DPP
DAILY PRACTICE PROBLEMS

Class : XIIth
Date :

Solutio

Subject : CHEMISTRY
DPP No. : 1

Topic :- Coordination Compounds

2 **(b)**
$Cr^{2+}, Mn^{2+}, Fe^{2+}$ and Ni^{2+} have 4, 5, 4 and 2 unpaired electrons respectively.

3 **(a)**
It is a reason for the fact.

6 **(d)**

$$CH_3CH_2 - \underset{\text{(keto form)}}{\overset{\overset{O}{\|}}{C} - CH_2CH_3} \leftrightarrow CH_3 - CH = \underset{\text{(enol form)}}{\overset{\overset{OH}{|}}{C} - CH_2CH_3}$$

7 **(c)**
Non-polr part C_6H_5 —shows more hydrophobic nature.

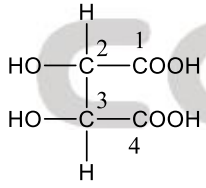
9 **(d)**
All involve d^2sp^3-hybridization.

11 **(b)**
Aromatic amines are less basic than aliphatic amines. Also presence of electron attracting group decreases the basic character of aromatic amines.

12 **(a)**
Follow IUPAC rules.

13 **(d)**
All are weak field ligands and thus, give high spin complex.

14 **(d)**
Tartaric acid is



2,3-dihydroxybutane-1,4-dioic acid

15 **(a)**
β_4 for $[ML_4]^{2-}$ can be written as

$$\beta_4 = \frac{[ML_4]^{2-}}{[M^{2+}][L^-]^4} = 2.5 \times 10^{13}$$

The overall formation equilibrium constant can be written as

$$k = \frac{[ML_4]^{2-}}{[M^{2+}][L^{-1}]^4}$$

$$k = \beta_4 = 2.5 \times 10^{13}$$

16 **(d)**
$[Cr(NH_3)_4Cl_2]^+$

Let oxidation state of Cr $=x$

$NH_3=0$

$Cl=-1$

Net charge $=+1$

$\therefore [Cr(NH_3)_4Cl_2]^+$

$x+4\times0+2(-1)=+1$

$\therefore \quad x=+3$

17 **(b)**

Phenols are acidic; alcohols are neutral.

18 **(b)**

$2 \times a + 4 \times (-2) + 2 \times 0 + 2 \times 0 = -2, \quad \therefore a = +3$

19 **(c)**

CH_3MgI (Grignard reagent) is an organometallic compound due to C— Mg bond.

20 **(c)**

Effective atomic number =electrons in Cr^{3+} +electrons form $6NH_3$ ligands.

$=21+6\times2=33$

SMARTLEARN COACHING

ANSWER-KEY										
Q.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
A.	**C**	**B**	**A**	**B**	**B**	**D**	**C**	**D**	**D**	**B**
Q.	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
A.	**B**	**A**	**D**	**D**	**A**	**D**	**B**	**B**	**C**	**C**

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