

Class- XII
Subject : Chemistry
Syllabus(2022-23)

Month	Name of Book	Chapter & Topics	Teaching Periods	Revision Period	Practical
April	Chemistry Class 12 th	Unit-2 : Solutions	15	2 2	A (8)
May	do	Unit-3 : Electro Chemistry	10 8	3 2	B (8) C (6)
June	Summer Vacation				
July	do	Unit-4 : Chemical Kinetics	9 9	2 2	D (7) E (7)
August	do	Unit-8 : d & f Block Elements	16	6	F (7) G (7)
September	do	Unit-9 : Co-ordination compounds	10 9	3 2	H (8)
October	do	Unit-10 : Halo Alkanes And Halo Arenes Unit-11 : Alcohols	9 12	1 2	I (10)
November	do	Unit-11: Phenols and Ethers Unit-12 : Aldehydes, Ketones	16	4	J (10)
December	do	Unit-12: Carboxylic Acids Unit-13 : Amines and Diazonium Salts	8 10	1 2	K (8)
January	do	Unit-14 : Biomolecules	8 8	2 2	K (10) Cont.
February		Revision of the syllabus			
March		Exam			

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Unit-2: Solution: **April** Periods-10 Revision-2 Marks-4

Types of solutions, expression of concentration of solution of solid in liquids, solubility of gases in liquids, (Henry's law) solid solutions, colligative properties- relative lowering of vapour pressure, Raoult's law, ideal and non Ideal solutions, osmotic pressure, osmosis and its applications, depression of freezing point, elevation of boiling point, determination of molecular masses using colligative properties, Abnormal molecular masses, Van't Hoff- factor, Van't Hoff equation for colligative properties.

Unit-3: Electrochemistry: **May** Periods-10 Revision-3 Marks-4

Redox reactions, conductance in electrolytic solutions, specific and molar conductivity, variation of conductivity with concentration, Kohlrausch's law, electrolysis and laws of electrolysis (only elementary Idea), Electrochemical cell, (construction, representation and working) dry cell- electrolytic cells, lead accumulator, Ni-cd cell, fuel cell, EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, reference electrode (NHE) Relation between Gibb's free energy change and EMF of a cell, Electrochemical series and its applications, corrosion (Rusting of Iron and its methods of prevention).

Unit-4: Chemical Kinetics: **May** Periods-8 Revision-2 Marks-4

Rate of reaction (Average and instantaneous), factors affecting on the 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.

June Summer Vacation 1st june to 30th june.

Unit-8: d and f block elements:

September. Periods-10 Revision-3 Marks-5

General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the First row transition metals- metallic character, atomic size, ionic radii, melting & boiling point, Ionization enthalpy, oxidation state, colour, formation of complex compounds, catalytic properties, 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.

Unit-9: Coordination compounds:

September. Periods-9 Revision-2 Marks-3

Coordination compounds- Introduction, difference between Coordination compounds and double salts, ligands, coordination number, colour, magnetic properties and shapes, IUPAC nomenclature of mono nuclear Coordination compounds, bonding in complex compounds, Werner's theory, VBT and CFT: Structure and stereo isomerism, importance of Coordination compounds (In qualitative inclusion, extraction of metals and biological system).

Unit-10: Haloalkanes and Haloarenes:

October Periods-9 Revision- Marks-4

Haloalkanes: Nomenclature, nature of C-X bond physical and chemical properties, mechanism of substitution reaction, optical rotation.

Haloarenes: Nature of C-X bond, substitution reaction (Directive Influence of halogen in monosubstituted compounds only)

Uses and environmental effects of – dichloromethane, trichloro methane, tetra chloro methane, Iodoform, freons, DDT.

Unit-11: Alcohols, Phenols and Ethers:

October Periods-12 Revision-2 Marks-4

Alcohols: Nomenclature, methods of preparation, physical and chemical properties (Primary alcohols only), Identification of Primary, Secondary and Tertiary alcohols, Mechanism of dehydration of alcohols, uses of alcohol with special reference to ethanol and methanol.

Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenol.

Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.

Unit-12: Aldehydes, Ketones and Carboxylic acids:

November Periods-16 Revision-4 Marks-6

Aldehydes and Ketones: Nomenclature, nature of carbonyl group, methods of preparation of aldehyde & ketones, 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.

Unit-13: Organic compounds containing Nitrogen:

December Periods-8 Revision-1 Marks-3

Amines: Nomenclature, classification, structure, methods of preparation, Physical and chemical properties, basic nature of amines.

Identification of primary, secondary and tertiary amines and uses of amines.

Diazonium salts: Preparation, chemical reaction and importance in synthetic organic chemistry.

Unit-14: Biomolecules:

Decemberr Periods-10 Revision-2 Marks-3

Carbohydrate: Classification (aldoses and ketoses) monosaccharides (glucose and fructose), D-L configuration, oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose, glycogen) importance.

Proteins: Elementary Idea of amino acids, peptide bond, polypeptides, proteins, primary, secondary and tertiary and quaternary structure of proteins. (qualitative Idea only) denaturation of proteins: enzymes.

Vitamins: Classification and deficiency diseases.

Nucleic acids: DNA and RNA.