INDIAN SCHOOL NIZWA - WORKSHEET

CHEMISTRY

CH: 2 Acids, Bases and Salts

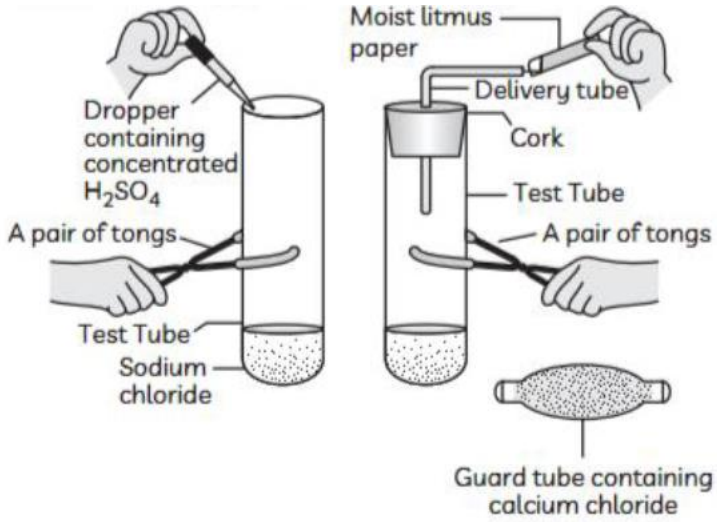
Name: _____ Date:_____ Class: XSec: ___

I. Multiple choice questions

1. Anu added a drop of acetic acid and hydrochloric acid on pH paper and compared the colour. Which of the following are the correct conclusions?
   a) pH of acetic acid is less than HCl
   b) pH of acetic acid is more than HCl
   c) Amount of hydronium ion produced from HCl is more than acetic acid
   d) Amount of hydronium ion produced from HCl is less than acetic acid
   e) HCl undergoes complete dissociation whereas acetic acid undergoes partial dissociation.
   f) HCl undergoes partial dissociation whereas acetic acid undergoes complete dissociation.
   g) HCl is a strong acid whereas acetic acid is weak acid
   h) HCl & acetic acid are strong acids.

   i) a,c,g ii) b,d,h iii) a,d,f iv) b,e,h

2. Change in the colour of moist litmus paper in the given experiment set up is due to

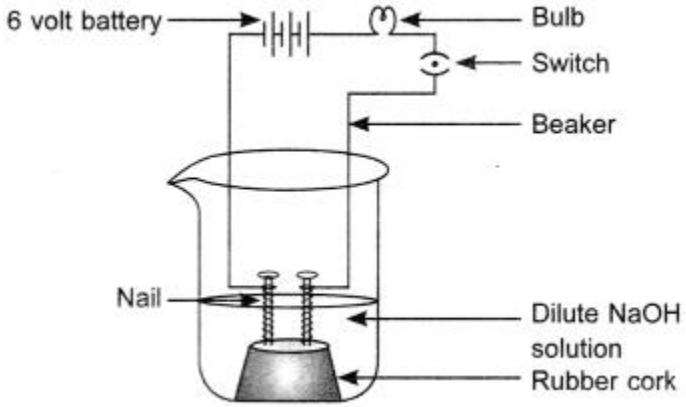


   a) Presence of acid
   b) Presence of base
   c) Presence of water

d) Presence of litmus paper as the indicator.

3. What happens when a solution of an acid is mixed with a solution of a base in a test tube?
(i) Temperature of the solution decreases
(ii) Temperature of the solution increases
(in) Temperature of the solution remains the same
(iv) Salt formation takes place
(a) (i) and (iv)
(b) (i) and (iii)
(c) (ii) only
(d) (ii) and (iv)

4. The apparatus given in the figure was set up to demonstrate electrical conductivity.



Which of the following statement(s) is (are) correct?

(i) Bulb will not glow because electrolyte is not acidic.

(ii) Bulb will glow because NaOH is a strong base and furnishes ions for conduction.

(iii) Bulb will not glow because circuit is incomplete.

(iv) Bulb will not glow because it depends upon the type of electrolytic solution.

(a) (i) and (iii)

(b) (ii) and (iv)

(c) (ii) only

(d) (iv) only

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) vinegar

II. HOTS questions

1. A chemical compound X is used in the soap and glass industry. It is prepared from brine.
   a) Write the chemical name, common name and chemical formula of X
   b) Write equation involved in its preparation.
   c) What happens when it is treated with water containing Ca or Mg salts.
2. Acidic character is shown only in aqueous solution. Describe an activity to prove it.
3. What would be the resultant solution and its colour with universal indicator if 10ml of H_2SO_4 is mixed with 10ml of $Mg(OH)_2$ of the same concentration.
4. A solution reacts with crushed egg shells to give a gas that turns lime water milky. What is the nature of solution? Which is the gas evolved?
5. a) What do you understand by pH?
   b) There are two solutions A and B. Solution A turns pink in a few drops of phenolphthalein is added to it. Solution B changes the colour of blue litmus to red. What range of pH would these solutions have?
   c) What can you say about the pH of a solution that liberated CO_2 from sodium carbonate solution?
6. Dry pellets of a base 'X' when kept in open absorbs moisture and turns 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 occurs when X is treated with dilute hydrochloric acid. Write the chemical equation.
7. What happens when:
   i) Washing soda is heated above 100^0C
   ii) Baking soda is heated
8. How would you distinguish between baking powder and baking soda by heating?
9. Name the salt used to remove the permanent hardness of water.
10. Copper sulphate crystals lose their blue colour and turn white while heated strongly. Give reason.
11. At what pH in the mouth is tooth decay faster and why?

12 Arrange the following in the increasing order of pH.

Milk of magnesia, lemon juice, pure water, sodium hydroxide.

13 A yellow powder X gives a pungent smell if left open in air. It is prepared by the reaction of dry compound Y with chlorine gas. It is used for disinfecting drinking water. Identify X and Y and write the reaction involved

14 You might have seen lemon or tamarind juice being used to clean tarnished surface of copper vessels. Explain why these sour substances are effective in cleaning vessels.

15 If acetic acid & hydrochloric acid of same concentration are taken, which of the two is a stronger acid and why?

16 A metal carbonate X on reacting with an acid gives a gas which when passed through the 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, Z. Write the reaction involved in the above reactions.

17. Explain why sour substances are effective in cleaning the tarnished copper vessels.

18. "pH has great importance in our daily life". Justify this statement by giving two examples.

III. Assertion and reason questions

i) Both A &B are true and R is the correct explanation of A
ii) Both A &B are true and R is not the correct explanation of A
iii) A is true , but R is false
iv) A is false, but R is true

1) Assertion:Baking powder is used in making cake instead of using baking soda.
Reason: Baking powder contains tartaric acid which helps in removing bitter taste.
2) Assertion:Chemical name of bleaching powder is Calcium chloride
Reason:Calcium hydroxide reacts with chlorine to give bleaching powder.
3) Assertion:Plaster of Paris is stored in a moisture proof container
Reason: Gypsum sets to a hard mass when mixed with moisture.

IV. Case based question

20. pH of 3 solutions are given in the table. Answer the questions that follow.

Solutions	pH
A	1
B	7
C	14

i. Which of these solutions can react with Zn metal at normal temperature and gives hydrogen gas?

ii. Which of these solutions can be obtained when metal oxide is dissolved in water?

iii. Which of these solution can be used for the industrial manufacture of chlorine?

iv. Which of these solutions can be obtained when a non-metallic oxide is dissolved in water?