

B**FIRST REVISION TEST - 2024****Standard XII**Reg.No.

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CHEMISTRY**Part - I****Time : 3.00 hrs****Marks : 70****15 x 1 = 15****I. Choose the correct answer:**

1. Zinc is obtained from ZnO by
- Carbon reduction
 - Reduction using Silver
 - Electro chemical process
 - Acid Leaching

2. Match the following

- | | |
|--------------------|----------------------------------|
| A) Pure Nitrogen | i) Chlorine |
| B) Haber Process | ii) Sulphuric acid |
| C) Contact Process | iii) Ammonia |
| D) Deacons Process | iv) Sodium Azide or Barium Azide |

Which of the following is the correct option?

- | | A | B | C | D |
|----|-----|-----|-----|-----|
| a) | i | ii | iii | iv |
| b) | ii | iv | i | iii |
| c) | iii | iv | ii | i |
| d) | iv | iii | ii | i |

3. The catalytic behaviour of transition metals and their compounds is ascribed mainly due to
- their magnetic behaviour
 - their unfilled d orbitals
 - their ability to adopt variable oxidation states
 - their chemical reactivity
4. Coordination number of $[\text{Co}(\text{en})_2\text{Cl}_2]$ is
- 5
 - 4
 - 2
 - 6
5. Half life for radioactive ^{14}C is 5760 years. In how many years, 200 mg of ^{14}C will be reduced to 25 mg?
- 5760 years
 - 11520 years
 - 17280 years
 - 23040 years
6. The yellow colour of NaCl crystal is due to
- Excitation of electrons in F centers
 - reflection of light from Cl^- ion on the surface
 - reflection of light from Na^+ ion
 - All the above
7. The aqueous solutions of anilinium chloride, sodium acetate, and sodium cyanide are respectively
- acidic, basic, basic
 - basic, acidic, basic
 - basic, neutral, basic
 - none of these
8. An example of basic buffer is
- NH_4OH and NH_4Cl
 - NH_4OH and NaOH
 - NaOH and NH_4Cl
 - NaOH and KOH
9. In a protein, various amino acids linked together by
- peptide bond
 - dative bond
 - α -glycosidic bond
 - β -glycosidic bond

10. Assertion: Acetic acid does not give HVZ reaction.
Reason: Acetic acid does not have α -hydrogen atom
- if both assertion and reason are true and reason is the correct explanation of assertion
 - if both assertion and reason are true but reason is not the correct explanation of assertion
 - Assertion is true but reason is false
 - both assertion and reason are false
11. Which one of the following is used in the detection and estimation of $-\text{OH}$, $-\text{NH}_2$ groups in organic compounds?
- Formic acid
 - Benzoic acid
 - Acetyl chloride
 - Ethyl acetate
12. $\text{CH}_3\text{CH}_2\text{Br} \xrightarrow[\Delta]{\text{aq. NaOH}} \text{A} \xrightarrow[\Delta]{\text{KMnO}_4/\text{H}^+} \text{B} \xrightarrow[\Delta]{\text{NH}_3} \text{C} \xrightarrow[\Delta]{\text{Br}_2/\text{NaO}} \text{D}$
- D is
- bromomethane
 - α -bromo sodium acetate
 - methanamine
 - acetamide
13. The reagent used to distinguish between acetaldehyde and benzaldehyde is
- Tollen's reagent
 - Fehling's solution
 - 2,4-dinitro phenyl hydrazine
 - Seml carbazide
14. Secondary nitro alkanes react with nitrous acid to form
- red solution
 - blue solution
 - green solution
 - yellow solution
15. Which of the following base is not present in DNA?
- Uracil
 - Adenine
 - Cytosine
 - Guanine

Part - II

II. Answer any 6 questions. (Q.No.24 is compulsory)

6 x 2 = 12

16. Which types of ores can be concentrated by froth floatation method? Give two examples.
17. How bleaching powder is prepared?
18. Which is more stable Fe^{3+} or Fe^{2+} ? Explain.
19. What is metal deficiency defect? Give example.
20. State Kohlrausch's Law.
21. Why are lyophilic colloidal sols are more stable than lyophobic colloidal sol?
22. How will malachite green is prepared from benzaldehyde?
23. Give two differences between Hormones and Vitamins.
24. A Copper electrode is dipped in 0.1 M copper sulphate Solution at 25°C . Calculate the electrode potential of copper (Given: $E^\circ_{\text{Cu}^{2+}/\text{Cu}} = 0.34 \text{ V}$)

Part - III

III. Answer any 6 questions. (Q.No.33 is compulsory)

6 x 3 = 18

25. Give the uses of Silicones.
26. Mention the consequences of lanthanoid contraction.
27. In an Octahedral field, draw the figure to show splitting of d-orbitals.
28. Calculate the packing efficiency of FCC.
29. Define Equivalent Conductance. Give its unit.

30. Explain Tyndall effect.
31. Write the Mechanism of Cannizaro reaction.
32. Identify the enzyme catalyst in the following reactions:
- Oxidation of ethanol into acetic acid
 - Hydrolysis of starch into maltose
 - Hydrolysis of urea
33. An organic compound (A) – $C_3H_8O_3$ used as a sweetening agent, which on oxidation with Fenton's reagent gives a mixture of compounds B and C. Identify A, B and C. Write possible reactions.

Part - IV

IV. Answer all the questions.

5 x 5 = 25

34. a) Explain the principle of electrolytic refining of metals with silver as an example. (5)

(OR)

- b) i) What is inorganic benzene? How it is prepared? (3)
- ii) Write the structural formula for the following compounds (2)
- Nitric acid
 - Dinitrogen pentoxide
 - Phosphoric acid
 - Phosphine
35. a) i) Describe the position of f block elements in the periodic table. (3)
- ii) Write the properties of interhalogen compounds. (2)
- (OR)
- b) i) Based on the VB theory, Explain why $[Ni(CN)_4]^{2-}$ is diamagnetic. (3)
- ii) Write a short note on π - back bonding in metal carbonyl (2)
36. a) i) Derive Henderson equation. (3)
- ii) Write a note on sacrificial protection. (2)

(OR)

- b) i) Write a note on electro osmosis? (3)
- ii) Write Arrhenius equation and explain its terms. (2)
37. a) i) How phenol is prepared from
- Chloro benzene
 - Isopropyl benzene. (3)
- ii) Write a note on isoelectric point. (2)

(OR)

- b) Elucidate the structure of fructose. (5)
38. a) Write a note on the reduction of nitro benzene under different conditions. (5)

(OR)

- b) A compound 'A' of molecular formula C_2H_3N on reduction with $Na(Hg)/C_2H_5OH$ gives 'B' of molecular formula C_2H_7N which undergoes carbylamine test. Compound 'B' on reaction with nitrous acid gives compound 'C' of molecular formula C_2H_6O by liberating nitrogen. Identify A, B and C and write the reactions involved. (5)

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