# CHEMISTRY

# BOOKS - OSWAAL CHEMISTRY (KANNADA ENGLISH)

# ACIDS,BASES AND SALTS

## Topic 1 Mcq

**1.** The group of compounds that will dissociate partially in aqueous solution is

A. Hydrochloric acid, Nitric acid

B. Carbonic acid,Phosphoric acid

C. Hydrochloric acid, phosphoric acid

D. Copper sulphate solution, sugar solution

**Answer:**

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**2.** Tooth decay starts if the pH of the mouth falls below:

A. 8.0

B. 7.0

C. 5.5

D. 3.5

**Answer:**

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**3.** Which of the following elements forms an acidic oxide?

A. Mg

B. Na

C. P

D. Al

**Answer:**

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Topic 1 Match The Column

**1.** Match the following columns

| Column A | Column B |
|---|---|
| 1. Photo decomposition | (a) $CaSO_4.2H_2O$ |
| 2. Electrolytic dissociation | (b) $CaSO_4(aq) + Fe(s) \longrightarrow Cu(s) + FeSO_4(aq)$ |
| 3. Displacement reaction | (c) Common salt (20%) |
| 4. Brine | (d) $2AgCl(s) \longrightarrow 2Ag + Cl_2$ |
| 5. Gypsum | (e) $2HCl(aq) \longrightarrow H_2(g) + Cl_2(g)$ |

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## Topic 1 Very Short Answer Question

**1.** Name the acid present in ant sting

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**2.** Fresh milk has a pH of 6. When it changes into curd (yogurt), will its pH value increase or decrease? Why?

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**3.** Which gas is usually liberated when an acid reacts with a metal?

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**4.** Which is a stronger acid, with pH =5 or with pH=2?

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**5.** What is the effect of an increase in concentration of $H^+$ ions? 1M HCl or 1M $CH_3COOH$.

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**6.** Why does tooth decay start when the pH of mouth is lower than 5.5

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**7.** How is the concentration of hydronium ions $\left(H_3O^+\right)$ affected when a solution of an acid is diluted ?

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## Topic 1 Short Answer Type Questions

**1.** What is meant by the term pH of a solution?

The pH of rain water collected from two cities A and B was found to be 6 and 5 respectively. The water of which city is more acidic?

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**2.** What is alkali? Give two example.

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**3.** Classify the following into acidic oxides and basic oxides:

$Na_2O, SO_2, MgO, CO_2$

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**4.** Write one word term of the following

(i) Water soluble base

(ii) A substance which dissociates on dissolving in water to produce hydrogen ions.

$[H^+(aq)ions]$

(iii) A reaction between an acid and a base to

form salt and water.

(iv) A substance which dissociates on dissolving in water to produce hydroxide ions $[OH^- ions]$

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**5.** Explain why an aqueous solution of sodium sulphate is neutral while an aqueous of sodium carbonate is basic in nature.

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**6.** Which gas is usually liberated when an acid reacts with a metal ? Illustrate with an example. How will you test for the presence of this gas ?

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**7.** What is the change in pH values of milk when it changs into curd? Explain.

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**8.** Give chemical equation to show the changes that occur when green coloured ferrous sulphate crystals are heated. Mention the change observed as well as reason for this change.

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**9.** 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?


**10.** Dry HCl gas does not change the colour of dry blue litmus paper . Give reasons.


**11.** Write chemical equations that show aluminium oxide reacts with acid as well as

base.

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**12.** While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid ?

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**13.** Why do HCl, $HNO_3$, etc., show acidic characters in aqueous solutions while solution

of compounds like alcohol and glucose do not show acidic character ?

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**14.** Compounds such as alcohols and glucose also contain hydrogen but are not categorised as acids. Describe an Activity to prove it.

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**15.** You must have been seen tarnished copper vessels being cleaned with lemon or tamarind juice. Explain why those sour substances are effective in cleaning the vessel.

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**16.** When a drop of orange juice is added to pure water, how the pH value will vary for water? If a drop of lemon juice is also added, will there be any more change in the pH value.

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**17.** While constructing a house ,a builder selects marble flooring and marble table tops for the kitchen where vinegar and juice of lemon, tamarind etc. Are more often used for cooking. Will you agree to this selection and why?

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## Topic 1 Short Answer Type Questions Ii

**1.** (a) What is the action of litmus on:

(i) Dry ammonia gas

(ii) Solution of ammonia gas in water

(b) State the observations you would make on adding sodium hydroxide to aqueous solution of :

(i) Ferrous sulphate

(ii) Aluminium chloride

Give balanced chemical equations.

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**2.** Differentiate between strong and weak acids. Identify the strong and weak acids from the following list of acids: Hydrochloric acid, acetic acid, formic acid, nitric acid.

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**3.** (i) Write the name given to bases that are highly soluble in water. Give an example.

(ii) How is tooth decay related to pH? How can it be prevented?

(iii) Why does bee-sting cause pain and

irritation? Rubbing of baking soda on the sting area gives relief. How?

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**4.** (i) Two solutions X and Y are tested with universal indicator. Solutions X turns orange whereas solution Y turns red. Which of the solutions is a stronger acid?

(ii) State the meaning of strong acids and weak acids. Give one example of each.

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**5.** Name the acid present in the following:

(i) Tomato (ii) Vinegar (iii) Tamarind

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**6.** A liquid has a pH less than 7 which represent an acidic solution:

(i) State the nature of solution, if its pH increases from 7 to 14.

(ii) Mention the ion whose concentration increases with the increase in pH value.

(iii) Suggest a method that is generally used for measuring the pH value.

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**7.** (i) Giving reason for each. State which of the following will conduct electricity and which will not?

(a) A solution of glucose

(b) Dil. Hydrochloric acid

(iii) If acetic acid and hydrochloric acid of same concentration are taken, which of the two is a

stronger acid and why?

(iii) How is the strength of an acid affected when some water is added to it?

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**8.** To the three solutions listed below, a few drops of phenophthalein and blue litmus were added separately. Specify the colour change in

each case, if any:

| Name of the solution | Colour change with phenolphthalein | Colour change with blue litmus |
|---|---|---|
| 1. Sodium carbonate | | |
| 2. Hydrochloric acid | | |
| 3. Sodium chloride | | |

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**9.** 10ml of water and 5ml of sulphuric acid are to be mixed in a beaker.

(i) State the method that should be followed.

(ii) Why should this method be followed.

(iii) What is this process called?

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**10.** Illustrate any three chemical properties of acids with examples.

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**11.** Sugandha prepares HCl gas in her school laboratory using certain chemicals, She puts

both dry and wet blue litmus paper in contact with the gas.

(i) Name the reagents used by Sugandha to prepare HCl gas.

(ii) State the colour changes observed with the dry and wet blue litmus paper.

Show the formation of ions when HCl gas combines with water.

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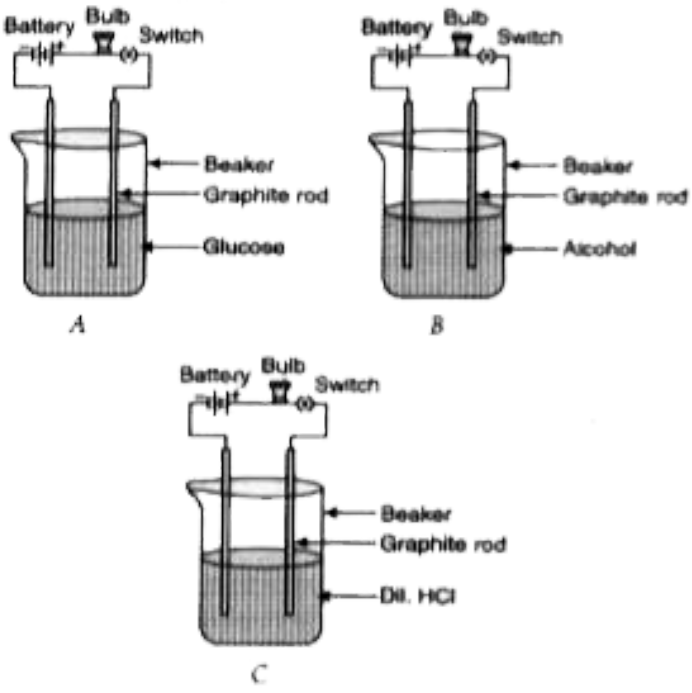
**12.** A student takes three beakers A,B and C filled with aqueous solution of glucose, alcohol and hydrochloric acid respectively as shown in the following figure.




(i) State your observations in terms of glowing of bulb when the switch is on.

(ii) Justify your observations by giving reason in each case.

(iii) Mention the change noticed with appropriate reason if the content of beaker B is replaced by sodium hydroxide solution.

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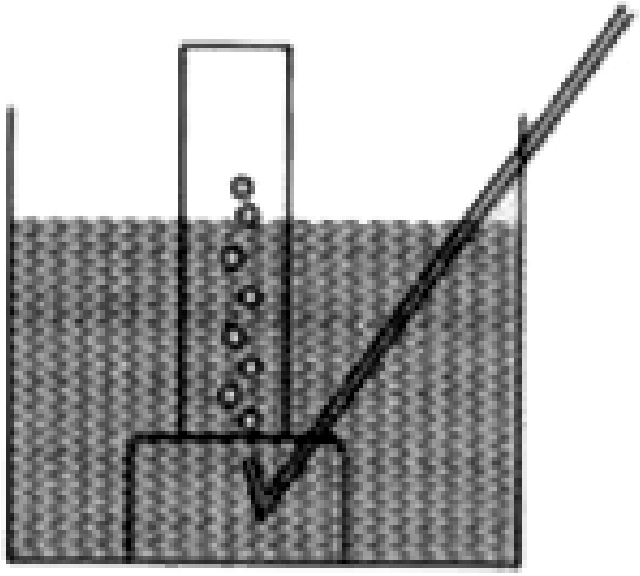
**13.** A metal is treated with dilute sulphuric acid. The gas evolved is collected by the method shown in the figure:



(i) Name the gas

(ii) Is the gas soluble or insoluble in water?

(iii) Is the gas lighter or heavier than air?

(iv) How will you test the gas

(v) IF the metal used above in zinc then write the chemical equation for the evolution of gas

(vi) Write one industrial use of the gas evolved.

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**14.** Explain the action of dilute hydrochloric acid on the following with chemical equation.

(a) Magnesium ribbon (b) Sodium hydroxide

(c ) Crushed egg shells

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**15.** A few crystals of copper sulphate are heated in B/F dry boiling tube:

(i) What is the colour before and after heating?

(ii) What is the reason for the colour change?

(iii) Can its original colour be restored? How?

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**16.** while eating food, you spill some curry on your shirt. You immediately scrub with soap,

what happens to its yellow colour on scrubbing with soap ? What happens to the stain when the shirt is washed with plenty of water ?

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**17.** After drinking excess of cold drink, a person suffers from acidity. Explain.

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## Topic 1 Long Answer Type Questions

**1.** In the following schematic diagram for the preparation of hydrogen gas as shown in figure, what would happens if the following changes are made?

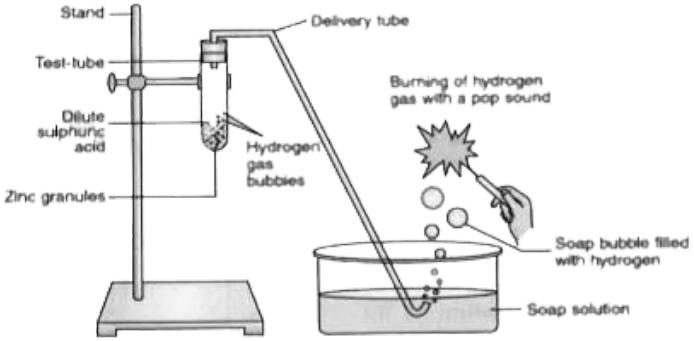
(a) In place of zinc granules. Same amount of zinc dust is taken in the test tube.

(b) Instead of dilute sulphuric acid, dilute hydrochloric acid is taken.

(C) In place of zinc, copper turnings are taken.

(D) Sodium hydroxide is taken in place of

dilute sulphuric acid and the test tube is heated.

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**2.** Define pH scale. Draw a figure showing variation of pH with the changes in concentration of $H^+(aq)$ and $OH^-(aq)$ ions.

(ii) Mention the range of pH of acidic solution and neutral solution respectively.

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**3.** (i) Define universal indicator. For what purpose it is used?

(ii) Two solutions A and B have pH values of 3.0 and 9.5 respectively. Which of these will turn litmus solution from blue to red and which will turn phenolphthalein from colourless to pink?

(iii) What is a neutral substance. WHat colour

will you get when you add a few drops of universal you get when you add a few drops of universal indicator of a test tube containing distilled water?

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**4.** Account for the following:

(i) State the relation between hydrogen ion concentration of an aqueous solution and its pH.

(ii) An aqueous solution has a pH value of 7.0

Is this solution acidic, basic or neutral.

(iii) Which has a higher pH value, 1M HCl or 1M NaOH solutions?

(iv) Tooth enamel is one of the hardest substances in our body. How does it undergo damange due to eating chocolates and sweets? What should we do to prevent it?

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**5.** (i) Acids as well as bases ionize in water . Name the ions produced by each in water.

(ii) If we have hydrochloric acid and acetic acid of equal concentration which will be a stronger acid and why?

(iii) How will the concentration of hydrogen ions gets affected if an acid is diluted.

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**6.** 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.

(i) identify the most acidic and the most basic of the solutions.

(ii) Arrange the above four solutions in the increasing order of the H+ ion concentration.

(iii) State the change in colour of pH paper on dipping in solution C and D.

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**7.** In a tabular form write the colours of the following indicators in presence of acid and base: Litmus solution , phenolphthalein solution, methyl orange solution.

(b) Classify the following given solutions A and

B in acidic and basic . Give reason.

Solutions A: $\left[H^{+}\right]$ is greater than $1.0 \times 10^{-7}$

SOlutions B: $\left[H^{+}\right]$ is lesser than $1.0 \times 10^{-7}$.

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**8.** (i) A local magician was showing magic in a village street. He took egg shell and poured a solution over it. As a result, effervescences were formed. When he took a burning matchstick over it, it went off.

(a) Identify the solution poured and the

substance present in eff shell.

(b) What is the reason behind effervescences?

( c) Write its balanced chemical equation.

(d) Give the common name of the substance present in the egg shell.

(ii) Draw a labelled diagram to show that acid solution in water conducts electricity.

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**9.** (i) Name the gas which is liberated when an acid reacts with a metal. How will you test the

presence of the gas.

(ii) Write the chemical equations for the reaction for zinc metal with :

(a) Hydrogen acid and

(b) Sodium hydroxide Write the chemical name of salt obtained in each case.

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**10.** (i) Bee sting leaves a chemical substances that causes pain and irrigation. Name the chemical substance. Identify the type of

substance which may give relief on the sting area when applied on it.

(ii) Mention the pH value below which tooth decay begins. How this fall below this value? Explain the ill effect of the acidic medium in the mouth. How can this be prevented?

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**11.** (i) Write balanced chemical equations only for the following chemical properties of acids:

(a) When an acid reacts with a metal.

(b) When an acid reacts with a metal bicarbonate.

(c ) When an acids reacts with a base.

(ii) Three solutions A, B and C has pH values 5,8 and 10 respectively. Amongst the three which solution as maximum hydrogen ion concentration? Classify the nature of the three solutions as acidic or basic?

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Topic 2 Mcq

**1.** The pH values of four solutions P Q R and S are 7.8,1.0,13.0 and 1.4 respectively.

The solution having highest hydrogen ion concentration among them is:

A. P

B. Q

C. R

D. S

**Answer:**

**2.** Identify the compound which is used as disinfectant.

A. $FeSO_4.7H_2O$

B. $CaSO_4.2H_2O$

C. $CuSO_4.5H_2O$

D. $Ca(OH)_2$

**Answer:**

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## Topic 2 Very Short Answer Type Questions

**1.** In a bakery, baking powder was not added while preparing cake. The cake obtained was hard and small in size . What is the reason for this.

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**2.** What would be the colour of litmus in a solution of sodium carbonate?

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**3.** Name a salt which does not contain water of crystallisation.

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**4.** Name the sodium compound which is used for softening hard water.

Watch Video Solution

**5.** What is the common name of the compound $CaOCl_2$ ?

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**6.** Write an equation to show the reaction between Plaster of Paris and water.

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## Topic 2 Short Answer Type Question I

**1.** Classify the following into acidic ,basic or neutral.

(i) NaCl (ii) $Na_2SO_4$ (iii) $CaCl_2$ (iv) $K_2CO_3$

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**2.** What is bleaching powder? How is it prepared? List two uses of bleaching powder.

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**3.** Classify the following salts as acidic, basic and neutral : Potassium sulphate, ammonium chloride , sodium carbonate, sodium chloride.

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**4.** Explain why an aqueous solution of sodium sulphate is neutral while an aqueous of sodium carbonate is basic in nature.

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**5.** Write the chemical name and formula of gypsum. What happens when gypsum is heated at 373K. Write chemical equation for the reaction.

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**6.** Write the chemical formula of baking soda. How is baking soda prepared? Write the reaction which takes place when it is heated during cooking.

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**7.** Name the gas evolved when sodium hydrogen carbonate is made to react with dilute hydrochloric acid. How will you test the gas?

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**8.** The colour of copper sulphate solution changes when an iron nail is dipped in it. State

the reason giving chemical equation for the reaction involved.

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**9.** A white powder is added while baking bread and cakes to make them soft and fluffy. Write the name of the powder. Name its main ingredients. Explain the function of each ingredient. Write the chemical reaciton taking place when the powder is heated.

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**10.** A green coloured hydrated metallic salt on heating loses its water of crystallisation and gives the smell of burning sulphur. Identify the salt and write down the reaction involved.

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**11.** What is the colour of $FeSO_4.7H_2O$ crystals? How does this colour change upon heating? Give balanced chemical equation for the changes.

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**12.** State the chemical name of plaster of paris . Write a chemical equation to show the reaction between plaster of paris and water.

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**13.** Crystals of a substance changed their colour on heating in a closed vessel but regained after sometime, when they were

allowed to cool down.

(i) Name one such substance.

(ii) Explain the phenomenon involved.

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**14.** An aluminium can is used to store ferrous sulphate solution. It is observed that in few days holes appeared in the can. Explain the observation and write the chemical equations to support your answer.

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**15.** (i) What would be the colour of the solution when copper oxide and dilute hydrochloric acid are mixed?

(ii) Write a chemical equation which represents that is effect of a base nullified by an acid and vice-versa.

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**16.** How will you prove that a given salt is a carbonate of a metal?

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## Topic 2 Short Answer Type Question Ii

**1.** Define water of crystallisation with two examples. How will you prove their existence in the examples given by you ?

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**2.** (i) What is meant by the term hydrated salt?

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

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**3.** What is meant by water of crystallization. How many molecules of water are present in hydrated copper sulphate? Write its formula. What colour change do you observe when it is heated?

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**4.** A sanitary worker uses a white chemical having strong smell of chlorine gas to disinfect the water tank.

(i) Identify the chemical compound write is chemical formula.

(ii) Give chemical equation for its preparation.

(iii) Write its two uses other than disinfection.

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**5.** In one of the industrial processes used for manufacture of sodium hydroxide, a gas X is formed as byproduct. The gas X reacts with lime water to give a compound Y which is used as a bleaching agent in chemical industry. Identify X and Y giving the chemical equation of the reactions involved.

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**6.** (i) How chloride of lime chemically differs from calcium chloride?

(ii) What happens when chloride of lime reacts with sulphuric acid. Write chemical equation involved.

(iii) Mention two uses of chloride of lime.

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**7.** Write the chemical formula of bleaching powder. Write balanced chemical equation

involved in the preparation of bleaching powder and write in three uses.

 Watch Video Solution

**8.** (i) A white powder is an active ingredient of antacids and is used for preparation of baking powder. Name the compounds and explain that how it is manufactured. Give chemical equation.

(ii) Write a chemical equation to show the effect of heat on this compound.

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**9.** Sodium hydrogen carbonate is a basic salt. Justify the statement how is it converted into washing soda? Explain.

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**10.** A student dropped a few pieces of marble chips in dilute hydrochloric acid contained in a test tube. The gas evolved was passed through lime water. What changes would be observed

lime water ? Write the chemical equations for both the changes observed.

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**11.** What happens when a solution of baking soda is heated? Write chemical equation for the same. Name the product which is reponsible for making the bread or cake spongy and fluffy.

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**12.** State what happens when :

(a) Gypsum is heated at $373K$

(b) Blue crystals of copper sulphate are heated

(c ) Excess of $CO_2$ is passed through lime water.

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**13.** (i) Write the chemical formula of each of the following:

(a) Plaster of paris

(b) Gypsum

(ii) How can plaster of paris be converted into gypsum.

(iii) List any one use of plaster of paris.

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**14.** A compound X on losing partial crystallization of water gives compound y which is used for making chall and other pottery articles. But when x is strongly heated it gives z which is used as drying agent. Identify x,y,z and write the chemical equation.

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**15.** Mention the products produced when an acid reacts with a base. Give equation of an example of the reaction involved. What is this kind of reaction known as?

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**16.** Name the three products of chlor-alkali process. Write one commerically or industrially

important material such that can be prepared from each of these products.

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**17.** (a) Crystals of a substance their colour on heating in a closed test tube but regained it after sometime when they were allowed to cool down. Name the substance and write its formula and explain the phenomenon involved.

(b) name the acid and base that would be

used to prepare the following salts:

(i) Potassium sulphate

(ii) Ammonium chloride.

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## Topic 2 Long Answer Type Questions

**1.** Give suitable reasons for the following statements:

(i) Rain water conducts electricity but distilled water does not.

(ii) We feel burning sensation in the stomach when we over seat.

(iii) A tarnished copper vessels regain its shine when rubbed with lemon.

(iv) The crystals of washing soda change to white powder on exposure to air.

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**2.** (a) Write the chemical formula of hydrated copper sulphate and anhydrous copper sulphate. Give an activity to illustrate how

these two are inter convertible.

(b) Write chemical names and formulae of Plaster of paris and gypsum.

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**3.** (i)What is the chemical name and chemical formula of Plaster of paris?

(ii) Write a reaction between plaster of paris and water.

(iii) Write two uses of washing soda.

(iv) What is chlor alkali process? Name two products obtained during this process.

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**4.** (i) Identify the acid and the base whose combination forms the common salt that you use in your food. Write its formula and chemical name of this salt. Name the source from where it is obtained.

(ii) What is rock salt? Mention its colour and the reason due to which it has this colour.

(iii) What happens when electricity is passed through brine? Write the chemical equation for it.

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**5.** (a) Write the common name of $CaOCl_2$ How it is prepared? Write the chemical equation of the reaction involved in the process. Give any two uses of it.

(ii) Write the chemical name of washing soda.

How is it prepared? Give the relevant chemical equations.

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**6.** (i) Write the chemical name and chemical formula of washing soda.

(ii) How is it obtained from sodium chloride? Give equations of the reaction.

(iii) Why it is called a basic salt?

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**7.** Write the chemical name and formula of common salt. List two main sources of common salt in nature. Write any two uses of common salt. How is it connected to our struggle for freedom?

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**8.** Write the chemical name of $Na_2CO_3.10H_2O$ and $Na_2CO_3$. Write the significance of $10H_2O$ Mention the term used for water molecules attached with a salt. With

the help of a chemical equation , explain the method of preparation of both $Na_2CO_3.10H_2O$ and $Na_2CO_3$. Also list two uses of $Na_2CO_3.10H_2O$

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**9.** (a) Study the following chemical equation:

$$CaSO_4.2H_2O \rightarrow^{373K} CaSO_4.\frac{1}{2}H_2O + \frac{3}{2}H_2O$$

Name the reactant and the product and mention one use of the product.

(b) The following salts are formed by the

reaction of an acid with a base:

(i) Sodium chloride (ii) Ammonium nitrate

Identify the acid and the base and tabulate your answer in the format given below:

| S. No. | Salt | Acid | Base | Nature |
|---|---|---|---|---|
| (i) | Sodium chloride | | | |
| (ii) | Ammonium nitrate | | | |

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**10.** We use colours dissolved in water during Holi and clothes gets spoiled. Many colours used to celebrate Holi are oxidized metals or industrial dyes mixed with engine oil. Doctors

say these are harmful colours which should be banned for usage. Manufactures mix dyes with colours, and sell them for their profits. Holi lovers can make their Holi colourful by using natural colours available in the market.Natural colours start fading when they come in contact with sun rays.

(i) Why doctors say that synthetic colours are harmful?

(ii) What are natural colours?

(iii) As a student what initiative you will take to motivate your classmates to use natural colours in Holi? Give any suggestions.

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## Ncert Corner Intext Questions

**1.** You have been provided with three test tubes. One of them cotains distilled water and the other two cotain 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 ?

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**2.** Why should curd and sour substances not be kept in brass and copper vessels ?

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**3.** Which gas is usually liberated when an acid reacts with a metal ? Illustrate with an example. How will you test for the presence of this gas ?

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**4.** Metal compound A reacts with dilute hydrochloric acid to produce effervescence. The gas evolved extinguishes a burning candle. Write a balanced chemical equation for the reaction if one of the compounds formed is calcium chloride.

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**5.** Why do HCl, $HNO_3$, etc., show acidic characters in aqueous solutions while solution

of compounds like alcohol and glucose do not show acidic character ?

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**6.** Why does an aqueous solution of an acid conduct electricity ?

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**7.** Why does dry HCl gas not change the colour of the dry litmus.

Watch Video Solution

**8.** While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid ?

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**9.** How is the concentration of hydronium ions $\left(H_3O^+\right)$ affected when a solution of an acid is diluted ?

Watch Video Solution

**10.** How is the concentration of hydroxide ions (OH -) affected when excess base is dissolved in a solution of sodium hydroxide ?

Watch Video Solution

**11.** You have two solutions, A and B. The pH of solution A is 6 and pH of solution B is 8. Which solution has more hydrogen ion concentration

? Which of this is acidic and which one is basic ?

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**12.** What effect does the concentration of $H^+$ (aq) ions have on the nature of the solution ?

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**13.** Do basic solutions also have $H^+$ aq ion ? If yes, then why are these basic ?

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**14.** Under what soil condition do you think a farmer would treat the soil of his fields with quick lime (calcium oxide) or slaked lime (calcium hydroxide) or chalk (calcium carbonate) ?

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**15.** What is the common name of the compound $CaOCl_2$ ?

Watch Video Solution

**16.** Name the substance which on treatment with chlorine yields bleaching powder.

Watch Video Solution

**17.** Name the sodium compound which is used for softening hard water.

Watch Video Solution

**18.** What will happen if a solution of sodium hydro carbonate is heated ? Give the equation of the reaction involved.

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**19.** Write an equation to show the reaction between Plaster of Paris and water.

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## Ncert Corner Textbook Exercises

**1.** A solution turns red litmus blue, its pH is likely to be

A. 1

B. 4

C. 5

D. 10

**Answer:**

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**2.** A solution reacts with crushed egg-shells to give a gas that turns lime-water milky.

The solution contains

A. NaCl

B. HCl

C. LiCl

D. KCl

**Answer:**

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**3.** 10 mL of a solution of NaOH is found to be completely neutralised by 8 mL of a given solution of HCl. If we take 20 mL of the same

solution of NaOH, the amount HCl solution (the same solution as before) required to neutralise it will be

A. 4ml

B. 8ml

C. 12ml

D. 16ml

**Answer:**

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**4.** Which one of the following types of medicines is used for treating indigestion ?

A. Antibiotic

B. Analgesic

C. Antacid

D. Antiseptic

**Answer:**

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**5.** Write word equations and then balance equations for the reaction taking place when-

(a) dilute sulphuric acid reacts with zinc granules.

(b) Dilute hydrochloric acid reacts with magnesium ribbon.

(c ) dilute sulphuric acid react with aluminium powder

(d) dilute hydrochloric acid reacts with iron fillings.

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**6.** Compounds such as alcohols and glucose also contain hydrogen but are not categorised as acids. Describe an Activity to prove it.

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**7.** Why does distilled water not conduct electricity, whereas rain water does ?

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**8.** Why do acids not show acidic behaviour in the absence of water ?

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**9.** Five solution A, B, C, D and E when tested with universal indicator showd pH as 4, 1, 11, 7 and 9 respectively. Which solution is

(a) neutral ? (b) stongly alkaline ?

(c ) strongly acidic ? (d) weakly acidic ?

(e) weakly alkaline ?

Arrange the pH in increasing order of hydrogen ion concentration.

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**10.** Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid (HCl) is added to test tube A, while acetic acid $(CH_3COOH)$ is added to test tube B. Amount of concentration taken for both acids are same. In which test tube will the fizzing occur more vigorously and why ?

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**11.** Fresh milk has a pH of 6. How do you think the pH will change as it turns into curd ? Explain your answer.

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**12.** A milkman adds a very small amount of baking soda to fresh milk.

(a) Why does he shift the pH of the fresh milk from 6 to slightly alkaline ?

(b) Why does this milk take a long time to set as curd ?

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**13.** Plaster of Paris should be stored in a moisture-proof container. Explain why ?

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**14.** What is a neutralization reaction ? Give two examples.

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**15.** Give two important uses to washing soda and baking soda.

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