Chemistry Practical Class 10 Studying the properties of acids and bases (HCl & NaOH) on the basis of their reaction with Solid sodium carbonate Viva Questions with Answers

Q1. What is an acid?
Answer: An acid is a chemical substance that can donate hydrogen ions to another chemical substance. It is sour in taste and has a pH value of less than 7.

Q2. What is a base?
Answer: A base is a chemical substance that can accept hydrogen ions from another chemical substance. It is bitter in taste and has a pH value of more than 7.

Q3. What is a strong acid? Give examples.
Answer: The acid that dissociates fully in an aqueous solution is known as a strong acid. Sulfuric acid, nitric acid and hydrochloric acid are examples of some strong acids.

Q4. What is a weak acid? Give examples.
Answer: The acid that dissociates partially in an aqueous solution is known as a weak acid. Formic Acid, Acetic Acid and Benzoic Acid are examples of some weak acids.

Q5. What is a strong base? Give examples.
Answer: The base that dissociates fully in an aqueous solution is known as a strong base. Lithium hydroxide, Sodium hydroxide and Potassium hydroxide are examples of some strong bases.

Q6. What is a weak base? Give examples.
Answer: The base that dissociates partially in an aqueous solution is known as a weak base. Ammonia, Aliminium hydroxide and Ferric hydroxide are examples of some weak bases.

Q7. Which gas is liberated when sodium carbonate reacts with hydrochloric acid?
Answer: When sodium carbonate reacts with hydrochloric acid, carbon dioxide gas is liberated.
Na_2CO_3 (s) + 2HCl (aq) → 2NaCl (aq) + CO_2 (g) + H_2O (l)

Q8. What is the utility of sodium bicarbonate and hydrochloric acid reaction in daily life situations?

Answer: Sodium bicarbonate works as an antacid. It is used to neutralise excess hydrochloric acid in the stomach.

Q9. How can we clean the deposits of hydrogen carbonates or carbonates on the metal surface?
Answer: We clean the deposits of hydrogen carbonates or carbonates on the metal surface by using dilute hydrochloric acid or acetic acid solution.

Q10. If a moist blue litmus paper is brought near carbon dioxide gas. What change would be observed on the blue litmus paper?
Answer: Carbon dioxide will react with water leading to the formation of carbonic acid.
$CO_2 + H_2O \rightarrow H_2CO_2$
Carbonic acid will then change the colour of blue litmus to red.

Q11. When CO_2 is passed through the lime water, it turns it milky. Why?
Answer: When CO_2 is passed through the lime water, it turns it milky due to the formation of insoluble calcium carbonate.

Q12. Name a substance that can be used to identify the gas that evolved when a dilute hydrochloric acid reacts with solid sodium carbonate?
Answer: Lime water can be used to identify the gas that evolved when a dilute hydrochloric acid reacts with solid sodium carbonate. Lime water reacts with the carbon dioxide gas to form insoluble calcium carbonate.

Q13. A drop of red litmus solution is poured into a metal carbonate solution. The colour of the litmus solution changed to blue. What is the nature of metallic carbonate solution?
Answer: Blue colour indicates that the metal carbonates are basic in nature.

Q14. A dilute sodium carbonate solution was added to two test tubes, one containing dilute hydrochloric acid (A) and the other containing dilute sodium hydroxide (B). What change will you observe in each test tube?
Answer: We will observe a reaction in test tube A. Dilute hydrochloric acid will react with sodium carbonate solution to form a salt, water and colourless carbon dioxide gas.
$Na_2CO_3\,(s) + 2HCl\,(aq) \rightarrow 2NaCl\,(aq) + CO_2\,(g) + H_2O\,(l)$
While no reaction will take place in the test tube B.