SECOND MID-TERM TEST - 2023	Exam No.						
Time: 1-30 Hrs.	XII – CHEMISTRY						Marks : 50

PART - I

Note : 1) Answer all the questions. (10x1=10)

2) Choose the best answer and write option code with corresponding answer.

1. A Magnetic moment of 1.73BM will be shown by one among the following
   a) $TiCl_4$ b) $[CoCl_6]^{4-}$
   c) $[Cu(NH_3)_4]^{2+}$ d) $[Ni(CN)_4]^{2-}$
2. Why type of isomerism is exhibited by $[Pt(NH_3)_2Cl_2]^{4-}$
   a) Co-ordination isomerism b) Linkage isomerism
   c) Optical isomerism d) Geometrical isomerism
3. Which of the following is para magnetic in nature
   a) $[Zn(NH_3)_4]^{2+}$ b) $[Co(NH_3)_6]^{3+}$
   c) $[Ni(H_2O)_6]^{2+}$ d) $[Ni(CN_4)]^{2-}$
4. The number of electrons that have a total change of 9650 Coulombs is
   a) 6.22×10^{23} b) 6.022×10^{24}
   c) 6.022×10^{22} d) 6.022×10^{-34}
5. How many faradays of electricity are required for the following reaction to occur
   $MnO_4^- \rightarrow Mn^{2+}$
   a) 5F b) 3F
   c) 1F d) 7F
6. Which of the following electrolytic solution has the least specific conductance
   a) 2N b) 0.002N
   c) 0.02N d) 0.2N
7. Which of the following reagent can be used to convert nitrobenzene to aniline
   a) Sn / HCl b) ZnHg / NaOH
   c) Zn / NH_4Cl d) All of these
8. The product formed by the reaction an aldehyde with a primary amine
   a) Carboxylic acid b) aromatic acid
   c) schiff's base d) Ketone
9. **Assertion:** Acetamide on reaction with KOH and bromine give acetic acid
   Reason: Bromine catalycers hydrolysis of acetamide
   a) If both assertion and reason are true and reason is the correct explanation of assertion
   b) If both assertion and reason are true but reason is not the correct explanation of assertion
   c) assertion is true but reason is false
   d) both assertion and reason are false

10. Which one given below is a non-reducing sugar
    a) Glucose b) Sucrose
    c) Maltose d) Lactose

PART- II

Note : Answer any five questions. Question No.17 is compulsory. ***(5x2=10)***

11. Define ligand?
12. What are the limitations of VB theory?
13. Define electrochemical equivalent(2).
14. State Kohlraush Law.
15. What is Epimers?
16. Write a note on Gabriel phthalimide synthesis.
17. Identify A and B $CH_3NO_2 \xrightarrow{LiAlH_4} A \xrightarrow{2CH_3CH_2Br} B$

PART -III

Note: Answer any five questions . Question No.24 is compulsory. ***(5x3=15)***

18. State Faraday's Laws of electrolysis.
19. What is linkage isomerism? Explain with an example.
20. Why does conductivity of a solution decrease on dilution of the solution?
21. Write a note on Diazotisation reaction.
22. How will you distinguish between primary, secondary and tertiary alephatic amines.
23. How are carbohydrated classified.
24. *Write the formula for the following co-ordination compounds.*
    1) Penta carbonyl iron (o)
    2) Hexa amine Cobalt (iii) Sulphate
    3) Potassium hexa cyanido ferrate (ii)

PART -IV

Note: Answer all the questions. ***(3x5=15)***

25. a) Write the postulates of Werner's thoery?

(OR)

b) Describe the structural elucidation of Glucose.

26. a) Derive and expression for Nernst equation.

(OR)

b) Write short notes on the following

1) Carbylamine reaction 2) Coupling reaction

27. a) What happens when
    1) Nitrobenzene under go electrolytic - reduction
    2) Strongly acidic and Neutral medium

(OR)

b) Based on VB thoery explain why $[Cr(NH_3)_6]^{3+}$ is paramagnetic, while $[Ni(CN)_4]^{2-}$ is diamagnetic.