

## The d-and f-Block Elements

1. Transition metals, despite high  $E^\circ$  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

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2. Which of the following has magnetic moment value of 5.9?

- (a)  $\text{Fe}^{2+}$
- (b)  $\text{Fe}^{3+}$
- (c)  $\text{Ni}^{2+}$
- (d)  $\text{Cu}^{2+}$

▼ **Answer**

Answer: b

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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

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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

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5.  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  is blue in colour because

- (a) It contains water of crystallization.
- (b)  $\text{SO}_4^{2-}$  ions absorb red light.
- (c)  $\text{Cu}^{2+}$  ions absorb orange red light.
- (d)  $\text{Cu}^{2+}$  ions absorb all colours except red from the white light.

▼ **Answer**

Answer: c



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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

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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

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

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

▼ **Answer**

Answer: d

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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

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10. Which of the following is incorrect for  $\text{KMnO}_4$  to be used as an oxidising agent?

- (a)  $\text{HCl}$  cannot be used because some  $\text{KMnO}_4$  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  $\text{KMnO}_4$  in basic medium is 158.
- (d) The number of electrons involved in oxidation of  $\text{KMnO}_4$  in acidic medium is 3.

▼ **Answer**

Answer: d

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