

Science Quiz Dec. 2020

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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

1. **Assertion:** what happens chemically when quicklime is added to water filled in a bucket?
Reason: when quicklime is added to water it does not react chemically to form slaked lime.
2. **Assertion:** why should magnesium ribbon be cleaned before burning in air?
Reason: magnesium ribbon should be cleaned before burning in air to remove the basic magnesium carbonate coating on it.
3. **Assertion:** A chemical equation can be balanced easily by altering the formula of a reactant or product.
Reason: chemical equation is balanced by multiplying the reactant and product with numbers like 2,3,4,5 and so on to balance the number of atoms in the chemical equation.
4. **Assertion:** How will you indicate the effect of exothermic reaction in a chemical reaction?
Reason: exothermic reaction is indicated by writing (aq) on the product side of a chemical reaction.
5. **Assertion:** A balanced chemical equation has an equal number of atoms of different elements in the reactants and products.
6. **Reason:** it has equal masses of various elements in the reactants and the products.
7. **Assertion:** when hydrogen is passed over copper oxide, copper and steam are formed.
Reason: chemicals present in this reaction are copper calcium hydroxide, calcium oxide and water
8. **Assertion:** What happens when dilute hydrochloric acid is added to sodium carbonate?
Reason: evolution of oxygen gas
9. **Assertion:** Is any change in state from solid to liquid and gas.
Reason: yes, change in state from solid to liquid and gas.
10. **Assertion:** electrolysis of water and decomposition of calcium carbonate are exothermic reactions.
Reason: burning of natural gas and respiration are exothermic reactions.
11. **Assertion:** When potassium iodide solution is added to a solution of Lead Nitrate yellow precipitate of lead iodide is formed.
Reason: When Potassium chlorate is heated oxygen gas is evolved

- 12. Assertion:** after white washing the walls, a shiny white finish on walls is obtained after two to three days.
Reason: calcium oxide reacts with carbon dioxide to form calcium hydrogen carbonate which gives shiny white finish.
- 13. Assertion:** solutions of barium chloride and sodium sulphate in water react to give insoluble barium sulphate and the solution of sodium chloride.
Reason: this is a displacement reaction.
- 14. Assertion:** what colour does the red cabbage extract indicator turn when added to a base or alkali such as sodium hydroxide?
Reason: red cabbage extract turns greenish- yellow in basic solution.
- 15. Assertion:** when a solution is added to Vanilla extract, then the characteristic smell of vanilla cannot be detected. State whether the given solution is an acid and a base.
Reason: when acidic solution is added to vanilla extract, it destroys the characteristics of vanilla.
- 16. Assertion:** Ant string contains methanoic acid.
Reason: nettle leaf string contains formic acid.
- 17. Assertion:** those substances whose smell changes in acidic or basic solution are called olfactory indicators.
Reason: onion and vanilla extract are olfactory indicators.
- 18. Assertion:** what are mineral acids?
Reason: they are known as inorganic acids. They are man- made and are derived from one or more inorganic compounds.
- 19. Assertion:** the solutions of compound such as glucose and ethyl alcohol show acidic character.
Reason: hydrochloric acid and sulphuric acid dissociate in aqueous solution to hydrogen ions.
- 20. Assertion:** what happens to hydrogen ions and temperature of the solution when an acid is neutralized?
Reason: when a base is added to acid, it nullifies the effect of the acid and removes the hydrogen ions from it and turns them into water. During a neutralization, the temperature of the solution increases because heat is produced.
- 21. Assertion:** Tooth decay starts when the pH of mouth is lower than 5.5.
Reason: Tooth enamel is made up of calcium phosphate and is the hardest part of the body. When the pH in mouth goes down and becomes 5.5. It is strong enough to corrode the enamel of the tooth.
- 22. Assertion:** Magnesium Hydroxide is a medicine for indigestion.
Reason: magnesium Hydroxide is a base as an antacid. It neutralizes excess acid present in the stomach and cures indigestion. Hence, it is used as a medicine.
- 23. Assertion:** Food chain is responsible for the entry of harmful chemicals in our bodies.
Reason: The length and complexity of food chain vary greatly.
- 24. Assertion:** Greater numbers of individuals are present in lower trophic level.
Reason: the flow of energy is unidirectional.

25. **Assertion:** a geneticist crossed a pea plant having violet flowers with a pea plant with white flowers; he got all violet flowers in first generation.

Reason: white colour gene is not passed onto next generation.

21. (a) 22. (b) 23. (b) 24. (a) 25. (d)
11. (c) 12. (c) 13. (a) 14. (c) 15. (b) 16. (a) 17. (a) 18. (d) 19. (a) 20. (a)
1. (c) 2. (a) 3. (d) 4. (c) 5. (a) 6. (c) 7. (c) 8. (a) 9. (d) 10. (c)

Answers: