

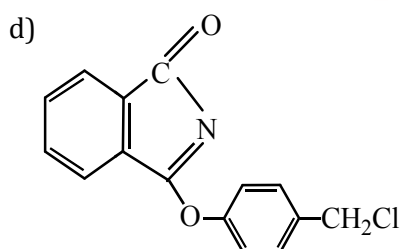
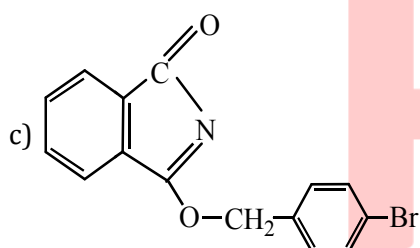
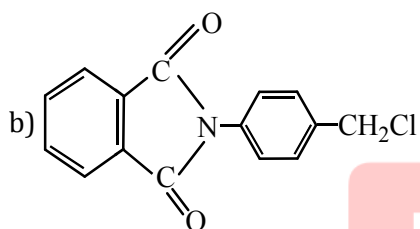
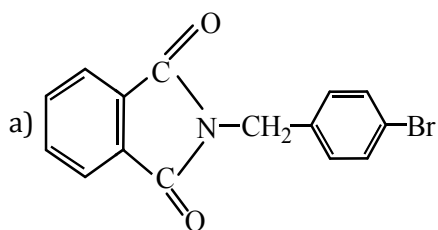
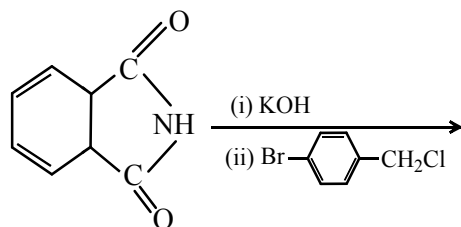
Class : XIIth
Date :

Subject : CHEMISTRY
DPP No. : 4

Topic :- Coordination Compounds

- The complex $[\text{Pt}(\text{NH}_3)_6]\text{Cl}_4$ furnishes:
a) 5 ions b) 6 ions c) 4 ions d) 2 ions
- Ammoniacal solution of $\text{Ni}(\text{CN})_2$ reacts with C_6H_6 to produce a light violet coloured crystalline compound of the formula:
a) $\text{Ni}(\text{CN})_2 \cdot \text{C}_6\text{H}_5$ b) $\text{C}_6\text{H}_5\text{CH}_3$ c) $\text{Ni}(\text{CN})_2\text{C}_6\text{H}_6$ d) $\text{Ni}(\text{CN})_2\text{NH}_3 \cdot \text{C}_6\text{H}_6$
- Ammonia forms the complex ion $[\text{Cu}(\text{NH}_3)_4]^{2+}$ with copper ions in alkaline solution but not in acidic solution. What is the reason for it?
a) In acidic solutions, hydration protects copper ions
b) In alkaline solution, insoluble $\text{Cu}(\text{OH})_2$ is precipitated which in excess of any alkali
c) Copper hydroxide is an amphoteric substance
d) In acidic solutions, protons coordinate with ammonia molecules forming NH_4^+ ions and NH_3 molecules are not available
- Which of the following shows geometrical isomerism?
a) 1, 2-dichloroethane b) 1, 2-dimethylcyclopropane
c) $\text{CH}_3\text{CH} \begin{array}{l} \text{CO—NH} \\ \text{NH—CO} \end{array} \text{CHCH}_3$ d) All of the above
- The shape of the complex $[\text{Ag}(\text{NH}_3)_2]^+$ is:
a) Octahedral b) Square planar c) Tetrahedral d) Linear
- The π -bonded organometallic compound which has ethane as one of its component is
a) Dibenzene chromium b) Zeise salt c) Ferrocene d) Tetraethyl tin

7. The major product of the following reaction is:



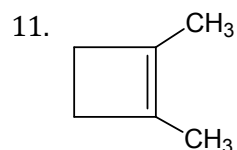
8. Which is true in the case of $\text{Ni}(\text{CO})_4$ complex?

- a) Hybridization of Ni is sp^3
- b) Tetrahedral shape of the molecule
- c) Diamagnetic
- d) All are correct

9. The reaction, $\text{C}_6\text{H}_5\text{N}_2\text{Cl} \xrightarrow{\text{Cu}_2\text{Cl}_2/\text{HCl}} \text{C}_6\text{H}_5\text{Cl} + \text{N}_2$ is called:

- a) Etard's reaction
- b) Sandmeyer's reaction
- c) Wurtz-Fittig reaction
- d) Perkin's reaction

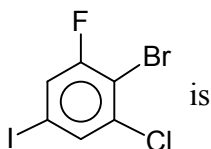
10. Which of the following does not show optical isomerism?
 a) $[\text{Co}(\text{en})_3]^{3+}$ b) $[\text{Co}(\text{en})_2\text{Cl}_2]^+$ c) $[\text{Co}(\text{NH}_3)_3\text{Cl}_3]^0$ d) $[\text{Co}(\text{en})\text{Cl}_2(\text{NH}_3)_2]^+$



Having the IUPAC name as

- a) 1, 2-dimethyl cyclobutane b) 2, 3-dimethyl cyclobutene
 c) 2, 3-dimethyl butane d) 1, 2-dimethyl cyclobut-1-ene
12. Which of the following ions is produced when we prepare nitrating mixture by mixing together concentrated HNO_3 and concentrated H_2SO_4 ?
 a) NO_2^- b) NO_2^+ c) NO_3^- d) SO_3^+H

13. The correct IUPAC name of



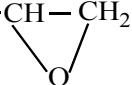
- a) 1-bromo-2-chloro-6-fluoro-4-iodobenzene b) 1-bromo-6-chloro-2-fluoro-4-iodobenzene
 c) 2-bromo-1-chloro-3-fluoro-5-iodobenzene d) 2-bromo-3-chloro-1-fluoro-5-iodobenzene
14. $[\text{Co}(\text{NH}_3)_4(\text{NO}_2)_2]\text{Cl}$ exhibits:
 a) Ionization isomerism, geometrical isomerism and optical isomerism
 b) Linkage isomerism, geometrical isomerism and optical isomerism
 c) Linkage isomerism, ionization isomerism and optical isomerism
 d) Linkage isomerism, ionization isomerism and geometrical isomerism

15. Which of the following complexes are not correctly matched with hybridisation of their central metal ion?

1. $[\text{Ni}(\text{CO})_4]$ sp^3
 2. $[\text{Ni}(\text{CO})_4]^{2-}$ sp^3
 3. $[\text{CoF}_6]^{3-}$ d^2sp^3
 4. $[\text{Fe}(\text{CN})_6]^{3-}$ sp^3d^2

Select the correct answer using the codes given below

- a) 1 and 2 b) 1 and 3 c) 2 and 4 d) 2, 3 and 4
16. Which of the following is an explosive?
 a) PCl_5 b) HNO_3 c) $\text{C}_6\text{H}_5\text{OH}$ d) 2,4,6-trinitrophenol

17. The coordination number of Cr in $[\text{Cr}(\text{NH}_3)_3(\text{H}_2\text{O})_3]\text{Cl}_3$ is:
 a) 3 b) 4 c) 6 d) 2
18. The major product obtained when 3-phenyl-1, 2-propane-diol is heated with H_2SO_4 is:
 a) $\text{C}_6\text{H}_5-\text{CH}_2-\text{CO}-\text{CH}_3$
 b) $\text{C}_6\text{H}_5-\text{CH}_2-\text{CH}_2-\text{CHO}$
 c) $\text{C}_6\text{H}_5-\text{CH}_2-\text{CH}=\text{CH}_2$
 d) $\text{C}_6\text{H}_5-\text{CH}_2-\text{CH}-\text{CH}_2$
- 
19. Rate of substitution in phenol is:
 a) Slower than as in benzene
 b) Faster than as in benzene
 c) Equal to that as in benzene
 d) None of the above
20. Magnetic moment of $[\text{Ag}(\text{CN})_2]^-$ is zero. How many unpaired electrons are there?
 a) Zero b) 4 c) 3 d) 1

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