

**CLASS X**  
**Subject: Chemistry**  
**Chapter 2: Acids, Bases and Salts**  
**Assignment**

**Following Assignment to be done on A4 size sheets.**

**I. Answer the following questions:**

- Q1. A student prepared solution of (i) an acid and (ii) a base in two separate beakers. She forgot to label the solutions and litmus paper is not available in the laboratory. Since both the solutions are colourless, how will she distinguish between the two?
- Q2. A white powder 'Z' is used by doctors to support fractured bones.
- Write the name and chemical formula of the white powder 'Z'.
  - How is this prepared?
  - When this white powder 'Z' is mixed with water a hard-solid mass is obtained. Write a balanced chemical equation for the change.
  - Give one more use of this white powder 'Z'.
- Q3. Write the name and chemical formula of calcium compound used as disinfectant. How is this compound manufactured?
- Q4. You have four solutions A, B, C and D. the pH of solution A is 6, B is 9, C is 12 and D is 7.
- Identify the most acidic and most basic solution.
  - Arrange the above four solutions in the increasing order of  $H^+$  ion concentration.
  - State the change in colour of pH paper on dipping in solutions C and D.
- Q5. Why does honey bee sting cause pain and irritation? Give a method to get relief from the discomfort.
- Q6. Write the chemical name of compound present in tooth enamel. What is the nature of compound?
- Q7. How many molecules of water of crystallization are present in:
- Copper sulphate crystals
  - Gypsum
- Q8. Differentiate between hydrated and anhydrous salts? Give one example of each.
- Q9. A compound 'X' on electrolysis in aqueous solution produces a strong base, 'Y' along with two gases 'A' and 'B'. 'B' is used in the manufacturing of bleaching powder. Identify 'X', 'Y', 'A' and 'B'. Also mention the chemical equations.
- Q10. The oxide of a metal 'M' was water soluble when a blue litmus strip was dipped in this solution, it did not go any change in colour. Predict the nature of oxide.

**II. Multiple Choice Questions. Choose the correct answer.**

- One of the constituents of baking powder is sodium hydrogen carbonate, the other constituent is:
  - Hydrochloric acid
  - Tartaric acid
  - Acetic acid
  - Sulphuric acid.
- Which of the following will turn phenolphthalein pink?
  - NaOH
  - HCl
  - $CH_3COOH$

- d)  $\text{H}_2\text{O}$
3. The compound formed during electrolysis of brine is:
- $\text{Cl}_2$
  - $\text{H}_2$
  - $\text{NaOH}$
  - $\text{NaH}$
4. A teacher gave two test tubes – one containing water and the other containing sodium hydroxide solution to two students. Then he asked them to identify the test tube containing sodium hydroxide solution. Which one of the following can be used for correctly identifying the test tube containing the solution of sodium hydroxide?
- Blue litmus
  - Red litmus
  - Sodium carbonate solution
  - Dilute  $\text{HCl}$
5. To relieve pain caused due to acidity, we can take :
- sour milk
  - lemon juice
  - orange juice
  - milk of magnesia
6. You are given four unknown solutions I, II, III, and IV. The pH values of these solutions are found to be 3, 7, 8, and 10 respectively. Among the given solutions, which solution has the highest hydrogen ion concentration?
- I
  - II
  - III
  - IV
7. Sodium chloride is a salt of :
- a weak acid and a weak base
  - a strong acid and a strong base
  - a weak acid and a strong base
  - a strong acid and a weak base
8. Which of the following is a salt of a weak acid and a weak base?
- $\text{NaCl}$
  - $\text{KNO}_3$
  - $\text{Na}_2\text{CO}_3$
  - $(\text{NH}_4)_2\text{CO}_3$
9. If there is a decrease in the concentration of  $\text{H}_3\text{O}^+$ , what is the change in the pH of the solution?
- No change
  - Increase
  - Decrease
  - may increase or decrease
10. Farmers use \_\_\_\_\_ for neutralization of acidic soil.
- $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
  - $\text{CaO}$
  - $\text{H}_2\text{CO}_3$
  - $\text{CH}_3\text{COOH}$

**III. Read the assertion and reason statements carefully and mark the correct option out**

of the following options:

- a) If both assertion and reason are true and the reason is the correct explanation of the assertion.
- b) If both the assertion and reason are true but the reason is not the correct explanation of the assertion.
- c) If assertion is true but reason is false.
- d) If both assertion and reason are false.

1. Assertion (A): Carbonic Acids is used in making soft drinks.  
Reason (R) : All mineral acids are corrosive.
2. Assertion (A): Lime Juice has a sour taste, while lime water is slightly bitter.  
Reason (R) :The bitter taste of lime water is due to dilution.
3. Assertion (A): Antacids are used to get rid of pain caused by indigestion.  
Reason (R) :Antacids neturalise the excess acid produced in the stomach.
4. Assertion (A): Tooth decay starts when the pH of the mouth is lower than 5.5.  
Reason (R) : Bee – Sting leaves an acid which causes pain and irritation.
5. Assertion (A): When pH of rain water is more than 7, it is called acid rain.  
Reason (R) : When electricity is passed through an aqueous solutions of sodium chloride, it decomposes to form sodium carbonate.