

## SECOND MID TERM TEST -2022

CLASS : XII  
SUB : CHEMISTRY

TIME : 1.30HRS  
MARKS : 50

## PART-I

## CHOOSE THE CORRECT ANSWER

10 X 1 =10

- Zinc can be coated on iron to produce galvanized iron but the reverse is not possible. It is because
  - Zinc is lighter than iron
  - Zinc has lower melting point than iron
  - Zinc has lower negative electrode potential than iron
  - Zinc has higher negative electrode potential than iron
- Which of the following electrolytic solution has the least specific conductance
  - 2N
  - 0.002N
  - 0.02N
  - 0.2N
- Faraday constant is defined as
  - charge carried by 1 electron
  - charge carried by one mole of electrons
  - charge required to deposit one mole of substance
  - charge carried by  $6.22 \times 10^{10}$  electrons.
- IUPAC name of the complex is  $K_3[Al(C_2O_4)_3]$  is \_\_\_\_\_
  - potassiumtrioxalatoaluminium(III)
  - potassiumtrioxalatoaluminate(II)
  - potassiumtrioxalatoaluminate(III)
  - potassiumtrioxalatoaluminate(III)
- $[Co(en)_2Cl_2]Cl$  coordination number is \_\_\_\_\_
  - 4
  - 6
  - 2
  - 1
- $[Ni(CO)_5]$  complex geometry is \_\_\_\_\_
  - Linear
  - Trigonal planar
  - Tetrahedral
  - Octahedral
- Which one of the following is not strong ligand
  - Cl
  - $CN^-$
  - $NH_3$
  - CO
- Which one of the following is most basic?
  - 2,4 – dichloroaniline
  - 2,4- diethylamine
  - 2,4 – dimethyl aniline
  - 2,4 – dinitroaniline
- When aniline reacts with acetic anhydride the product formed is
  - o – aminoacetophenone.
  - m-aminoacetophenone
  - p – aminoacetophenone.
  - acetanilide
- Secondary nitro alkanes react with nitrous acid to form
  - red solution.
  - blue solution
  - green solution
  - yellow solution

**PART-II****ANSWER THE FOLLOWING ANY FIVE QUESTIONS****5 X 2 =10****NOTE : QUESTION NO : 17 IS COMPULSORY**

11. What is carbylamine reaction
12. In an octahedral crystal field draw the figure to show splitting of d orbitals
13. Define anode and cathode
14. Define equivalent conductance
15. Give any two difference between double salt and coordination compound
16. Mention any two factors that affect electrolytic conductance
17. How is chloropicrin prepared ?

**PART-III****ANSWER THE FOLLOWING ANY FIVE QUESTIONS****5 X 3 =15****NOTE : QUESTION NO : 24 IS COMPULSORY**

18. what are the limitation of VB theory ?
19. What is crystal field stabilization energy ?
20.  $[\text{Ni}(\text{CO})_4]$  diamagnetic , explain using VB theory
21. write short note on Gabriel phthalimide synthesis ?
22. Why  $\text{PK}_b$  of aniline is more than ethylamine?
23. Write a electrolytic reduction of nitrobenzene?
24. Ionic conductance at infinite dilution of  $\text{Al}^{3+}$  and  $\text{SO}_4^{2-}$  189 and 160 mho  $\text{cm}^2$  equivalent calculate the equivalent and molar conductance of the electrolyte  $\text{Al}_2(\text{SO}_4)_3$  at infinite dilution.

**PART-IV****ANSWER ALL THE QUESTIONS****3 X 5 = 15**

25. a) i) write the postulates of werner's theory(3)  
 ii) Write the IUPAC ligand name for the following (2)  
 a)  $\text{C}_2\text{O}_4^{2-}$                       b)  $\text{H}_2\text{O}$   
 (OR)  
 b) based on the VB theory ,explain why  $[\text{Ni}(\text{CN})_4]^{2-}$  it is diamagnetic.(5)
26. a) State Kohlrausch law and explain any two of the application(5)  
 (OR)  
 b) i) Derive an expression for Nernst equation(3)  
 ii) What are the conversion used Galvanic cell notation ?(2)
27. a) How will you distinguish between primary, secondary and tertiary aliphatic amines. (5)  
 (OR)  
 b) i) Nitrous acid react with primary and secondary amine and tertiary amine(3)  
 ii) write the mustard oil reaction ?(2)

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