SECOND REVISION TEST - 2025

A

Standard XII   Reg.No. ☐☐☐☐☐☐

CHEMISTRY

Time : 3.00 hrs.   Part - A   Marks : 70

I. Choose the correct answer: 15 x 1 = 15

1. Electrochemical process is used to extract
   a) Iron   b) Lead   c) Sodium   d) Silver

2. Duralumin is an alloy of
   a) Cu, Mn   b) Cu, Al, Mg   c) Al, Mn   d) Al, Cu, Mn, Mg

3. Among the following, which is the strongest oxidizing agent?
   a) Cl_2 b) F_2 c) Br_2 d) I_2

4. Permanganate ion changes to _____ in acidic medium.
   a) MnO_4^{2-} b) Mn^{2+} c) Mn^{3+} d) MnO_2

5. Crystal field stabilization energy for high spin d^5 octahedral complex is
   a) $-0.6\,\Delta_o$ b) 0   c) $2(P - \Delta_o)$ d) $2(P + \Delta_o)$

6. The crystal with a metal deficiency defect is
   a) NaCl   b) FeO   c) ZnO   d) KCl

7. If 75% of a first order reaction was completed in 60 minutes 50% of the same reaction under the same conditions would be completed in
   a) 20 minutes   b) 30 minutes   c) 35 minutes   d) 75 minutes

8. Which of the following fluro compounds is most likely to behave as a Lewis base?
   a) BF_3 b) PF_3 c) CF_4 d) SiF_6

9. Which of the following electrolytic solution has the least specific conductance?
   a) 2 N   b) 0.002 N   c) 0.02 N   d) 0.2 N

10. Mayonnaise is colloidal solution of
    a) liquid in liquid   b) liquid in gas   c) gas in liquid   d) liquid in solid

11. Which of the following gives purple colouration with neutral ferric chloride solution?
    a) Methanol   b) Ethelene glycol c) Acetic acid   d) Phenol

12. Which of the following reduces Tollens reagent?
    a) HCOOH   b) CH_3COOH c) C_6H_5COOH d) CH_3CH_2OH

13. The product formed by the reaction an aldehyde with a primary amine
    a) Carboxylic acid b) Ketone   c) Aromatic acid   d) Schiff's base

14. Which of the following amino acid are achiral?
    a) Alanine   b) Leucine   c) Proline   d) Glycine

15. Non stick cookwares generally have a coating of polymer whose monomer is
    a) ethane   b) prop-2-enenitrile   c) chloroethene   d) 1,1,2,2-tetrafluroethane

Part - B

II. Answer any 6 questions. (Q.No.24 is compulsory)   6 x 2 = 12

16. Describe the role of sodium cyanide in Froth floatation.
17. Give any two uses of sulphuric acid?
18. What are interstitial compound?
19. Calculate the number of atoms in bcc unit cell?
20. Define pH.
21. Write a note on catalytic poison.

22. Write the dehydration reaction of glycerol.
23. Write Coupling reaction.
24. Ethanoic acid $\xrightarrow{SOCl_2}$ A $\xrightarrow{Pd/BaSO_4}$ B. Find A and B.

Part - C

III. Answer any 6 questions. (Q.No.33 is compulsory) $6 \times 3 = 18$

25. Write a note on Zeolites.
26. Discuss briefly the nature of bonding in metal carbonyls.
27. Define rate law and rate constant.
28. State Kohlraush law. How is it useful to determine the molar conductivity of weak electrolyte at infinite dilution.
29. Write a note on electro osmosis.
30. Write the reactions of Ammonia with formaldehyde and acetaldehyde.
31. What are the functions of lipids in living organism.
32. How is terylene prepared? Any one use.
33. Establish a relationship between the solubility product and molar solubility for the following: a) $BaSO_4$ b) $Ag_2(CrO_4)$

Part - D

IV. Answer all the questions. $5 \times 5 = 25$

34. a) i) Describe a method of refining nickel. (3)
       ii) Explain the electrometallurgy of Aluminium. (2)
                        (OR)
    b) Describe the preparation of $K_2Cr_2O_7$
35. a) Write the oxidation state, coordination number, nature of ligand magnetic property and electronic configuration in octahedral crystal field for the complex $K_4[Mn(CN)_6]$
                        (OR)
    b) i) Write short note on metal excess and metal deficiency defect with an example. (3)
       ii) Give two examples for first order reaction. (2)
36. a) Derive an expression for Nernst equation.
                        (OR)
    b) Describe absorption theory of catalysis.
37. a) i) Explain Kolbe's reaction. (3)
       ii) How anisole is prepared by Williamson ether synthesis. (2)
                        (OR)
    b) i) Write the structure of α-D(+) glucophyvanose. (2)
       ii) What are biodegradable polymers. Give examples. (3)
38. a) Write short notes on the following :
       i) Gabriel phthalimide synthesis (3)
       ii) Schotten-Baumann reaction. (2)
                        (OR)
    b) Compound (A) C_6H_6O reacts with Zn form compound (B). (B) reacts with CO, HCl gives compound (C) C_7H_6O. (C) reacts with 50% NaOH gives compound (D) C_7H_8O. Find A, B, C and D.

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