DPP
DAILY PRACTICE PROBLEMS

CLASS : XIth
DATE :

Solutions

SUBJECT : CHEMISTRY
DPP No. : 4

Topic :- THE D-AND F-BLOCK ELEMENTS

1 **(b)**

Ni combines with CO to form volatile $Ni(CO)_4$ which decomposes to give pure Ni metal and CO on heating.

$Ni(CO)_4 \xrightarrow{Heat} Ni + 4CO\uparrow$

Volatile metal

2 **(c)**

In Bessemer's converter impurities of C, Mn, Si, P in pig iron are oxidized to produce steel.

3 **(b)**

$[Ag(CN)_2]^-$

4 **(d)**

Due to lanthanide contraction there occurs net decrease in size. Only one 0.85 Å is smaller one.

5 **(a)**

When oxyhaemoglobin changes to deoxyhaemoglobin, Fe^{2+} ion changes from diamagnetic to paramagnetic.

6 **(c)**

Zn blende is ZnS.

7 **(d)**

Transitional metal ion having unpaired electrons are coloured while those which have no unpaired electron are colourless.

TiF_6^{2-}

Ti^{4+} :$[Ar]3d^0$;0 unpaired electrons; colourless

Cu_2Cl_2

Cu^+:$[Ar]3d^{10}$;0 unpaired electrons; colourless

CoF_6^{3-},

CO^{3+}:$[Ar]3d^6$;4 unpaired electrons; coloured

$NiCl_4^{2-}$

Ni^{2+}:$[Ar]3d^8$;2 unpaired electrons; coloured

8 **(d)**

Ti :$3d^2\ 4s^2$; V:$3d^3\ 4s^2$; Cr:$3d^5\ 4s^1$; Mn:$3d^5\ 4s^2$;
Ti^{2+}:$3d^2$; V^{3+}:$3d^2$; Cr^{4+}:$3d^2$; Mn^{5+}:$3d^2$

9 **(d)**

$Hg_2Cl_2 + 2NH_3 \longrightarrow HgNH_2Cl + Hg + NH_4Cl$
white black

10 **(b)**

Molybdenum steel is resistant to acid.

11 **(b)**

A characteristic of transition elements.

12 **(c)**

A characteristic hydride formation by d-block elements.

13 **(a)**

RBCs contain Fe in haemoglobin.

15 **(d)**

Pt is a noble metal.

16 **(c)**

ZnS (white), is precipitated in weak acidic medium $ZnCl_2$ $(aq.)$ and $Zn(NO_3)_2$ $(aq.)$ give strongly acidic solution.

17 **(b)**

Zn, Cd, Hg are d-block elements but not regarded as transition elements because these do not have partially filled d-orbitals in their most common oxidation states

18 **(b)**

The solubility order is $AgF > AgCl > AgBr > AgI > Ag_2S$

19 **(b)**

Brass is an alloy of copper and zinc ($60 - 80\%$ Cu and $40 - 20\%$ Zn).

20 **(c)**

$Fe^{2+} \longrightarrow Fe^{3+} + e$; $Mn^{7+} + 5e \longrightarrow Mn^{2+}$

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