CHEMISTRY HSSC-I (2025)

Most Expected Topics (METS) | Lecturer: Ayesha Amjad

Chapter 2: Atomic Structure

1. Quantum Numbers *(Long, Short, MCQs)* VVIP
2. Rules for Electronic Configuration *(Long, Short, MCQs)* VVIP
3. Ionization Energy, Atomic Radius & Factors *(Long, Short, MCQs)* VVIP
4. Mass Spectrometry *(Long, Short, MCQs)*
5. Shapes of Orbital *(Short, MCQs)*

Exercise: Short Q2 (v, vi, ix, x, xiii), Long Q6

Chapter 3: Chemical Bonding

1. VSEPR Theory (VBT) *(Long, Short, MCQs)* VVIP
2. Molecular Orbital Theory (MOT) *(Long, Short, MCQs)* VVIP
3. Hybridization *(Long, Short, MCQs)* VVIP
4. Intermolecular Forces *(Long, Short, MCQs)*
5. Co-ordinate Covalent & Dipole Moment *(Short, MCQs)*

Exercise: Q2, 3, 4, 10, 11

Chapter 4: Stoichiometry

1. Mole Calculations *(Long, Short, MCQs)* VVIP
2. Limiting & Non-limiting Reactants *(Long, Short, MCQs)* VVIP
3. Theoretical & Actual Yield *(Long, Short, MCQs)* VVIP

Examples: 4.6, 4.7, 4.11, 4.12 | **Exercise:** Long 5, 7, 8, 15

Chapter 5: States & Phases of Matter

1. Viscosity & Surface Tension *(Long, Short, MCQs)*
2. Evaporation, Boiling Point & Vapour Pressure *(Short, MCQs)*
3. Crystalline Solids & Types *(Short, MCQs)*

Exercise: Short (iii, iv), Q6, 11, 12

Chapter 6: Energetics

1. Hess Law & Born Haber Cycle *(Long, Short)*
2. Lattice Energy & Factors *(Long, Short)*
3. Bond Energy & Enthalpy Numericals *(Short)*

Examples: 6.3, 6.8, 6.9, 6.10 | **Exercise:** 3, 6, 8, 15, 16

Chapter 7 & 8: Kinetics & Equilibrium

1. Order of Reaction & Rate Equation *(Long, Short)*
2. Le-Chatelier's Principle *(Long, Short, MCQs)*
3. Relationship of Kc, Kp, Kx, Kn *(Short, MCQs)*

Exercise (Ch 7): Q3, 10, 11, 15 | **Exercise (Ch 8):** 6, 7, 9, 13, 15

Chapter 9: Acid Base Chemistry

1. Salt Hydrolysis & Common Ion Effect *(Long, Short, MCQs)*
2. Ka, Kb & pH Numericals *(Long, Short, MCQs)*
3. Buffer Solution & Solubility Product *(Short, MCQs)*

Exercise: Q2 (v, vi, ix), Q7, 8, 9

Chapter 10 - 14: Inorganic & Environment

1. Periodic Trends & Oxidation Numbers *(Long, Short)*
2. Reaction of Chlorides with Water *(Long, Short)*
3. Photochemical Smog & PAN Mechanism *(Short, MCQs)*
4. Halogen Reactions & Acid Rain *(Short, MCQs)*

Chapter 15 - 18: Organic Chemistry

1. Free Radical Substitution of Alkane *(Long, Short, MCQs)*
2. Preparation & Reactions of Alkenes *(Long, Short, MCQs)*
3. Nucleophilic Substitution (Alkyl Halides) *(Short, MCQs)*
4. Isomerism & IUPAC Nomenclature *(Long, Short)*

Note: Preparation of Alcohol and Alkyl Halide reactions (NaOH, KCN, NH3) are key.

Best of luck for your exams! Generated for Study Hub PK.