

Date Planned : __ / __ / __	Daily Tutorial Sheet-1	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-1	Exact Duration : _____

- The spin only magnetic moment of Fe^{2+} ion (in BM) is approximately
(A) 4.8 (B) 7.8 (C) 5.8 (D) 6.8
- The correct order of $E_{M^{2+}/M}^\circ$ value with negative sign for the four successive elements Cr, Mn, Fe and Co is :
(A) $\text{Mn} > \text{Cr} > \text{Fe} > \text{Co}$ (B) $\text{Cr} > \text{Fe} > \text{Mn} > \text{Co}$
(C) $\text{Fe} > \text{Mn} > \text{Cr} > \text{Co}$ (D) $\text{Cr} > \text{Mn} > \text{Fe} > \text{Co}$
- The spin only magnetic moment of Mn^{4+} ion is nearly :
(A) 3 BM (B) 6 BM (C) 4 BM (D) 5 BM
- Out of the following outer electronic configurations of atoms, the highest oxidation state is achieved by which one of them ?
(A) $(n-1)d^8, ns^2$ (B) $(n-1)d^5, ns^1$ (C) $(n-1)d^3, ns^2$ (D) $(n-1)d^5, ns^2$
- Which one of the following transition metal ions is diamagnetic ?
(A) Co^{2+} (B) Ni^{2+} (C) Cu^{2+} (D) Zn^{2+}
- A transition element X has the configuration $[\text{Ar}]d^4$ in its + 3 oxidation state. Its atomic number is :
(A) 25 (B) 26 (C) 22 (D) 19
- Amongst the following, the lowest degree of paramagnetism per mole of the compound at 298 K will be shown by :
(A) $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$ (B) $\text{NiSO}_4 \cdot 6\text{H}_2\text{O}$ (C) $\text{FeSO}_4 \cdot 6\text{H}_2\text{O}$ (D) $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
- Which of the following is not correct about transition metals ?
(A) Their compounds are generally coloured
(B) They can form ionic or covalent compounds
(C) Their melting and boiling points are high
(D) They do not exhibit variable valency
- 'Hydride gap' is referred which region of the Periodic Table ?
(A) Groups 3, 4 and 5 (B) Groups 5, 6 and 7
(C) Groups 4, 5 and 6 (D) Groups 7, 8 and 9
- Magnetic moment of manganese in $(\text{NH}_4)_2\text{MnBr}_4$ is :
(A) 3.87 BM (B) 5.91 BM (C) 4.89 BM (D) 2.82 BM
- Among the following, the coloured compound is :
(A) CuCl (B) $\text{K}_3[\text{Cu}(\text{CN})_4]$ (C) CuF_2 (D) $[\text{Cu}(\text{CH}_3\text{CN})_4]\text{BF}_4$
- When oxyhaemoglobin changes to Haemoglobin, Fe^{2+} ion changes from :
(A) diamagnetic to paramagnetic (B) paramagnetic to diamagnetic
(C) diamagnetic to ferromagnetic (D) paramagnetic to ferromagnetic

- 13.** Mercury is a liquid metal because :
- (A) it has a completely filled s-orbital
 - (B) it has a small atomic size
 - (C) it has a completely filled d-orbital that prevents d-d overlapping of orbitals
 - (D) it has a completely filled d-orbital that causes d-d overlapping
- 14.** A transition metal ion exists in its highest oxidation state. It is expected to behave as.
- (A) a chelating agent
 - (B) a central metal in a coordination compound
 - (C) an oxidizing agent
 - (D) a reducing agent
- 15.** Which of the oxide of manganese is amphoteric ?
- (A) MnO_2
 - (B) Mn_2O_3
 - (C) Mn_2O_7
 - (D) MnO