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CLASS 12

Chemistry

Chapterwise Important Questions

10 sections | 40 original questions | 2026-27

Read each chapter, attempt the questions, and support explanations with working or textbook evidence.

Choose a chapter or topic

Chemistry	
Unit 1	Solutions
Unit 2	Electrochemistry
Unit 3	Chemical Kinetics
Unit 4	The d- and f-Block Elements
Unit 5	Coordination Compounds
Unit 6	Haloalkanes and Haloarenes
Unit 7	Alcohols, Phenols and Ethers
Unit 8	Aldehydes, Ketones and Carboxylic Acids
Unit 9	Amines
Unit 10	Biomolecules

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UNIT 1

Solutions

Chemistry

1. Calculate molality when 0.10 mol solute is dissolved in 0.50 kg solvent.
2. Explain why vapour pressure falls when a non-volatile solute is added to an ideal solution.
3. Distinguish positive and negative deviations from Raoult's law.
4. Explain how abnormal molar mass can result from association or dissociation.

UNIT 2

Electrochemistry

Chemistry

1. Write the cell notation and electrode reactions for a zinc-copper galvanic cell.
2. Use the Nernst equation to explain how concentration affects cell potential.
3. Compare electrolytic conductivity and molar conductivity during dilution.
4. Explain how electrochemical principles account for corrosion of iron.

UNIT 3

Chemical Kinetics

Chemistry

1. Determine the reaction order when doubling reactant concentration quadruples the rate.
2. A first-order reaction has rate constant k. Derive or state its half-life relation.
3. Distinguish molecularity from order of reaction.

4. Explain how a catalyst changes activation energy without changing the equilibrium constant.

UNIT 4

The d- and f-Block Elements

Chemistry

1. Why do many transition-metal ions form coloured compounds?
2. Explain variable oxidation states using the valence orbitals of transition elements.
3. What is lanthanoid contraction and what causes it?
4. Write the reduction half-equation for permanganate in acidic medium. Identify its reduction product and explain why permanganate acts as an oxidising agent.

UNIT 5

Coordination Compounds

Chemistry

1. Name $[Co(NH_3)_6]Cl_3$ and identify coordination number and oxidation state.
2. Distinguish ionisation isomerism from linkage isomerism.
3. Use crystal-field splitting to explain high-spin and low-spin octahedral complexes.
4. Explain the difference between a double salt and a coordination compound in aqueous solution.

UNIT 6

Haloalkanes and Haloarenes

Chemistry

1. Compare SN_1 and SN_2 mechanisms using substrate structure and kinetics.

2. Why is chlorobenzene less reactive towards ordinary nucleophilic substitution than chloroethane?

3. Explain the stereochemical outcome of an SN_2 reaction.

4. Write a conversion route from ethanol to bromoethane, naming a suitable reagent.

UNIT 7

Alcohols, Phenols and Ethers

Chemistry

1. Compare the acidity of phenol and ethanol with a structural explanation.

2. Write reactions that convert ethanol to ethene and to ethanoic acid.

3. Explain Williamson ether synthesis and one limitation involving tertiary halides.

4. How can you distinguish a primary alcohol from a phenol using an appropriate chemical test?

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UNIT 8

Aldehydes, Ketones and Carboxylic Acids

Chemistry

1. Why are aldehydes generally more reactive than ketones towards nucleophilic addition?

2. Use a suitable test to distinguish ethanal from propanone.

3. Write the products of the aldol reaction of ethanal under appropriate conditions.

4. Explain why carboxylic acids are stronger acids than alcohols.

UNIT 9

Amines

Chemistry

1. Compare the basicity of aniline and methylamine using electron effects.
2. Write a suitable route from nitrobenzene to aniline.
3. Explain diazotisation of aniline and the temperature conditions required.
4. How does the Hinsberg test distinguish primary, secondary and tertiary amines?

UNIT 10

Biomolecules

Chemistry

1. Distinguish reducing and non-reducing sugars using glucose and sucrose.
2. Compare the primary and secondary structures of proteins.
3. Explain why enzymes are sensitive to changes in temperature and pH.
4. Distinguish DNA and RNA by sugar, bases and a principal biological role.

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