

**Answer all the Questions:**

**A) Short Answer Type Questions:**

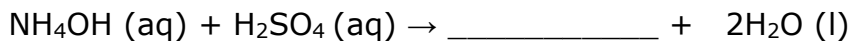
1. Name the natural source of each of the following acid  
(i) Citric acid. (ii) Oxalic acid.  
(iii) Lactic acid. (iv) Tartaric acid.
2. A student detected the pH of four unknown solution A, B, C and D as follows 11, 5, 7 and 2. Predict the nature of the solution.
3. (i) Give the constituents of baking powder  
(ii) Why cake or bread swells on adding baking powder? Write chemical equation.
4. A white coloured powder is used by doctors for supporting fractured bones.  
(a) Write chemical name and formula of the powder.  
(b) When this white powder is mixed with water a hard solid mass is obtained. Write balanced chemical equation for the change.
5. Explain the action of dilute hydrochloric acid on the following with chemical equation:  
(i) Magnesium ribbon (ii) Sodium hydroxide (iii) Crushed egg shells

**B) Long Answer Type Questions:**

1. (i) Dry pellets of a base 'X' when kept in open absorb moisture and turn sticky. The compound is also formed by chlor-alkali process. Write chemical name and formula of X. Describe chlor-alkali process with balanced chemical equation. Name the type of reaction that occurs when X is treated with dilute hydrochloric acid. Write the chemical equation. (ii) While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?
2. (a) Crystals of a substance changed their colour on heating in a closed test tube but regained it after some time when they were allowed to cool down. Name the substance and write its formula and explain the phenomenon involved.  
(b) Name the compound whose one formula unit is associated with 10 water molecules. How is it prepared? Give equations of related reactions. Give two uses of the compound.
3. Name the products formed in each case when  
(a) hydrochloric acid reacts with caustic soda.  
(b) granulated zinc reacts with caustic soda.  
(c) carbon dioxide is passed into lime water.
4. Compounds like alcohols and glucose also contain hydrogen but are not categorised as acids. Discuss an activity to prove it.
5. Describe an activity with diagram to illustrate that the reaction of metal carbonates and metal bicarbonates with acids produces carbon dioxide. Write the relevant equations of all the reactions that take place. Name any two forms in which calcium carbonate is found in nature.

**C) Multiple Choice Questions:**

1. In the following reaction, identify the salt formed



- a.  $\text{NH}_4\text{NO}_3$
- b.  $(\text{NH}_4)_2\text{SO}_4$
- c.  $(\text{NH}_4)_3\text{PO}_4$
- d.  $(\text{NH}_4)_2\text{S}$

2. In terms of acidic strength, which one of the following is in the correct increasing order?

- (a) Water < Acetic acid < Hydrochloric acid
- (b) Water < Hydrochloric acid < Acetic acid
- (c) Acetic acid < Water < Hydrochloric acid
- (d) Hydrochloric acid < Water < Acetic acid

3.  $\text{CaOCl}_2$  will liberate  $\text{Cl}_2$  gas in presence of

- (i)  $\text{CO}_2$  (ii)  $\text{HCl}$  (iii)  $\text{CO}$  (iv)  $\text{NO}$

- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (i) and (iv)
- (d) (ii) and (iv)

4.  $\text{Ag}_2\text{S}$  reacts with  $\text{H}_2\text{SO}_4$  to form:-

- (a)  $\text{AgSO}_4$
- (b)  $\text{Ag}_2\text{SO}_4 + \text{H}_2\text{S}$
- (c)  $\text{Ag}_2\text{O} + \text{H}_2\text{S}$
- (d)  $\text{AgOH} + \text{H}_2\text{S}$

5. An aqueous solution turns red litmus solution blue. Excess addition of which of the following solution would reverse the change?

- (a) Baking powder
- (b) Lime
- (c) Ammonium hydroxide solution
- (d) Hydrochloric acid