Exam Time: 00:20 Hrs | Date: 2025-10-11

Total Marks: 10

Questions:

Assertion and reason

1. **Assertion**: Metals do not displace hydrogen gas when reacted with bases
   Reason: There are few metals like copper that can displace hydrogen from base.
   Codes
   (a) If both assertion and reason are true and the reason is correct explanation of assertion.
   (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
   (c) If assertion is true and reason is false.
   (d) If both assertion and reason are false.

2. **Assertion**: Lead is less reactive than copper.
   Reason: Copper can displace zinc from its solution.
   Codes
   (a) If both assertion and reason are true and the reason is correct explanation of assertion.
   (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
   (c) If assertion is true and reason is false.
   (d) If both assertion and reason are false.

3. **Assertion**: Metals are malleable
   Reason: They can be easily hammered into thin sheets
   Codes
   (a) If both assertion and reason are true and the reason is correct explanation of assertion.
   (b) If both assertion and reason are true but reason is not a correct explanation of assertion.
   (c) If assertion is true and reason is false.
   (d) If both assertion and reason are false.

4. **Assertion:** Gold occurs in native state.
   Reason: Gold is a reactive metal.
   Codes
   (a) Both A and R are true, and R is correct explanation of the assertion.
   (b) Both A and R are true, but R is not the correct explanation of the assertion.
   (c) A is true, but R is false.
   (d) A is false, but R is true.

5. **Assertion:** Bromine cannot displace chlorine from its salt solution.
   Reason: Chlorine is more reactive than bromine.
   Codes
   (a) Both A and R are true, and R is correct explanation of the assertion.
   (b) Both A and R are true, but R is not the correct explanation of the assertion.

(c) A is true, but R is false.
(d) A is false, but R is true.

6. **Assertion:** The arrangement of metals in order of decreasing reactivities is called reactivity series.
Reason: Metals at the top of series are very reactive and metals at the bottom are least reactive.
Codes
(a) Both A and R are true, and R is correct explanation of the assertion.
(b) Both A and R are true, but R is not the correct explanation of the assertion.
(c) A is true, but R is false.
(d) A is false, but R is true.

7. **Assertion:** Ionic compounds have high melting and boiling points.
Reason: A large amount of energy is required to break the strong inter-ionic attraction in ionic compounds
Codes
(a) Both A and R are true, and R is correct explanation of the assertion.
(b) Both A and R are true, but R is not the correct explanation of the assertion.
(c) A is true, but R is false.
(d) A is false, but R is true.

8. **Assertion:** Metals generally act as reducing agents.
Reason: The reducing character is expressed in terms of electron releasing tendency.
Codes
(a) Both A and R are true, and R is correct explanation of the assertion.
(b) Both A and R are true, but R is not the correct explanation of the assertion.
(c) A is true, but R is false.
(d) A is false, but R is true.

9. **Assertion:** The reaction of calcium with water is less violent in comparison to that of sodium.
Reason: The heat evolved is not sufficient for the hydrogen to catch fire.
Codes
(a) Both A and R are true, and R is correct explanation of the assertion.
(b) Both A and R are true, but R is not the correct explanation of the assertion.
(c) A is true, but R is false.
(d) A is false, but R is true.

10. **Assertion (A)** A piece of zinc metal gets reddish brown coating when kept in copper sulphate solution for some time.
Reason (R) Copper is more reactive metal than zinc.
(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) Both Assertion and Reason are true, but Reason is not the correct explanation of Assertion.
(c) Assertion is true, but Reason is false.
(d) Assertion is false, but Reason is true.

Answers Key:

Assertion and reason

1. (c) If assertion is true and reason is false.

2. (d) If both assertion and reason are false.
3. (a) If both assertion and reason are true and the reason is correct explanation of assertion.
4. **(c):** Gold is a noble metal.
5. **(a)** Both A and R are true, and R is correct explanation of the assertion.
6. **(b):** Metals at the top of the series are very reactive and therefore, they do not occur free in nature. The metals at the bottom of the series are least reactive and therefore, they normally occur free in nature.
7. **(a)** Both A and R are true, and R is correct explanation of the assertion.
8. **(b):** Metals have a strong tendency to lose electrons and hence they behave as reducing agents.
9. **(a)** Both A and R are true, and R is correct explanation of the assertion.
10. (c) Assertion is true but Reason is false. The correct form of R is: Zinc is more reactive in comparison of copper and can easily displace copper from copper sulphate solution.