

The d-and f-Block Elements

1. Transition metals, despite high E° oxidation, are poor reducing agents. The incorrect reason is
- (a) high heat of vaporization.
 - (b) high ionization energies.
 - (c) low heats of hydration.
 - (d) complex forming nature.

▼ Answer

Answer: d

2. Which of the following has magnetic moment value of 5.9?
- (a) Fe^{2+}
 - (b) Fe^{3+}
 - (c) Ni^{2+}
 - (d) Cu^{2+}

▼ Answer

Answer: b

3. Anomalous electronic configuration in the 3d series are of
- (a) Cr and Fe
 - (b) Cu and Zn
 - (c) Fe and Cu
 - (d) Cr and Cu

▼ Answer

Answer: d

4. Which of the following are d-block elements but not regarded as transition elements?
- (a) Cu, Ag, Au
 - (b) Zn, Cd, Hg
 - (c) Fe, Co, Ni
 - (d) Ru, Rh, Pd

▼ Answer

Answer: b

5. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is blue in colour because
- (a) It contains water of crystallization.
 - (b) SO_4^{2-} ions absorb red light.
 - (c) Cu^{2+} ions absorb orange red light.
 - (d) Cu^{2+} ions absorb all colours except red from the white light.

▼ Answer

Answer: c

6. Transition elements form alloys easily because they have

- (a) Same atomic number
- (b) Same electronic configuration
- (c) Nearly same atomic size
- (d) None of the above

▼ **Answer**

Answer: c

7. Which one of the following characteristics of the transition metals is associated with higher catalytic activity?

- (a) High enthalpy of atomisation
- (b) Paramagnetic behaviour
- (c) Colour of hydrate ions
- (d) Variable oxidation states

▼ **Answer**

Answer: d

8. Which of the following has the maximum number of unpaired electrons?

- (a) Mg^{2+}
- (b) Ti^{3+}
- (c) V^{3+}
- (d) Fe^{2+}

▼ **Answer**

Answer: d

9. The property which is not characteristic of transition metals is

- (a) variable oxidation states.
- (b) tendency to form complexes.
- (c) formation of coloured compounds.
- (d) natural radioactivity.

▼ **Answer**

Answer: d

10. Which of the following is incorrect for KMnO_4 to be used as an oxidising agent?

- (a) HCl cannot be used because some KMnO_4 is consumed in the reaction.
- (b) Nitric acid is not used for the above purpose because it itself acts as a self oxidising agent and will react with the reducing agent.
- (c) The equivalent weight of KMnO_4 in basic medium is 158.
- (d) The number of electrons involved in oxidation of KMnO_4 in acidic medium is 3.

▼ **Answer**

Answer: d
