomerism, the importance of coordination compounds (in qualitative analysis, extraction of metals and biological system).	Preparation of double salt of Ferrous Ammonium Sulphate Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups.

August	**Unit 6**: Halo Alkanes & Halo Arenes **Unit 7**: Alcohols, Phenols and Ethers	Haloalkanes: Nomenclature, nature of C–X bond, physical and chemical properties, optical rotation mechanism of substitution reactions. Haloarenes: Nature of C–X bond, substitution reactions (Directive influence of halogen in monosubstituted compounds only). Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT. 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, electrophilic substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.	Tests for the functional groups present in organic compounds: Unsaturation, alcoholic, phenolic, aldehydic, ketonic, carboxylic and amino (Primary) groups. Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs.
September	**Unit 8:** Aldehydes, Ketones & Carboxylic Acids **Unit 9:** Amines	Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation, physical and chemical properties, mechanism of nucleophilic addition, reactivity of alpha hydrogen in aldehydes, uses. Carboxylic Acids: Nomenclature, acidic nature, methods of preparation, physical and chemical properties; uses. Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical properties, uses, identification of primary, secondary and tertiary amines. Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry	Characteristic tests of carbohydrates, fats and proteins in pure samples and their detection in given foodstuffs. Separation of pigments from extracts of leaves and flowers by paper chromatography and determination of Rf values.

October	**Unit 10:** Biomolecules	Carbohydrates - Classification (aldoses and ketoses), monosaccharides (glucose and fructose), D-L configuration oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen); Importance of carbohydrates. Proteins - Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of proteins - primary, secondary, tertiary structure and quaternary structures (qualitative idea only), denaturation of proteins; enzymes. Hormones - Elementary idea excluding structure. Vitamins - Classification and functions. Nucleic Acids: DNA and RNA.	Determination of one cation and one anion in a given salt. Cation : Pb2+, Cu2+ As3+, Aℓ3+, Fe3+, Mn2+, Zn2+, Cu2+, Ni2+, Ca2+, Sr2+, Ba2+, Mg2+, NH4 + Anions: (CO3) 2- , S2- , (SO3) 2- , (NO2) - , (SO4) 2- , Cℓ - , Br- , I- , PO3- 4, (C2O4) 2- , CH3COO- ,NO3
November	Revision Pre-Board Exam		Determination of one cation and one anion in a given salt. Cation : Pb2+, Cu2+ As3+, Aℓ3+, Fe3+, Mn2+, Zn2+, Cu2+, Ni2+, Ca2+, Sr2+, Ba2+, Mg2+, NH4 + Anions: (CO3) 2- , S2- , (SO3) 2- , (NO2) - , (SO4) 2- , Cℓ - , Br- , I- , PO3- 4, (C2O4) 2- , CH3COO- ,NO3
December	Revision Pre-Board Exam		
January	Revision		
February	Revision		

ASSESSMENT SYLLABUS	
PERIODIC ASSESSMENT -1	Unit 1: Solutions Unit 2: Electrochemistry Unit 2: Chemical Kinetics (Done till date)
PERIODIC ASSESSMENT -2	Unit 4: d and f block elements Unit 5: Coordination compounds Unit 6: HaloAlkanes and Halo Arenes

MID-TERM EXAM	Unit 1: Solutions Unit 2: Electrochemistry Unit 3: Chemical Kinetics Unit 4: d and f block elements Unit 5: Coordination compounds Unit 6: Halo Alkanes and Halo Arenes

PRE-BOARD EXAM	Unit 1: Solutions Unit 2: Electrochemistry Unit 3: Chemical Kinetics Unit 4: d and f block elements Unit 5: Coordination compounds Unit 6: Halo Alkanes and Halo Arenes Unit 7: Alcohols, Phenols and Ethers Unit 8: Aldehydes, ketones and Carboxylic acids Unit 9: Amines Unit 10: Biomolecules
BOARD EXAM	Unit 1: Solutions Unit 2: Electrochemistry Unit 3: Chemical Kinetics Unit 4: d and f block elements Unit 5: Coordination compounds Unit 6: Halo Alkanes and Halo Arenes Unit 7: Alcohols, Phenols and Ethers Unit 8: Aldehydes, ketones and Carboxylic acids Unit 9: Amines Unit 10: Biomolecules