

Sample Question Paper
Class-XII
Chemistry

Time allowed: 3 Hours

M.M.70

All Questions are compulsory.

Q.No. 1 to 8 carry 1 mark each.

Q.No.9 to 18 carry 2 marks each.

Q.No. 19 to 27 carry 3 marks each.

Q.No.28 to 30 carry 5 marks each.

Use log table, if necessary.

- Q.1. What is the difference between starch and cellulose?
- Q.2. Why is the activation energy of reaction decreases with rise in temperature?
- Q.3. Write IUPAC name of $K_4[Fe(CN)_6]$
- Q.4. Write reaction of chlorine with hot and concentrated caustic soda?
- Q.5. Write IUPAC name of $PhCH_2CH=CHCHO$?
- Q.6. Why is bond enthalpy of F_2 less than Cl_2 ?
- Q.7. Name the dispersion medium and dispersed phase present in cloud?
- Q.8. Why is aryl halide not prepared from phenol?
- Q.9. An element X has fcc lattice with unit cell is 4.08×10^{-8} cm and density 10.5 g per cu cm. Calculate its atomic mass?
- Q.10. Complete the reaction
 (a) $RNH_2 + CHCl_3 + KOH \rightarrow$
 (b) $C_6H_5N_2Cl + C_2H_5OH \rightarrow$
- Q.11. The treatment of alkyl halide with aqueous KOH lead to the formation of alcohol but in the presence of alcoholic KOH give alkene. Explain why?
- Q.12. (a) What are ambidentate ligand?
 (b) What is spectrochemical series?
- Q.13. (a) What is pseudo first order reactions?
 (b) Define order of reaction.
- Q.14. Why are electric conductivity of metals decreases with rise in temperature?
- Q.15. (a) Write Faraday first law of electrolysis.
 (b) What is the emf of cell when cell reaction attain equilibrium?
- Q.16. Arrange $C_2H_5NH_2, (C_2H_5)_2NH, (C_2H_5)_3N, NH_3$ in increasing order of their basic character.
- Q.17. How will you convert the following?
 (a) Benzene to diphenyl
 (b) Ethanol to but-1-yne
- Q.18. A first order reaction take 40 min for 30% decomposition. Calculate its half life period?
- Q.19. Explain the following
 (a) Electrokinetic potential
 (b) Electrophoresis
 (c) Peptisation
- Q.20. (a) What is the role of graphite rods in metallurgy of aluminium?

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- Q.21. (b) State principles of (i) Vapour phase refining (ii) Zone refining method
 (a) Name two toxic gases prepared from chlorine.
 (b) Draw structure of (i) XeOF_4 (ii) $\text{H}_2\text{S}_2\text{O}_7$
- Q.22. Define with examples (i) Antiseptics (ii) Narcotic analgesics (iii) Tranquilizers
- Q.23. (a) What is the significance of 6,6 in Nylon-6,6 ?
 (b) Name the monomers present in (i) Dacron (ii) Neoprene
- Q.24. (a) What is denaturation of protein ? Give an example.
 (b) Why is vitamin C not stored in our body?
- Q.25. (a) Why are pentahalides are more covalent than trihalides?
 (b) Why is CN^- exists but CP^- does not?
 (c) Why is ICl more reactive than I_2 ?
- Q.26. (a) Why are ethers cleaved by acids but not by bases?
 (b) Why is ethers have less dipole moment than alcohols?
- Q.27. Corrosion of copper, silver and rusting of iron are very common. Both cause enormous damage. Rusting of iron in particular result in the loss of crores of rupees every year. Major accident occur because of this.
 (a) What is the chemical formula of rust?
 (b) Why do silver article become black when exposed to air for a long time?
 (c) Suggest two ways to check rusting of iron.
- Q.28. (a) Why is transition elements show highest oxidation state in their oxides and fluorides?
 (b) Why is actinoids show more numbers of oxidation states than lanthanoids?
 (c) Why are transition elements acts as good catalysts?
 (d) Why is Cu^+ unstable in aqueous solution?
 (e) Complete the reaction $\text{Cr}_2\text{O}_7^{2-} + \text{Fe}^{2+} \rightarrow$
 Or
 (a) Why are transition elements paramagnetic ?
 (b) Calculate spin only magnetic moment for $\text{M}^{2+} (\text{Z}=27)$
 (c) What is lanthanoids contraction?
 (d) Why are transition elements have high enthalpy of atomization?
 (e) Complete the reaction $\text{MnO}_4^- + \text{I}^- \rightarrow$
- Q.29. (a) What is reverse osmosis?
 (b) What is hypertonic and hypotonic solutions?
 (c) Which has higher concentration 1M or 1m solution and why?
 Or
 (a) What type of solution form ideal solutions?
 (b) Why is boiling point of water increases on addition of sodium chloride in it?
 (c) What happen to RBC when they are put in (i) 1% NaCl Solution (ii) 0.5% NaCl solution
- Q.30. (a) How will you convert the following
 (i) Propanone to propene
 (ii) Ethanol to 3-Hydroxybutanol
 (b) How will you distinguish between Ethanal and Propanal
 (c) Write short note on (i) Clemmensen reduction (ii) Etard reaction
 Or

- (a) Arrange the following in increasing order;
- (i) Methanal, acetone, acetaldehyde (reactivity towards HCN)
 - (ii) Methanal, propanal, butanone, ethanol (nucleophilic addition reaction)
- (b) An organic compound (A) (molecular formula $C_8H_{16}O_2$) was hydrolysed with H_2SO_4 to give a carboxylic acid (B) and an alcohol (C). Oxidation of (C) with chromic acid produces (B). (C) on dehydration gives but-1-ene. Write equation for reaction involved.

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