

For Pdf Material

Class 12th Chemistry Guess Paper 2025

Physical Chemistry

1. Write short notes on:
 - Molarity
 - Molality
 - Mole Fraction
 - Normality
 - Ideal solutions
 - Osmotic Pressure
2. Define Raoult's law for volatile and nonvolatile solutes.
3. Define Boiling Point & Elevation in Boiling Point. How is it used to calculate the molecular weight of a non-volatile solute?
4. Define Freezing Point & Depression in Freezing Point. How is it used to calculate the molecular weight of a non-volatile solute?
5. Define Van't Hoff's Factor and relate it with association and dissociation of electrolytes.
6. Define Rate of Reaction & write its units.
7. What is the average & instantaneous rate of reaction?
8. What are the factors that affect the rate of reaction?
9. What is a first-order reaction? Derive its integrated rate equation and write its half-life period.
10. Discuss the effect of temperature on the rate of reaction.
11. Differentiate between molecularity & order of reaction.
12. Write short notes on:
 - Rate Law
 - Rate Constant
 - Half-Life Period
 - Activation Energy
13. What is Conductance, Specific, Molar & Equivalent Conductance?
14. Construction & working of a Daniel Cell.
15. What is Electrolysis? Explain Faraday's laws of electrolysis.
16. State Kohlrausch's law. What are its applications?

Electrochemistry & Coordination Chemistry

17. Write short notes on:
 - Corrosion
 - Dry cell
 - Lead cell
 - Fuel cell
18. Give the preparation of KMnO_4 & its three oxidizing properties.
19. Give the preparation of $\text{K}_2\text{Cr}_2\text{O}_7$ & its three oxidizing properties.

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20. What is Lanthanoid contraction? Give its causes & consequences.

21. Write short notes on:

- Colour
- Catalytic Properties
- Magnetic Properties

22. Explain Werner's theory of coordination compounds.

23. What is ionization, hydrate, linkage & coordination isomers with one example each?

24. Write short notes on:

- Coordination number
- Coordination complex
- Coordination polyhedra
- Denticity with examples
- Spectrochemical series
- Ambidentate ligands

25. What are the applications of coordination compounds?

Organic Chemistry

26. How is chlorobenzene prepared from aniline? Discuss electrophilic substitution reactions of chlorobenzene.

27. Write short notes on:

- Finkelstein & Swarts reactions
- Ambident nucleophiles
- Enantiomers
- Racemization
- DDT

28. Write five differences between SN^1 & SN^2 reactions.

29. How is ethanol prepared from:

- Ethene
- Acetaldehyde
- C_2H_5Br

30. How is phenol prepared from:

- Benzene
- Chlorobenzene
- Aniline
- Cumene

31. Discuss nitration & halogenation in phenol.

32. Write short notes on:

- Reimer-Tiemann reaction
- Kolbe's reaction
- Williamson synthesis of ethers

33. How is acetaldehyde prepared from:

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- Ethyne
 - Propene
 - C_2H_5OH
 - CH_3CN
34. Give three preparation & three chemical properties of acetic acid.
35. Give three preparation & three chemical properties of benzoic acid.
36. Write short notes on:
- Aldol condensation
 - Cannizzaro's reaction
 - Tollens & Fehling's test
 - Iodoform reaction
 - Decarboxylation
 - HVZ reaction
37. Discuss classification & basic nature of amines.
38. Write short notes on:
- Gabriel phthalimide synthesis
 - Hoffmann bromamide degradation
 - Hoffmann's exhaustive ammonolysis
39. What is diazotization? Give chemical properties of benzene diazonium chloride.
40. Discuss bromination, nitration & sulphonation of aniline.

Biomolecules & Polymers

41. Give three chemical properties of glucose.
42. Explain the cyclic structure of glucose (Haworth structures).
43. Describe briefly:
- Sucrose
 - Maltose
 - Lactose
44. Proteins (Structure) and Amino acids.
45. What are vitamins and how are they classified?
46. What is the difference between DNA and RNA?
47. Write a note on the denaturation of proteins.