

Chemistry Syllabus Class XII for the Session 2021-2022

CHEMISTRY CLASS XII TOTAL SYLLABUS IN NCERT TEXT BOOK	CHEMISTRY TERM-WISE SYLLABUS TERM - I (2021-22)	DELETED PORTION FOR TERM - I 2021-22
<p>UNIT - 1 SOLID STATE Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three-dimensional lattices, calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n and p type semiconductors</p>	<p>1. Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea).</p> <p>2. Unit cell in two dimensional and three-dimensional lattices.</p> <p>3. Calculation of density of unit cell, packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell.</p> <p>4. Point defects</p>	<p>1. Electrical and magnetic properties.</p> <p>2. Band theory of metals, conductors, semiconductors and insulators.</p> <p>3. n - type and p - type semiconductors.</p>
<p>UNIT - 2 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</p>	<p>1. Types of solutions, expression of concentration of solutions of solids in liquids.</p> <p>2. Solubility of gases in liquids, solid solutions, Raoult's law.</p> <p>3. Colligative properties - relative lowering of vapor pressure, elevation of boiling point, depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties</p>	<p>1. Abnormal molecular mass</p> <p>2. van't Hoff factor</p>
<p>Unit 7 - p-Block Elements Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; Compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid, Oxides of Nitrogen (Structure only); Phosphorus - allotropic forms, compounds of Phosphorus: Preparation and properties of Phosphine, Halides and Oxoacids (elementary idea only). Group 16 Elements: General</p>	<p>Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; Nitrogen preparation properties and uses; compounds of Nitrogen: preparation and properties of Ammonia and Nitric Acid. Group 16 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen:</p>	<p>Oxides of Nitrogen (Structure only): Phosphorus - allotropic forms, compounds of Phosphorus: Preparation and properties of Phosphine, Halides and Oxoacids (elementary idea only).</p>

<p>introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties, dioxygen: preparation, properties and uses, classification of Oxides, Ozone, Sulphur -allotropic forms; compounds of Sulphur: preparation properties and uses of Sulphur-dioxide, Sulphuric Acid: industrial process of manufacture, properties and uses; Oxoacids of Sulphur (Structures only).</p> <p>Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).</p> <p>Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.</p>	<p>preparation, properties and uses, classification of Oxides, Ozone, Sulphur - allotropic forms; compounds of Sulphur: preparation properties and uses of Sulphur-dioxide, Sulphuric Acid: properties and uses; Oxoacids of Sulphur (Structures only)</p> <p>Group 17 Elements: General introduction, electronic configuration, oxidation states, occurrence, trends in physical and chemical properties; compounds of halogens, Preparation, properties and uses of Chlorine and Hydrochloric acid, interhalogen compounds, Oxoacids of halogens (structures only).</p> <p>Group 18 Elements: General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses.</p>	
<p>Unit 10 - Haloalkanes and Haloarenes</p> <p>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.</p>	<p>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).</p>	<p>Uses and environmental effects of - dichloromethane, trichloromethane, tetrachloromethane, iodoform, freons, DDT.</p>
<p>Unit 11 - Alcohols, Phenols and Ethers</p> <p>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</p>	<p>Alcohols: Nomenclature, methods of preparation, physical and chemical properties (of primary alcohols only), identification of primary, secondary and tertiary alcohols, mechanism of dehydration.</p> <p>Phenols: Nomenclature, methods of preparation, physical and chemical properties, acidic nature of phenol, electrophilic substitution reactions, uses of phenols.</p>	<p>Uses with special reference to methanol and ethanol.</p>

<p>phenols. Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses</p>	<p>Ethers: Nomenclature, methods of preparation, physical and chemical properties, uses.</p>	
<p>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</p>	<p>Carbohydrates – 1. Classification (aldoses and ketoses), monosaccharides (glucose and fructose). D-L configuration 2. 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. 3. Nucleic Acids: DNA and RNA.</p>	<p>1. Oligosaccharides (sucrose, lactose, maltose). 2. Polysaccharides (starch, cellulose, glycogen), 3. Importance of carbohydrates. 4. Vitamins– classification and functions. Enzymes. 5. Hormones - Elementary idea excluding structure.</p>