

# Contents

## Class 11

<b>1. Some Basic Concepts of Chemistry</b>	<b>1-27</b>
<i>Topic-1</i> Fundamental Concepts and Laws of Chemical Combination	
<i>Topic-2</i> Mole Concept, Atomic & Molecular Masses, Empirical & Molecular Formula, Concentration Terms & Basic Stiochiometry	
<i>Topic-3</i> Equivalent Concept, Neutralisation, Redox Titration and Advanced Stiochiometry	
<b>2. Atomic Structure</b>	<b>28-51</b>
<i>Topic-1</i> Preliminary Developments, Bohr's Model and Photoelectric effect	
<i>Topic-2</i> Dual Nature of Matter, Heisenberg's Uncertainty Principle	
<i>Topic-3</i> Quantum Mechanical Model	
<b>3. Classification of Elements and Periodicity in Properties</b>	<b>52-64</b>
<i>Topic-1</i> Modern Periodic Law & Present Form of Periodic Table	
<i>Topic-2</i> Periodic Trends in Properties of Elements	
<b>4. Chemical Bonding and Molecular Structure</b>	<b>65-93</b>
<i>Topic-1</i> Ionic & Covalent Bonding, Fajan's Rule, Resonance, Dipole Moment, Bond Parameters	
<i>Topic-2</i> VBT, Hybridisation and VSEPR Theory	
<i>Topic-3</i> MOT & Hydrogen Bonding	
<b>5. States of Matter</b>	<b>94-115</b>
<i>Topic-1</i> Gaseous State	
<i>Topic-2</i> Liquid State	
<b>6. Thermodynamics</b>	<b>116-143</b>
<i>Topic-1</i> Fundamental of Thermodynamics	
<i>Topic-2</i> First Law of Thermodynamics	
<i>Topic-3</i> Second Law of Thermodynamics	
<i>Topic-4</i> Thermochemistry	
<b>7. Chemical Equilibrium</b>	<b>144-163</b>
<i>Topic-1</i> Chemical Equilibrium, Law of Mass Action and Equilibrium Constant	
<i>Topic-2</i> Le-Chatelier's Principle and Factors Affecting Chemical Equilibrium	

<b>8. Ionic Equilibrium</b>	<b>164-185</b>
Topic-1 Ostwald's Dilution Law and Concepts of Acids and Bases	
Topic-2 Solubility Product and Common Ion Effect	
Topic-3 pH, Buffer, Indicators and Salt Hydrolysis	
<b>9. Redox Reactions</b>	<b>186-194</b>
Topic-1 Oxidation - Reduction, Oxidation Number and Redox Reactions	
Topic-2 Balancing of Redox Reactions	
<b>10. Hydrogen</b>	<b>195-203</b>
Topic-1 Preparation and Properties of Hydrogen and Hydrides	
Topic-2 Preparation and Properties of H <sub>2</sub> O and D <sub>2</sub> O	
Topic-3 Preparation and Properties of H <sub>2</sub> O <sub>2</sub>	
<b>11. s-Block Elements</b>	<b>204-219</b>
Topic-1 Group 1 Elements & Their compounds	
Topic-2 Group 2 Elements & Their compounds	
<b>12. p-Block Elements - 1</b>	<b>220-233</b>
Topic-1 Group-13 Elements (Boron Family)	
Topic-2 Group-14 Elements (Carbon Family)	
<b>13. Organic Chemistry: Some Basic Principles &amp; Techniques</b>	<b>234-264</b>
Topic-1 Classification & Nomenclature of Organic Compounds	
Topic-2 Isomerism in Organic Compounds	
Topic-3 Concept of Reaction Mechanism & Organic Reactions	
Topic-4 Purification & Characterisation of Organic Compounds	
<b>14. Hydrocarbons</b>	<b>265-302</b>
Topic-1 Alkanes	
Topic-2 Alkenes	
Topic-3 Alkynes	
Topic-4 Aromatic Hydrocarbons	
<b>15. Environmental Chemistry</b>	<b>303-312</b>
Topic-1 Air Pollution	
Topic-2 Water Pollution and Green Chemistry	

**Class 12**

- 16. Solid State** **313-324**
- Topic-1* Types and Properties of Solids  
*Topic-2* Crystal Structure, Cubic System, Bragg's Equation & Imperfection in Solids
- 
- 17. Solutions** **325-348**
- Topic-1* Expression of Concentration of Solutions  
*Topic-2* Vapour Pressure, Henry's Law and Raoult's Law  
*Topic-3* Colligative Properties, Abnormal Molecular Masses & van't Hoff Factor
- 
- 18. Electrochemistry** **349-380**
- Topic-1* Conductance and Electrolysis  
*Topic-2* Electrochemical Cells, Nernst Equation  
*Topic-3* Batteries, Fuel Cells and Corrosion
- 
- 19. Chemical Kinetics** **381-413**
- Topic-1* Rate of Reaction and Rate Expression  
*Topic-2* Order, Molecularity and Half- life Period  
*Topic-3* Arrhenius Theory, Activation Energy, Collision and Related Theories  
*Topic-4* Nuclear Chemistry
- 
- 20. Surface Chemistry** **414-426**
- Topic-1* Adsorption  
*Topic-2* Catalysis  
*Topic-3* Colloids, Micelles and Emulsions
- 
- 21. General Principles and Processes of Isolation of Metals** **427-440**
- Topic-1* Occurrence of Metals and Metallurgical Processes  
*Topic-2* Purification and Uses of Metals
- 
- 22. p-Block Elements - 2** **441-466**
- Topic-1* Group 15 Elements  
*Topic-2* Group 16 Elements  
*Topic-3* Group 17 Elements  
*Topic-4* Group 18 Elements
- 
- 23. d- and f- Block Elements** **467-482**
- Topic-1* Properties and Compounds of Transition Elements  
*Topic-2* Properties and Compounds of Inner Transition Elements

<b>24. Coordination Compounds</b>	<b>483-521</b>
Topic-1 Coordination Number, Nomenclature and Isomerism of Coordination Compounds	
Topic-2 Bonding, CFT, Hybridisation and Properties of Coordination Compounds	
<b>25. Haloalkanes &amp; Haloarenes</b>	<b>522-552</b>
Topic-1 Haloalkanes	
Topic-2 Haloarenes	
Topic-3 Polyhalogen Compounds	
<b>26. Alcohols, Phenols and Ethers</b>	<b>553-593</b>
Topic-1 Preparation, Properties and Uses of Alcohols	
Topic-2 Preparation, Properties and Uses of Phenols	
Topic-3 Preparation, Properties and Uses of Ethers	
<b>27. Aldehydes, Ketones and Carboxylic Acids</b>	<b>594-659</b>
Topic-1 Preparation, Properties and Uses of Aldehydes	
Topic-2 Preparation, Properties and Uses of Ketones	
Topic-3 Preparation, Properties and Uses of Carboxylic Acids	
<b>28. Amines</b>	<b>660-694</b>
Topic-1 Aliphatic Amines	
Topic-2 Aromatic Amines	
Topic-3 Diazonium Salts and Other Nitrogen Containing Compounds	
<b>29. Biomolecules</b>	<b>695-716</b>
Topic-1 Carbohydrates	
Topic-2 Proteins and Enzymes	
Topic-3 Vitamins and Nucleic Acids	
<b>30. Polymers</b>	<b>717-727</b>
Topic-1 Classification, Properties and Preparation of Polymers	
Topic-2 Uses of Polymers	
<b>31. Chemistry in Everyday Life</b>	<b>728-733</b>
Topic-1 Chemicals in Medicines	
Topic-2 Chemicals in Foods	
Topic-3 Cleansing Agents	
<b>32. Principles Related to Practical Chemistry</b>	<b>734-753</b>
Topic-1 Experiments Involving Physical Chemistry	
Topic-2 Analysis of Inorganic Compounds	
Topic-3 Analysis of Organic Compounds	