

Class : XIIth
Date :

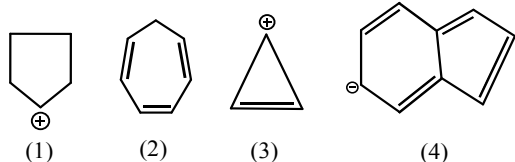
Subject : CHEMISTRY
DPP No. : 1

Topic :- Coordination Compounds

- IUPAC name of *t*-butyl chloride is
 - 2-chloro butane
 - 1-chloro-2-methylpropane
 - 2-chloro-2-methylpropane
 - None of the above
- The *d*-electronic configuration of Cr^{2+} , Mn^{2+} , Fe^{2+} , Ni^{2+} are $3d^4$, $3d^5$, $3d^6$ and $3d^8$ respectively. Which of the following complex will show minimum paramagnetic behaviour?
 - $[\text{Fe}(\text{H}_2\text{O})_6]^{2+}$
 - $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$
 - $[\text{Cr}(\text{H}_2\text{O})_6]^{2+}$
 - $[\text{Mn}(\text{H}_2\text{O})_6]^{2+}$
- Phenol is more acidic than cyclohexanol because:
 - Benzene ring exists in resonance
 - Cyclohexane ring shows resonance
 - Phenol is poor in hydrogen
 - Cyclohexanol is rich in hydrogen
- Total possible structural isomers (not stereo) of C_4H_6 are
 - 4
 - 6
 - 9
 - 12
- In the reaction of *p*-chlorotoluene with KNH_2 in liq. NH_3 the major product is:
 - o*-toluidine
 - m*-toluidine
 - p*-toluidine
 - p*-chloroaniline
- The type of isomerism in the molecule of compounds $\text{CH}_3\text{CH}_2\text{COCH}_2\text{CH}_3$ and $\text{CH}_3\text{CH}(\text{OH})\text{CH}_2\text{CH}_3$ is referred as:
 - Metamerism
 - Chain isomerism
 - Functional isomerism
 - Tautomerism
- Phenol is less soluble in water. It is due to:
 - Non-polar nature of phenol
 - Acidic nature of – OH group
 - Non-polar hydrocarbons part in it
 - None of the above

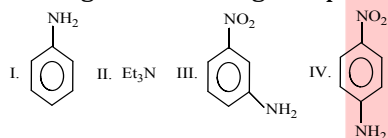
8. When phenol is treated with excess bromine water, it gives:
- m*-bromophenol
 - o*- and *p*-bromophenol
 - 2,4-dibromophenol
 - 2,4,6-tribromophenol
9. Which have octahedral shape (d^2sp^3) hybridization of central atom?
- $[\text{Cr}(\text{NH}_3)_6]^{2+}$
 - $[\text{Fe}(\text{CN})_6]^{3-}$
 - $[\text{Cu}(\text{NH}_3)_6]^+$
 - All are correct

10. Which of the following molecules/species are aromatic in character?



- 2
- 3
- 4
- 1

11. Among the following compounds ;



the order of basicity is :

- $\text{IV} > \text{III} > \text{II} > \text{I}$
- $\text{II} > \text{I} > \text{III} > \text{IV}$
- $\text{III} > \text{IV} > \text{II} > \text{I}$
- $\text{I} > \text{III} > \text{IV} > \text{II}$

- 12.

The correct name of $\text{CO}_3\text{Fe} \begin{array}{c} \diagup \text{CO} \diagdown \\ \text{CO} \\ \diagdown \text{CO} \diagup \end{array} \text{Fe} \text{CO}_3$ is :

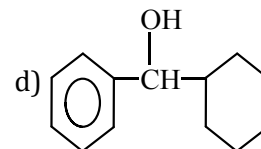
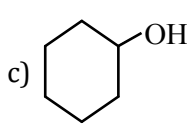
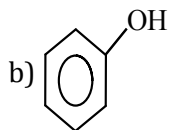
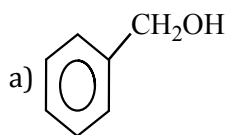
- Tri- μ -carbonyl *bis*-(tricarbonyl)iron (0)
 - Hexacarbonyl iron (III) μ -tricarbonyl ferrate(0)
 - Tricarbonyl iron(0) μ -tricarbonyl iron(0) tricarbonyl
 - Nonacarbonyl iron
13. Which is high spin complex?
- $[\text{CoCl}_6]^{3-}$
 - $[\text{FeF}_6]^{3-}$
 - $[\text{Co}(\text{NH}_3)_6]^{2+}$
 - All are correct
14. The correct IUPAC name of tartaric acid is
- 1, 4-dicarboxy-2, 3-dihydroxy ethane
 - α, α' -dihydroxy butane-1,4-dioic acid
 - 1, 4-dihydroxybutane-2, 3-dioic acid
 - 2, 3-dihydroxybutane-1, 4-dioic acid
15. What is the overall formation equilibrium constant for the ion $[\text{ML}_4]^{2-}$ ion, given that β_4 for this complex is 2.5×10^{13} ?

- a) 2.5×10^{13} b) 5×10^{-13} c) 2.5×10^{-14} d) 4.0×10^{-13}

16. The oxidation state of Cr in $[\text{Cr}(\text{NH}_3)_4 \text{Cl}_2]^+$ is

- a) 0 b) +1 c) +2 d) +3

17. Which of the following compounds has the most acidic nature?



18. The oxidation state of Mo in its oxo-complex species $[\text{Mo}_2\text{O}_4(\text{C}_2\text{H}_4)_2(\text{H}_2\text{O})_2]^{2-}$ is:

- a) +2 b) +3 c) +4 d) +5

19. CH_3MgI is an organometallic compound due to

- a) Mg—I bond b) C—I bond c) C—Mg bond d) C—H bond

20. The effective atomic number of Cr (At. No.=24) in $[\text{Cr}(\text{NH}_3)_6]\text{Cl}_3$ is

- a) 35 b) 27 c) 33 d) 36

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