SECOND MID TERM TEST - 2023

Standard - XII

CHEMISTRY

Reg.No. | | | | | | |

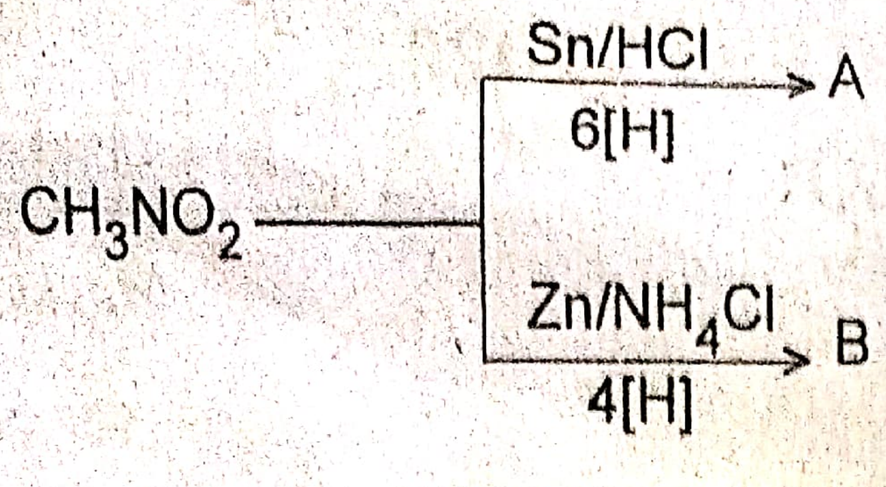
Time: 1.30 hrs. *Marks: 50*

I. Choose the correct answer: **10×1=10**

1. Crystal field stabilisation energy for high spin d^5 octahedral complex is
   a) $-0.6\Delta 0$ b) 0 c) $2(P-\Delta 0)$ d) $2(P+\Delta 0)$
2. The IUPAC name of $[Ag(NH_3)_2]Cl$ is
   a) Diamminesilver (I) Chloride b) Diammoniasilver (I) chloride
   c) Diamminesilverate (I) Chloride d) Diammoniasilver (I) Chloride
3. A complex in which the oxidation number of the metal is zero is
   a) $K_4[Fe(CN)_6]$ b) $[Fe(CN)_3(NH_3)_3]$ c) $[Fe(CO)_5]$ d) both (b) and (c)
4. The number of electrons that have a total charge of 9650 coloumbs is
   a) 6.22×10^{23} b) 6.022×10^{22} c) 6.022×10^{24} d) 6.022×10^{-24}
5. Which of the following electrolytic solution has the least specific conductance
   a) 2N b) 0.02N c) 0.2N d) 0.002N
6. The degree of dissociation of weak electrolytes can be calculated by
   a) Faraday's first law b) Faraday's second law
   c) Kohlrausch's law d) Ohm's law
7. Mayonnaise is a colloidal solution of
   a) Liquid Aerosol b) Gel c) Foam d) Emulsion
8. Adsorption of a gas on solid metal surface is spontaneous and exothermic, then
   a) ΔH increases b) ΔS decreases c) ΔS increases d) ΔG increases
9. Which one of the following will not undergo Hofmann Bromamide reaction?
   a) $CH_3CH_2CONH_2$ b) $CH_3CONHCH_3$ c) CH_3CONH_2 d) $C_6H_5CONH_2$
10. Aniline + Benzoyl Chloride $\xrightarrow{NaOH}$ $C_6H_5NHCOC_6H_5$ This reaction is known as
    a) Friedel - Crafts reaction b) HVZ reaction
    c) Schotten - Baumann reaction d) None of these

II. Answer any 5 questions. Q.No.18 is compulsory: **5×2=10**

11. Give the differences between Double salt and Co-ordination compounds.
12. Define Co-ordination number.
13. List out the factors that affects electrolytic conductance.
14. Why does conductivity of a solution decrease on dilution of the solution.
15. What is meant by Tyndall effect?
16. Define Auto catalysis.
17. How is Chloropicrin prepared?
18. From the following reaction, identify A and B.



III. Answer any five questions. Q.No.26 is compulsory. **5×3=15**

19. Explain Ionisation isomerism with an example.
20. State Faraday's First law with the expression.
21. Mention the Anode, Cathode, electrolyte and uses of Mercury button cell.
22. Explain the characteristics of a catalyst. (any three points)
23. Write a note on any two methods of preparation of colloids by condensation method.
24. Explain Schotten - Baumann reaction.
25. Write a short note on Trope nitrile condensation reaction.
26. Write the IUPAC names of the following:
    i) $[Cu(NH_3)_4]SO_4$ ii) $[FeF6]^{4-}$

IV. Answer all the questions: **3×5=15**

27. a) Write the postulates of Werner's theory. **(OR)**
    b) i) State Kohlrausch's law. **(3)**
    ii) Define Equivalent conductance. **(2)**
28. a) Using VBT, explain the geometry and magnetic nature of :
    i) $[Ni(CO)_4]$ **(2½)**
    ii) $[Ni(CN)_4]^{4-}$ **(2½)** **(OR)**
    b) i) Differentiate Physical Adsorption from chemical Adsorption. (any three differences) **(3)**
    ii) Define Heterogeneous oatalysis. **(2)**
29. a) Derive Nernst equation. **(OR)**
    b) Write on short note on :
    i) Gabriel - phthalimide synthesis. **(3)**
    ii) Carbylamine reaction **(2)**

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