BLOOM PUBLIC SCHOOL

C-8 Vasant Kunj, New Delhi

Syllabus for the Session 2023-24

Class: XII

Subject: Chemistry

SYLLABUS		
MONTH	**CHAPTER (NCERT Text book)**	**CONTENT**
April	Unit 2: 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.
	Unit 3: 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.
May	Unit 4: Chemical Kinetics	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.
	Unit 14: 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.
July	Unit 14: Biomolecules Unit 8: d and f block elements	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.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 $K_2Cr_2O_7$ 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.

August	Unit 9: Coordination Compounds	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).
	Unit 10: Halo Alkanes & Halo Arenes	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.
September	Unit 11: 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, electrophilic substitution reactions, uses of phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.
	Unit 12: Aldéhydes, Ketones & Carboxylic Acids (Cont'd)	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.
October	Unit 12: Aldéhydes, Ketones & Carboxylic Acids (Cont'd)	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.

	Unit 13: Amines	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.
November	Revision Pre-Board Exam	
December	Revision Pre-Board Exam	
January	Revision	
February	Revision	
March	Board Exams	

ASSESSMENT SYLLABUS

PERIODIC ASSESSMENT -1	Unit 2: Solutions Unit 3: Electrochemistry Unit 4: Chemical Kinetics(Done till date)
PERIODIC ASSESSMENT -2	Unit 8: d and f block elements Unit 9: Coordination compounds Unit 14: Biomolecules
MID-TERM EXAM	Unit 2: Solutions Unit 3: Electrochemistry Unit 4: Chemical Kinetics Unit 8: d and f block elements Unit 9: Coordination compounds Unit 10: Halo Alkanes and Halo Arenes Unit 14: Biomolecules
PRE-BOARD EXAM	Unit 2: Solutions Unit 3: Electrochemistry Unit 4: Chemical Kinetics Unit 8: d and f block elements Unit 9: Coordination compounds Unit 10: Halo Alkanes and Halo Arenes

	Unit 11: Alcohols, Phenols and Ethers Unit 12: Aldehydes, ketones and Carboxylic acids Unit 13: Amines Unit 14: Biomolecules
BOARD EXAM	Unit 2: Solutions Unit 3: Electrochemistry Unit 4: Chemical Kinetics Unit 8: d and f block elements Unit 9: Coordination compounds Unit 10: Halo Alkanes and Halo Arenes Unit 11: Alcohols, Phenols and Ethers Unit 12: Aldehydes, ketones and Carboxylic acids Unit 13: Amines Unit 14: Biomolecules