The d-and f-Block Elements

Transistion 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 transistion elements?
(a) Cu, Ag, Au
(b) Zn, Cd, Hg
(c) Fe, Co, Ni
(d) Ru, Rh, Pd

▼ Answer

Answer: b

5. CuSO₄. 5H₂O is blue is colour because (a) It contains water of crystallization.

(b) SO_4^{2-} ions absorb red light.

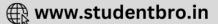
(c) Cu²⁺ ions absorb orange red light.
(d) Cu²⁺ ions absorb all colours except red from the white light.

▼ Answer

Answer: c

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6. Transistion 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 transistion 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 transistion 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 KMnO₄ to be used as an oxidising agent?

(a) HCl cannot be used because some KMnO₄ 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.

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(c) The equivalent weight of KMnO₄ in basic medium is 158.

(d) The number of electrons involved in oxidation of KMnO₄ in acidic medium is 3.

▼ Answer

Answer: d

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