

SCIENCE QUIZ January, 2021

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There are two statements given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

- (a) Both A and R are true, and R is correct explanation of the assertion.
- (b) Both A and R is 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
- (e) both A and B are false

1. **Assertion:** Non metal react with dilute acids to produce a gas which burns with a Pop sound.

Reason: metal reacts with dilute acids to produce a gas which burns with a pop sound.

2. **Assertion:** When non metals react with oxygen, they form acidic oxide and neutral oxide.

Reason: When carbon reacts with oxygen it forms carbon dioxide which is acidic oxide and water is formed when hydrogen reacts with oxygen which is neutral.

3. **Assertion:** What happens when magnesium reacts with very dilute nitric acid?

Reason: Magnesium reacts with very dilute nitric acid to form magnesium nitrate and hydrogen gas.

4. **Assertion:** Bleaching powder has a strong smell of chlorine.

Reason: Bleaching powder is a white powder and an oxidizing agent.

5. **Assertion:** Isotopes have same atomic masses.

Reason: Isotopes have same atomic number and have similar chemical properties.

6. **Assertion:** Ethylene is an unsaturated hydrocarbon.

Reason: Ethylene contains carbon -carbon triple covalent bond.

7. **Assertion:** Colour of copper sulphate does not change when an iron nail is dipped in it.

Reason: Iron is more reactive than copper and it displaces it.

8. **Assertion:** The chemical reaction during which hydrogen is lost is called reduction reaction.

Reason: Reducing agent removes hydrogen.

9. **Assertion:** Nitrogen is flushed in potato chips packets to preserve acidity of potato chips.

Reason: Nitrogen prevents contact of chips to air and thus oxidation.

10. **Assertion:** Fat/ oil containing food substances become rancid and their smell and taste changes.

Reason: We keep such food in airtight container.

11. **Assertion:** Why silver chloride turns grey in sunlight.

Reason: Copper reacts with zinc sulphate to form copper sulphate and Zinc is deposited.

12. Assertion: A complete chemical equation represents the reactants and products and their physical states symbolically.

Reason: In a combination reaction two or more substances combine to form a new single substance.

13. Assertion: Antacids are used to get rid of pain caused by indigestion.

Reason: Antacids neutralize the excess acid produced in the stomach.

14. Assertion: Tooth decay starts when the pH of the mouth is lower than 5.5.

Reason: Bee -sting leaves an acid which causes pain and irritation.

15. Assertion: The strength of acids and bases depends on the number of hydrogen ions and OH^- produced.

Reason: The process of dissolving an acid or base in water is highly endothermic.

16. Assertion: When pH of rainwater is more than 7. It is called acid rain.

Reason: When electricity is passed through an aqueous solution of sodium chloride it decomposes to form sodium carbonate.

17. Assertion: Silver articles become black when exposed to air.

Reason: Copper reacts with moist carbon dioxide in the air and gains a green coat.

18. Assertion: The electrical conductivity and melting point of an alloy is less than that of pure metals.

Reason: Galvanization is a method of protecting steel and iron from rusting.

19. Assertion: Metals at the top of reactivity series are not formed in nature as free element.

Reason: The sulphide ores are converted into oxides by heating in the absence of air in the process of roasting.

20. Assertion: Metals high up in the reactivity series cannot be obtained from their compounds by heating with carbon.

Reason: Carbon cannot reduce the oxides of sodium, magnesium and calcium.

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| 11. (c) | 12. (b) | 13. (a) | 14. (b) | 15. (c) | 16. (e) | 17. (b) | 18. (b) | 19. (c) | 20. (a) |
| 1. (d) | 2. (a) | 3. (a) | 4. (b) | 5. (d) | 6. (c) | 7. (d) | 8. (e) | 9. (d) | 10. (b) |

Answers