

Assignments in Science Class X

Topic: -Acids, Bases and Salts

IMPORTANT NOTES

1. **Acids** generally have a watery touch and sour taste. Some acids are highly corrosive in nature and can cause severe burns.
2. **Bases** generally have a soapy touch and bitter taste. Soluble bases have a corrosive action on the skin and can cause severe burns.
3. Aqueous solutions of acids and bases are good **conductors of electricity**.
4. **An acid** is a compound, which on dissolving in water gives hydronium ions or $H^+(aq)$ ions as the only positively charged ions.
5. **An alkali** is a compound, which on dissolving in water gives hydroxyl or $OH^-(aq)$ ions as the only negatively charged ions.
6. An oxide or a hydroxide of a metal which reacts with acids to form salt and water as the only products, is called a **base**.
7. **All bases/alkalises** have a positively charged metallic ion except ammonium hydroxide $[NH_4OH]$ which has a positive NH_4^+ radical.
8. The separation of $H^+(aq)$ ions from an acid takes place **only in the presence of water**. The separated $H^+(aq)$ ion can exist independently and hence combines with water molecule to form hydronium ion $[H_3O^+]$.
9. An acid containing least possible amount of water is called a **concentrated acid**.
10. An acid containing fairly large amount of water is called a **dilute acid**.
11. The process of mixing water in an acid is called **dilution of acid**. While diluting an acid **always add acid slowly to water and continuously stir the mixture**. It is because the reaction is generally exothermic and can cause spurting.
12. An alkali containing least possible amount of water is called a **concentrated alkali**.
13. Dilution of an acid/ alkali, **lowers the concentration** of $H^+(aq)/OH^-(aq)$ ions per unit volume.
14. **pH scale** measures the concentration of $H^+(aq)$ ions in a particular solution. In the word pH, p stands for "potenz" meaning power and H for the $H^+(aq)$ ions.
15. On the pH scale, the **concentration of $H^+(aq)$ ions** is measured from 0 to 14. Zero (0) is for highly acidic solution and 14 is for highly alkaline solution.
16. pH of **distilled water and neutral salt solution** is 7.
17. If the pH of a solution is less than 7, then it is an **acidic solution**. When the pH of a solution decreases from 7 to 0, the concentration of $H^+(aq)$ ions in it goes on increasing and so does the acidic character of the solution.

18. If the pH of a solution increases from 7 to 14, the concentration of $H^+(aq)$ ions decreases and that of $OH^-(aq)$ ions increases. So, the neutral solution becomes more and more alkaline, till at pH 14 it is highly alkaline.
19. pH is generally measured by **pH paper**, which is prepared by impregnating a filter paper in a solution of universal indicator and then drying.
20. The colours produced on the pH paper at different values are listed below.

pH	Colour	pH	Colour
0	Dark red	8	Greenish blue
1	Red	9	Blue
2	Red	10	Navy Blue
3	Orange red	11	Purple
4	Orange	12	Dark Purple
5	Orange yellow	13	Violet
6	Greenish yellow	14	Deep violet
7	Green		

21. Acid-base indicators are organic dyes derived from plant materials which shows the presence of acids and bases.
22. Litmus is a natural indicator, extracted from a plant, belonging to the thallophyta family.
23. The dyes from the plants, such as red cabbage leaves, coloured petals of plants such as Petunia, and Turmeric are other natural indicators.
24. Phenolphthalein and methyl orange are synthetic indicators which show the presence of acids and bases.
25. Blue litmus solution turns red in acidic solutions, but is not affected in basic solutions.
26. Red litmus solution turns blue in basic solutions, but is not affected in acidic solutions.
27. Phenolphthalein solution turns pink in basic solutions, but turns colourless in acidic solutions.
28. Methyl orange solution is yellow in basic solutions and pink in acidic solutions.
29. Turmeric solution turns brown in basic solutions, but remains yellow in acidic solutions.
30. The substance whose smell changes in acidic or basic medium are called olfactory indicators.
31. Acids react with active metals to form the salts of the metals and liberate hydrogen gas.
Active metals are sodium, potassium, calcium, magnesium, aluminium, zinc and iron.
Active metal + Acid \longrightarrow Metal salt + Hydrogen (g)
32. Acids react with metal carbonates to form their respective metal salts, water and carbon dioxide gas.
Metal carbonate + Acid \longrightarrow Metal salt + Water + Carbon dioxide gas.
33. Acids react with metal hydrogencarbonates (metal bicarbonates) to form their respective metal salts, water and carbon dioxide gas.
Metal hydrogencarbonate + Acid \longrightarrow Metal salt + Water + Carbon dioxide.

34. Acids react with metal oxides to form their respective salts and water as the only products.

$$\text{Metal oxide} + \text{Acid} \longrightarrow \text{Metal salt} + \text{water}.$$
35. Acids react with metal hydroxides to form their respective salts and water as the only product.

$$\text{Metal hydroxide} + \text{Acid} \longrightarrow \text{Metal salt} + \text{Water}$$
36. Substances which react with acids to form salt and water as the only products are called basic substances. Thus, oxides and hydroxides of metals are bases.
37. A chemical reaction in which an acid reacts completely with a base to form salt and water as the only products, is called a neutralization reaction.
38. All oxides of metals are insoluble in water.
39. All hydroxides of metals are insoluble in water, except the hydroxides of sodium, potassium, calcium and magnesium.
40. Soluble hydroxides of metals are called alkalises.
41. An acid solution which produces more $\text{H}^+(\text{aq})$ ions for an aqueous solution of 1 molar concentration is called a **strong acid**.
42. An acid which produces few $\text{H}^+(\text{aq})$ ions for an aqueous solution of 1 molar concentration is called a **weak acid**.
43. Sulphuric acid, hydrochloric acid, nitric acid and phosphoric acid are the examples of strong acids.
44. Carbonic acid, sulphurous acid, acetic acid, etc., are the examples of weak acids.
45. An alkali which produces more $\text{OH}^-(\text{aq})$ ions in an aqueous solution of 1 molar concentration, is called a **strong alkali**. Sodium hydroxide and potassium hydroxide are the examples of strong alkalies.
46. An alkali which produces few $\text{OH}^-(\text{aq})$ ions for an aqueous solution of 1 molar concentration, is called a **weak alkali**. Calcium hydroxide, magnesium hydroxide and ammonium hydroxide are examples of weak alkalies.
47. Some animals and plants employ acids/alkalises for their self defence.
48. An ionic compound containing a positive ion other than hydrogen ion and a negative ion other than hydroxyl ion is called a **salt**.
49. All the salts having the same negative ion/ radical, but different metallic ions is called a **family of salts**. Conversely, all the salts having the same positive metallic ion and different non-metallic ions/radicals is called a **family of salts**.
50. The salts formed by the action of strong acids with strong bases, are called **normal salts**.
51. The salts formed by the action of strong acids and weak bases are called **acid salts**.
52. The salts formed by the action of weak acids and strong alkalises are called **basic salts**.
53. **Common salt** is the most important and most abundant salt in nature. In addition to its use as an edible salt it is also a raw material for producing chemicals, such as chlorine, hydrogen, sodium and hydrochloric acid.
54. When saturated common salt is electrolysed, the products are sodium hydroxide, hydrogen and chlorine gas.
55. **Hydrogen gas** is used in
 A. (i) oxy-hydrogen flame (ii) hydrogenating vegetable oils,
 B. (iii) manufacture of ammonia and hydrochloric acid, (iv) as a rocket fuel.
56. **Chlorine gas** is used in:
 A. disinfecting water

- B. in the manufacture of bleaching powder, hydrochloric acid and pesticides
- C. in bleaching wood pulp and cotton fabrics
- D. in the manufacture of polyvinyl chloride and chlorofluorocarbons.

57. **Sodium hydroxide** is used :

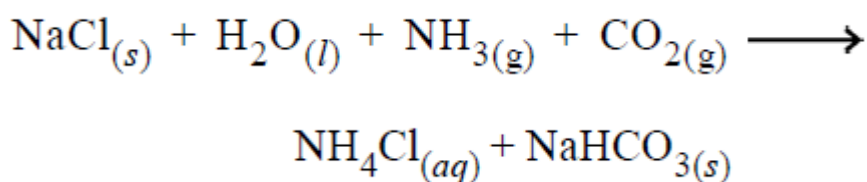
- (i) in the manufacture of all kinds of soaps and detergents
- (ii) making paper pulp in paper industry
- (iii) making artificial fibres like rayon and nylon
- (iv) for de-greasing surface of metals
- (v) and making bleaching agents such as sodium hypochlorite.

58. **Bleaching powder** is prepared by passing chlorine gas through freshly prepared slaked lime paste, till it stops reacting.

59. **Bleaching powder is used :**

- (i) for bleaching cotton-fabrics and wood pulp
- (ii) making unshrinkable wool
- (iii) in the manufacture of chloroform
- (iv) in sterilisation of drinking water, and
- (v) in disinfecting laboratories, drains, ditches, etc.

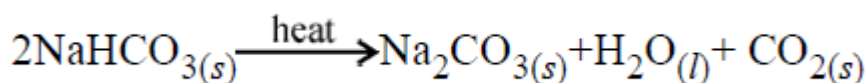
60. **Baking soda is prepared industrially** from common salt, by passing carbon dioxide gas through saturated ammonical common salt solution.



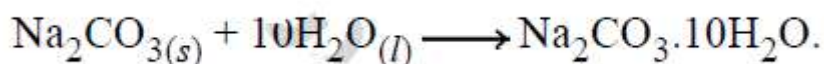
61. **Baking soda is used:**

- (i) in making baking powder
- (ii) as a constituent of antacids and
- (iii) in fire extinguishers.

62. **Soda ash** (anhydrous sodium carbonate) is prepared by strongly heating baking soda.



63. **Washing soda** (hydrated sodium carbonate) is prepared by dissolving soda ash in water and then crystallising it.

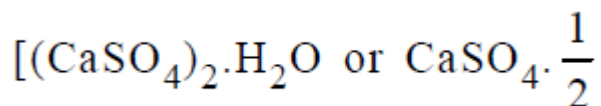


64. **Washing soda and soda ash** is used

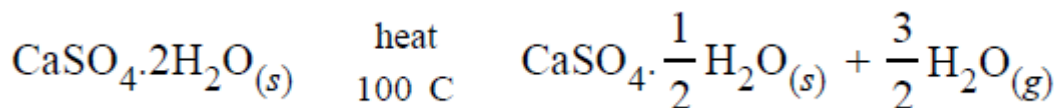
- (i) in softening of hard water
- (ii) in the manufacture of glass and dry soaps
- (iii) as a common cleansing agent in the household
- (iv) in the manufacture of caustic soda, boron and sodium phosphate.

65. The fixed number of water molecules, which are in loose combination with one molecule of a salt, is called **water of crystallisation**.

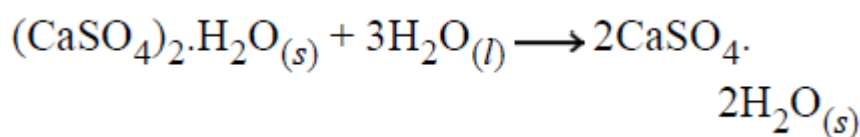
66. **Plaster of Paris** is chemically calcium sulphate hemihydrate



It is prepared by prolonged heating gypsum at a controlled temperature of 100°C.



67. **Plaster of Paris** reacts with water to give a hard mass called **gypsum**.



68. **Plaster of Paris is used :**

- (i) for keeping fractured bones in position
- (ii) in making decorative toys and panelling ceilings
- (iii) in making fire proof materials and
- (iv) in making blackboard chalk.

VERY SHORT ANSWER QUESTIONS

IMPORTANT QUESTIONS

1. Blue and red litmus papers are placed simultaneously in a colourless aqueous solution. It is found that the colour of both litmus papers is red. What is the nature of the solution and why?
2. A strip of absolutely clear cloth is sprayed with onion juice. The strip is then rubbed with few drops of hydrochloric acid. Will the strip smell like onion? Give a reason for your answer.
3. Name two metals which react with concentrated sodium hydroxide solution to liberate hydrogen gas.
4. Write the general word equation for reaction between acids and bases.
5. Name an alkali solution which has no metallic ion.
6. What is the pH of a neutral solution?
7. What is a universal indicator?
8. What do you understand by the term salt?
9. Write fully balanced equation when carbon dioxide is passed through ammonical brine solution.
10. Name a carbonate of a metal which has cleansing properties.
11. Name the chemical which is used as a preservative in pickles and curing fish.

QUESTIONS FROM CBSE EXAMINATION PAPERS

1. Write the name and chemical formula of the products formed by heating gypsum at 373 K.
2. The pH of a sample of vegetable soup was found to be 6.5. How is this soup likely to taste?
3. Write the names and chemical formula of the products formed by the action of chlorine on slaked lime.
4. Write the name and chemical formula of the main product formed by heating baking soda.
5. Which one is a stronger acid, with pH = 5 or with pH = 2?

6. A compound which is prepared from gypsum has the property of hardening when mixed with proper quantity of water. Identify the compound and write its chemical formula.
7. Name the acid present in ant sting.
8. Name a salt which does not contain water of crystallisation.
9. Why is it advised not to use copper or brass vessels to store pickles or curd?
10. What happens when water is added to quick lime?
11. Which bases are called alkalis? Give an example of an alkali.
12. What would be the colour of litmus in a solution of sodium carbonate?
13. Why does tooth decay start when the pH of the mouth is lower than 5.5?
14. Which one of these has a higher concentration of H^+ ions? 1 M HCl or 1 M CH_3COOH
15. What effect does an increase in concentration of $H^+(aq)$ in a solution have on the pH of the solution?
16. Name the gas usually liberated when a dilute acid reacts with a metal. What happens when a burning candle is brought near this gas?
17. Name the gas evolved when dilute HCl reacts with sodium hydrogen carbonate. How is it recognised?
18. How will you test for a gas which is liberated when hydrochloric acid reacts with an active metal?
19. On adding dilute hydrochloric acid to copper oxide powder, the solution formed is blue-green. Predict the new compound formed which imparts blue-green colour to the solution.
20. How does the flow of acid rain into a river make the survival of aquatic life in the river difficult?
21. How is the pH of a solution of an acid influenced when it is diluted?
22. How does the pH of the solution change when a solution of a base is diluted?
23. What is the role of acid in our stomach?
24. Choose strong acid and strong base from the following:
25. Dry ammonia gas has no action on litmus paper, but a solution of ammonia in water turns red litmus paper blue. Why is it so?
26. Write chemical equations to show the reactions taking place when a glass rod dipped in concentrated hydrochloric acid is introduced in a jar containing ammonia gas.
27. Write the name and the chemical formula of the organic acid present in vinegar.
28. Write balanced chemical equation for the reaction taking place when dry blue crystals of copper sulphate are dropped into concentrated sulphuric acid.
29. Which will be more acidic and why?
 - (i) A solution with pH value of 6.0 or
 - (ii) A solution with pH value of 5.0.

SHORT ANSWER QUESTIONS

IMPORTANT QUESTIONS

1. Why are all alkalis bases, but not all bases alkalis?
2. Why does nitric acid not produce hydrogen, when treated with metals?
3. Metal hydroxides and metal oxides are called bases. Explain and support your answer by balanced chemical equations.
4. Match the acids given in Column (A) with their correct sources given in Column (B).

Column A	Column B
(a) Lactic acid	(i) Tomato

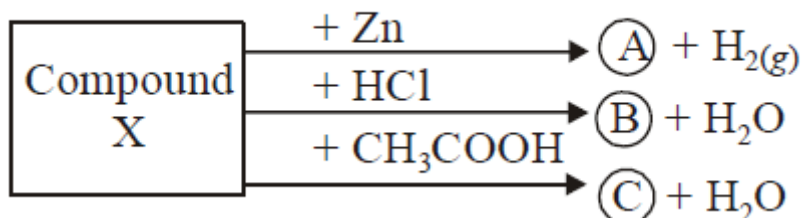
10. A knife, which is used to cut a fruit, was immediately dipped into water containing drops of blue litmus solution. If the colour of the solution is changed to red, what inference can be drawn about the nature of the fruit and why?
11. A person is suffering from indigestion due to the intake of hot spicy food. What remedy you will prescribe to the patient? Give the name of a chemical that can give relief to him.
12. A white powder A is a mild non corrosive base and is used in the preparation of cakes. When the powder is heated it gives another powder B. The powder B is re-crystallised to get a substance C which has detergent properties. Identify A, B and C and also write balanced chemical equations for the conversions of A to B.
13. What are the three products of 'Chlor-alkali processes? Write one commercially or industrially important material each that can be prepared from each of these products?
14. When a drop of orange juice is added to pure water, how the pH value vary for water? If a drop of lemon juice is also added, will there be any more change in the pH value?
15. Fresh milk has a pH of 6. How do you think the pH will change as it turns in to curd? Explain?
16. A milkman added a small amount of baking soda of fresh milk.
(a) Why does he shifted the pH of fresh milk to slightly alkaline?
(b) Why does this milk take a longer time to set as a curd?
17. HCl and HNO₃ show acidic characters in aqueous solution while alcohol and glucose solution do not. Give reasons.
18. Write the chemical formula for bleaching powder. How is bleaching powder prepared? For what purpose is it used in paper factories?
19. Write the name and chemical formula of the calcium compound used for disinfecting drinking water. How is this compound manufactured?
20. A compound which is prepared from gypsum has the property of hardening when mixed with a proper quantity of water. Identify the compound. Write the chemical equation for its preparation. For what purpose is it used in hospitals?
21. Describe an activity to show that acids produce ions only in aqueous solutions.
22. What is 'Baking Powder'? How does it make cakes soft and spongy?
23. How is Plaster of Paris obtained? What reaction is involved in the setting of a paste of Plaster of Paris?
24. (i) An aqueous solution has a pH value of 7.0. Is this solution acidic, basic or neutral?
(ii) Which has a higher pH value, 1 M HCl or 1 M NaOH solution?
25. Given below are the pH values of four different liquids: 7.0, 14.0, 4.0, 2.0. Which of these could be that of
(i) lemon juice
(ii) distilled water
(iii) 1 m sodium hydroxide solution
(iv) tomato juice
26. A calcium compound which is a yellowish white powder is used as a disinfectant and also in the textile industry. Name the compound. Which gas is released when this compound is left exposed to air?
27. Name the gas evolved when dilute sulphuric acid acts on sodium carbonate. Write the chemical equation for the reaction involved.
28. "Sulphuric acid is a dibasic acid." Write two reaction equations to justify this statement and name the reaction products in the two cases.
29. What happens when crystals of washing soda are left open in dry air? What is this change named as? Name two industries based on the use of washing soda.
30. How is Plaster of Paris chemically different from gypsum? How may they be interconverted? Write one use of Plaster of Paris.
31. State the chemical property in each case on which the following uses of baking soda are based:
(i) as an antacid. (ii) as a constituent of baking powder.

32. How is chloride of lime chemically different from calcium chloride? Why does the chloride of lime gradually lose its chlorine when kept exposed to air?
33. What is meant by the term 'pH of a solution'? The pH of gastric juices extracted from the stomach of two persons A and B were found to be 1 and 3 respectively. The stomach juice of which person is more acidic?

SHORT ANSWER QUESTIONS

IMPORTANT QUESTIONS

- What will you observe when a spoonful of black copper oxide is placed in a beaker containing warm and dilute sulphuric acid? Write a balanced equation in support of your answer and state the nature of copper (II) oxide in this reaction.
- In a test tube containing 4 ml of sodium hydroxide solution two drops of phenolphthalein and then hydrochloric acid is added drop by drop. State your observations and state the kind of reaction taking place.
- A sodium salt is placed in a dry test tube. To this salt is added 5 ml of hydrochloric acid. Then a lot of effervescence takes place with the liberations of a colourless gas. The gas on passing through a colourless solution, turns it milky. Answer the following questions.
 - Which gas is produced during the chemical reaction?
 - What is the colourless solution and why does it turn milky?
 - Why is effervescence produced during the chemical reaction?
- Describe your observations and explain by writing chemical equations, when carbon dioxide gas is passed through limewater:
 - for a minute
 - for more than 5 minutes.
- Identify the compound X on the basis of the reactions given below. Also, write the name and chemical formulae of A, B and C. **[HOTS]**



- A metal carbonate X on reacting with an acid gives a gas which when passed through a solution Y gives the carbonate back. On the other hand, a gas (G) that is obtained at the anode during electrolysis of brine is passed on dry Y, it gives a compound Z, used for disinfecting drinking water. Identify X, Y, G and Z. **[HOTS]**

QUESTIONS FROM CBSE EXAMINATION PAPERS

- Five solutions A, B, C, D and E when tested with universal indicator showed pH as 4, 1, 11, 7 and 9 respectively. Which solution is?
 - neutral
 - strongly alkaline
 - strongly acidic
 - weakly acidic
 - weakly alkaline.
 Arrange the pH in increasing order H-ion concentration.
- What happens when chlorine is passed over dry slaked lime? Write chemical equation of the reaction involved. Mention three properties of the product.
- (i) What do you understand by the term hydrated salt?
(ii) Give two examples of hydrated salt which are white and state their chemical formula.
- You are given two solutions A & B. The pH of solution A is 6 and pH of solution B is 8
 - Which solution is acidic and which is basic?
 - Which solution has more H⁺ ion concentration?

- (c) Why is HCl a stronger acid than acetic acid?
5. (a) An element 'X' on reacting with oxygen forms an oxide X_2O . The oxide dissolves in water and turns blue litmus red. Predict the nature of the element whether metal or nonmetal?
 (b) A solution of copper sulphate was kept in an iron pot. After few days, the pot developed some holes in it. How will your account for this.
6. Fill in the missing data in the following table

Name of the salt	formula	Salt obtained from	
		Base	Acid
(i) Ammonium chloride	NH_4Cl	NH_4OH	—
(ii) Copper sulphate	—	—	H_2SO_4
(iii) Sodium chloride	$NaCl$	$NaOH$	—
(iv) Magnesium nitrate	$Mg(NO_3)_2$	—	HNO_3
(v) Potassium sulphate	K_2SO_4	—	—
(vi) Calcium nitrate	$Ca(NO_3)_2$	$Ca(OH)_2$	—

7. A student prepared solutions 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?
8. Tooth enamel is one of the hardest substance in our body. How does it undergo damage due to the eating of chocolates and sweets? What should we do to prevent it?
9. (a) What do you mean by Olfactory indicators?
 (b) Zinc is an amphoteric metal. Justify with reaction.
10. You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?
11. A gas is produced when conc. H_2SO_4 is added to solid sodium chloride taken in a test tube. The gas coming out through the delivery tube is passed over a dry blue litmus paper and then over a moist blue litmus paper. Record your observations and explain reason with the help of chemical equation.
12. Crystals of copper sulphate are heated in a test tube for some time.
 (a) What is the colour of copper sulphate crystals (i) before heating and (ii) after heating
 (b) What is the source of liquid droplets seen on the inner upper side of the test tube during the heating process?
13. What is meant by water of crystallisation in a substance? How would you show that copper sulphate crystals contain water of crystallisation?
14. (a) Why does an aqueous solution of an acid conduct electricity?
 (b) How does the concentration of hydronium ions (H_3O^+) change when a solution of an acid is diluted?
 (c) Which has a higher pH value, a concentrated or dilute solution of hydrochloric acid?
15. What is observed when
 (i) dilute sulphuric acid is added to solid sodium carbonate?
 (ii) hot concentrated sulphuric acid is added to sulphur?
 (iii) sulphur dioxide is passed through lime water?
 Also write chemical equations to represent the chemical reactions taking place in each case.
16. (i) Name the raw materials used in the manufacture of sodium carbonate by Solvay process.

(ii) How is the sodium hydrogen carbonate formed during Solvay process separated from a mixture of NH_4Cl and NaHCO_3 ?

(iii) How is sodium carbonate obtained from sodium hydrogen carbonate?

17. What are the salts among chemical substances?

Give an example of a salt derived from a strong acid and a weak base. State the behaviour of the aqueous solution of this salt towards litmus solution.

18. (i) What is the action of litmus on

(a) Dry ammonia gas.

(b) Solution of ammonia gas in water

(ii) State the observations you would make on adding ammonium hydroxide to aqueous solutions of (a) Ferrous sulphate (b) Aluminium chloride

19. (i) Differentiate between 'strong' and 'weak' electrolytes.

(ii) Select the strong electrolytes from amongst the following: molten NaCl , glacial CH_3COOH , strong NH_4OH solution, dil. HCl .

20. Identify the compound of calcium which is yellowish white powder and is used for disinfecting drinking water. How is it manufactured? Write the chemical equation for the reaction involved. What happens when it is left exposed to air?

21. A compound X of sodium forms a white powder. It is a constituent of baking powder and is used in some antacid prescriptions. When heated, X gives out a gas and steam. The gas forms a white precipitate with limewater. Write the chemical formula and name of X and the chemical equation for its decomposition on heating. What is its role in baking powder and in antacids?

LONG ANSWER QUESTIONS

IMPORTANT QUESTIONS

1. (i) What do you understand by the term hydrated salt?

(ii) Give two examples of hydrated salts which are coloured and state their chemical formula.

(iii) Give two examples of hydrated salts which are white and state their chemical formula.

2. Explain, why a solution of zinc sulphate or a solution of ammonium chloride is acidic in nature.

3. Zinc granules are heated with conc. Sodium hydroxide solution and the gas evolved is passed through soap solution, then the tiny bubbles of soap float up in the air. Answer the following questions.

(a) Which gas is evolved in the above reaction?

(b) Why do the soap bubbles rise up in the air?

(c) Write a word equation, and a fully balanced equation for the above reaction.

(d) Name three more metals which will show similar reaction as above.

4. A drop of water is poured over a white powdery substance. Then it is observed that the substance turns blue. Answer the following questions:

(i) What is the white powdery substance?

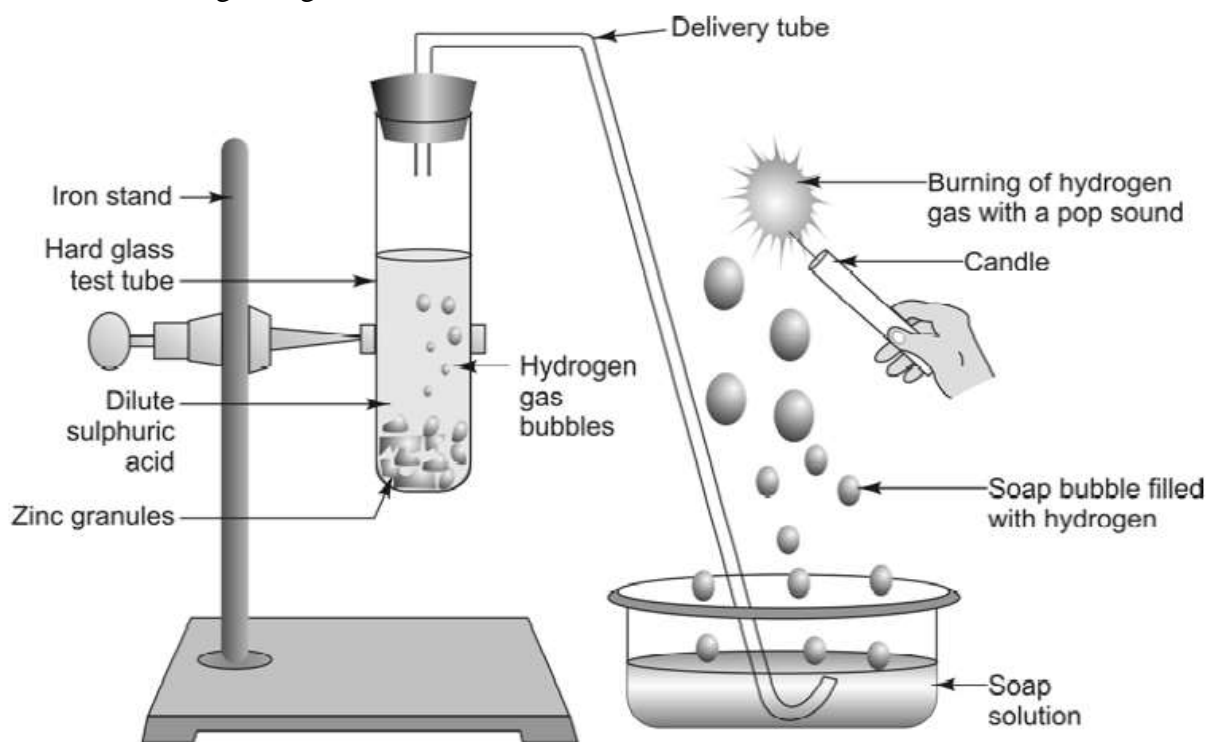
(ii) Why does the substance change to blue colour?

(iii) Write the chemical formula of the blue substance.

(iv) Is the blue substance an acidic salt or a basic salt?

(v) Give a reason for your answer in (iv)

5. In the following schematic diagram for the preparation of hydrogen gas as shown, what would happen if the following changes are made? **[HOTS]**



- In place of zinc granules, same amount of zinc dust is taken in the test tube.
- Instead of dilute sulphuric acid, dilute hydrochloric acid is taken.
- In place of zinc, copper turnings are taken.
- Sodium hydroxide is taken in place of dilute sulphuric acid and the tube is heated.

QUESTIONS FROM CBSE EXAMINATION PAPERS

- Account for the following.
 - Dry HCl gas does not change the colour of dry blue litmus paper.
 - Antacid tablets are used by a person suffering from stomach pain.
 - Toothpaste is used for cleaning teeth.
- What are strong acids and weak acids? Give an example for each.
 - While diluting an acid, why is it recommended that the acid should be added to water and not water to acid?
 - A dry pellet of a common base 'B' when kept in open absorbs moisture and turns sticky. The compound is also formed by Chloralkals process. Identify B. What type of reaction occurs when B is treated with dilute hydrochloric acid? Write the chemical equation.