

CHEMISTRY

Part – I	60 Marks
Part – II	60 Marks
Practical	30 Marks
Total	150 Marks

Part-I (Class-IX)	Marks: 60	Time: 2:00 Hours
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Chapter-1 : STATES OF MATTER AND PHASE CHANGES

- 1.1 What is Chemistry?
- 1.2 States of Matter
- 1.3 Element, Compound and Mixture
- 1.4 Allotropic Forms of Substances
- 1.5 Differences Between Elements, Compounds and Mixtures
- 1.6 Solution, Colloidal Solution and Suspension
- 1.7 Formation of Unsaturated and Saturated Solutions
- 1.8 Effect of Temperature on the Solubility of Solutes

Chapter-2 : ATOMIC STRUCTURE

- 2.1 Structure of Atom
- 2.2 Atomic Number and Mass Numbers
- 2.3 Isotopes and their Masses
- 2.4 Relative Atomic Mass

Chapter-3 : CHEMICAL BONDING

- 3.1 Why do Atoms form Chemical Bonds?
- 3.2 Chemical Bond
- 3.3 Metallic Bond
- 3.4 Electropositive Character of Metals
- 3.5 Electronegative Character of Non-Metals
- 3.6 Compare the Properties of Ionic and Covalent Compounds
- 3.7 Intermolecular Forces of Attraction
- 3.8 Nature of Bonding and Properties

Chapter-4 : STOICHIOMETRY

- 4.1 Chemical Formula
- 4.2 Empirical Formula
- 4.3 Chemical Formulas of Binary Ionic Compounds
- 4.4 Chemical Formulas of Compounds
- 4.5 Deduce the Molecular Formula from the Structural Formula
- 4.6 Avogadro's Number (N_A)
- 4.7 The Mole and Molar Mass
- 4.8 Chemical Equations and Chemical Reactions
- 4.9 Calculations Based on Chemical Equation

Chapter-5 : ENERGETICS

- 5.1 System and Surrounding
- 5.2 Enthalpy
- 5.3 Exothermic and Endothermic Reactions
- 5.4 How does a Reaction Take Place?
- 5.5 Aerobic and Anaerobic Respiration

Chapter-6 : EQUILIBRIA

- 6.1 Reversible and Irreversible Changes
- 6.2 Dynamic Equilibrium
- 6.3 Changing the Physical Conditions of a Chemical Reaction

Chapter-7 : ACID BASE CHEMISTRY

- 7.1 Acid and Bases
- 7.2 Different Concepts of Acids and Bases

- 7.3 Bronsted – Lowry concepts of Acids and Bases
- 7.4 Properties of Acids and Bases
- 7.5 Acid Rain and its Effects

Chapter-8 : PERIODIC TABLE AND PERIODICITY

- 8.1 Modern Periodic Table
- 8.2 Salient Features of Modern Periodic Table
- 8.3 Similarities in the Chemical Properties of Elements in the Same Group
- 8.4 Variation of Periodic Properties in Periods and Groups
- 8.5 Metallic Character and Reactivity

Chapter-9 : GROUP PROPERTIES AND ELEMENTS

- 9.1 Properties of Group 1 Elements
- 9.2 Properties of Group 17 Elements
- 9.3 Group Properties of Transition Elements
- 9.4 Properties of Noble Gases
- 9.5 Physical Properties of Metals and Non-Metals

Chapter-10 : ENVIRONMENTAL CHEMISTRY

- Introduction
- 10.1 Composition of Atmosphere
- 10.2 Air Pollutants
- 10.3 Acid Rain
- 10.4 Global Warming (Greenhouse Effect)
- 10.5 Strategies to Reduce Environmental Issues

Chapter-11 : HYDROCARBONS

- Introduction
- 11.1 Hydrocarbons
- 11.2 Alkanes
- 11.3 Preparation of Alkanes
- 11.4 Important Reactions

Chapter-12 : EMPIRICAL DATA COLLECTION AND ANALYSIS

- Introduction
- 12.1 SI Units of Chemistry
- 12.2 Tools and Techniques to Manage Accuracy and Precision
- 12.3 Accuracy and Precision

Chapter-13 : LABORATORY AND PRACTICAL SKILLS

- Introduction
- 13.1 Chemical Hazards in the Laboratory
- 13.2 Hazard Signs
- 13.3 Personal Protective Equipment (PPE) in the Laboratory
- 13.4 Location of Fire Extinguisher
- 13.5 Emergency Situation in the Lab

Prescribed Book: Chemistry for Part – I (Class –IX)

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