

Chapter 8

The d- and f- Block Elements

(Assertion and Reason Questions)

Directions: These questions consist of two statements, each printed as Assertion and Reason. While answering these questions, you are required to choose any one of the following four responses.

- (a) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
- (b) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
- (c) If the Assertion is correct but Reason is incorrect.
- (d) If both the Assertion and Reason are incorrect.

Q.1. Assertion : Cuprous ion (Cu^+) has unpaired electrons while cupric ion (Cu^{++}) does not.

Reason : Cuprous ion (Cu^+) is colourless whereas cupric ion (Cu^{++}) is blue in the aqueous solution.

Q.2. Assertion : Transition metals show variable valency.

Reason : Transition metals have a large energy difference between the ns^2 and $(n - 1)d$ electrons.

Q.3. Assertion : Transition metals are good catalysts.

Reason : V_2O_5 or Pt is used in the preparation of H_2SO_4 by contact process.

Q.4. Assertion : Magnetic moment values of actinides are lesser than the theoretically predicted values.

Reason : Actinide elements are strongly paramagnetic

-X-X-X-

ANSWER KEY

Q.1 : (b)

Q.2 : (c)

Q.3 : (a)

Q.4 : (d)