CHEMISTRY

BOOKS - VGS BRILLIANT CHEMISTRY (TELUGU ENGLISH)

ACIDS, BASES AND SALTS

Textual Lesson Part Improve Your Learning Conceptual Understanding

1. Which property do you think of while suggesting the remedy from a problem of an acidity?

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2. 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:

(a) neutral (b) strongly alkaline (c) strongly acidic (d) weakly acidic (e) weakly alkaline Arrange the pH in increasing order of hydrogen ion concentration.

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3. What is a neutralization reaction? Give two examples

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4. What happens when an acid or base is mixed with water?

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5. Why does tooth decay start when the pH of mouth is lower than 5.5?

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6. Is the pH changes tooth decay? Explain.

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7. What value of pH in the mouth leads to tooth decay ? Why ?

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8. Why does not distilled water conduct electricity ?

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9. Why does pure acetic acid not conduct electricity?

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

Why does he shift the pH of the fresh milk from 6 to slightly alkaline

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11. Why does this milk take a long time to set as curd?

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12. Plaster of Paris should be stored in a moisture - proof container.

Explain why ?

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13. Compounds such as alcohols and glucose contain hydrogen but are not categorized as acids. Describe an activity to prove it

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14. The acidity of acids is attributed to the H^+. ions produced by thein in solution explain the above statement with an activity.

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15. What is meant by "water of crystallization" of a substance? Describe an activity to show the water of crystallization.

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16. Draw a neat diagram showing acid solution in water conducts electricity.

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17. How does the flow of acid rain into a river make the survival of aquatic life in a river difficult ?

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18. What is Baking powder ?

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19. Give two important uses of washing soda and baking soda.

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20. Write the chemical formulae for washing soda and Baking soda and give their uses.

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21. Write any four uses of washing soda.

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22. ..... taste is a characteristic property of all acids in aqueous solution.

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23. Acids react with some metals to produce ..... gas

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24. Because aqueous acid solutions conduct electricity, they are identified as ..... .

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25. Acids react with bases to produce a ..... and water.

Watch Video Solution

26. Acids tum methyle orange into ..... colour

Watch Video Solution

27. Bases tend to taste ..... and feel .....

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28. Like acids, aqueous basic solutions conduct ..... , and are identified as .....

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29. Bases react with ..... to produce a salt and .....

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30. Bases tum phenophthalein into ..... colour.

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31. 

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32. The colour of methyl orange indicator in acidic medium is

A. Yellow

B. green

C. orange

D. red

Answer: D

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33. The colour of phenolphthalein indicator in basic solution is

A. yellow

B. green

C. pink

D. orange

Answer: C

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34. Colour of methyl orange in alkali conditions

A. orange

B. yellow

C. red

D. blue

Answer: B

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

A. 1

B. 4

C. 5

D. 10

Answer: D

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36. If a solution converts red litmus into blue colour, then its pH value is ..... .

A. 1

B. 4

C. 5

D. 10

Answer: D

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37. 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: B

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38. If a base dissolves in water, by what name is it better known?

A. neutralization

B. basic

C. acid

D. alkali

Answer: D

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39. Which of the following substances when mixed together will produce table salt ?

A. Sodium thiosulphate and sulphur dioxide

B. Hydrochloric acid and sodium hyroxide

C. Chlorine and oxygen

D. Nitric acid and sodium hydrogen carbonate

Answer: B

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40. What colour would hydrochloric acid (pH = 1) turn universal indicator '?

A. orange

B. Purple

C. Yellow

D. red

Answer: D

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

A. antibiotic

B. analgesic

C. antacid

D. antiseptic

Answer: C

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42. What gas is produced when magnesium is made to react with hydrochloric acid ?

A. hydrogen

B. oxygen

C. carbon dioxide

D. no gas is produced

Answer: A

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43. Which of the following is the most accurate way of showing neutralization ?

A. Acid+base $\rightarrow$ acid-basic solution

B. Acid+base $\rightarrow$ salt+water

C. Acid+base $\rightarrow$ sodium chloride+hydrogen

D. Acid+base $\rightarrow$ neutral+hydrogen

Answer: B

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Try These

1. Dry hydrogen chloride gas does not turn blue litmus to red whereas hydrochloric acid does. Why?

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2. Fresh milk has a pH of 6. Explain why the pH changes as it turns into curd.

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3. Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid is added to test tube A. while acetic acid is added to test tube B. Amount and concentration of both the acids

are same. In which test tube will the fizzing occur more vigorously and why?

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4. How do you prepare your own indicator using beetroot? Explain.

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Activities

1. Testing the acids and bases with indicators viz .. Red litmus, blue litmus, phenolphthalein solution and methyl orange solution.

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2. What are OHactory indicators? Write an activity to prove them.

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3. How do you prepare your own oHactory indicator ? Write the process.

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4. Show that acids produce hydrogen gas when react with metals

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5. What are the material / substances required to produce hydrogen gas in your lab ? Write the process

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6. Write the required material and experimental procedure for the experiment, "Hydrochloric acid reacts with 'Zn' pieces and liberates H_2".

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7. Write an activity to know the reaction of bases with metals.

Watch Video Solution

8. Write an activity which proves certab,l bases produce hydrogen .gas when they react with metals.

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9. How can you conduct the ·given chemical reaction in your lab ?

Base+ Metal $\rightarrow$ Salt+ Hydrogen

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10. Show that the reaction of carbonates and metal hydrogen carbonates with acids produces carbondio:dde gas.

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11. How do you produce and test carbondioxide gas in your lab ?

Base+Metal $\rightarrow$ Salt+Hydrogen

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12. What is neutralization ? Explain an activity to demonstrate neutralization.

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13. Show that the metal oxides are basic in nature through an activity.

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14. Describe an activity to observe the reaction of metal oxides with acids. What do you observe ?

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15. Do acids produce ions only in aqueous solution ? Explain an activity to qbserve this

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16. "Dry HCl is not acid". How do you prove it?

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17. What happens when a base is dissolved in water ?

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18. Write an activity to show that dissolving of an acid in water is an exothermic process (or) endothermic process.

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19. Explain a test to know whether the acid (or base) is strong or weak.

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20. Collect the salt samples like sodium chloride, aluminium chloride, copper sulphate, sodium acetate, ammonium chloride, sodium hydrogen carbonate and sodium carbonate. Dissolve them in distilled water. Check the action of these solutions with litmus papers. Find the pH using pH paper. Classify them into acidic, basic or neutral salts. Identify the acid and base used to form the above salts. Record your observations in table

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21. Check the action of antacid tablet with acid.

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22. How can we test the pH value of the soil?

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23. How do you test the pH of the soil in the agriculture field ?

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24. Write the formulae of the following salts and classify them as families based on radicals. Potassium sulphate, sodium sulphate, calcium sulphate, magnesium sulphate, copper sulphate, sodium

chloride, sodium nitrate, sodium carbonate and ammonium Chloride.

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25. Identify the acids and bases from which they are obtained.

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26. Collect the salt samples like sodium chloride, aluminium chloride, copper sulphate, sodium acetate, ammonium chloride, sodium hydrogen carbonate and sodium carbonate. Dissolve them in distilled water. Check the action of these solutions with litmus papers. Find the pH using pH paper. Classify them into acidic, basic or neutral salts. Identify the acid and base used to form the above salts. Record your observations in table

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Think And Discuss

1. Is the substance present in antacid tablet acidic or basic?

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2. What type of reaction takes place in stomach when· an antacid tablet is consumed ?

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3. Which gas is usually liberated when an acid reacts with a metal ? 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 solutions of compounds like alcohol and glucose do not show acidic character ?

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6. What will happen if the pH value of chemicals in our body increases ?

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7. Why do living organisms have narrow pH range ?

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8. You are provided with three test tubes containing distilled water, an acid and a base solution respectively. If you are given only blue litmus paper, how do you identify the contents of each test tube ?

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9. 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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Section 1

1. Take 2 ml of NaOH in a test tube, add two drops of phenolphthalein solution and then add few drops of dil. HCl to it. What is your observation with respect to colour?

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2. Write any one of the natural indicators.

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3. Give one example to acid.

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4. Give one example to base.

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5. Which of the above solution changes Phenolphthalein solution into pink ?

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6. Give one example to olfactory indicator.

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7. If a solution of a substance changed red litmus paper into blue, guess the colour of it in methyl orange indicator.

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8. Give example for use of olfactory indicator in your daily life.

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9. Assertion (A) : Pickles and sour substances are not stored in brass and copper vessels.

Reason: Acids reacts with metals.

A) 'A' and 'R' are correct. R is a correct reason for A.

B) 'A' and 'R' are correct. R is not a correct reason for A.

C) 'A' is correct, but 'R' is wrong.

D) 'A' is wrong, but 'R' is correct.

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10. Which gas is evolved when an acid reacts with metal ?

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11. a) All acids give hydrogen gas with metals. ·

b) All bases give hydrogen gas with metals.

A. a and be correct

B. only 'a' is correct

C. only 'b' is correct

D. a and b are correct

Answer:

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12. Which apparatus is required to test hydrogen gas?

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13. What happens. when a burning candle bring near to the hydrogen gas ?

Watch Video Solution

14. Write two required substances to ·get hydrogen gas in your lab ?

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15. Write the products to the given reaction.

Metal+Acid

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16. Which salt is formed when NaOH reacts with Zn ?

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17. Which gas is released when acids react with carbonates-?

Watch Video Solution

18. Which substance do you use to test CO_2 gas?

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19. Which of the following gives CO_2 as a product?

A) $Na_2CO_3 + HCl \rightarrow$ B) $NaHCO_3 + HCl \rightarrow$ C) $Zn + HCl \rightarrow$

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20. Name the given reaction.

Base+Acid $\rightarrow$ Salt+Water

Watch Video Solution

21. What type of reaction takes place in stomach when· an antacid tablet is consumed ?

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22. What type of reactio':1 takes ptace when metal oxide reacts with acid ?

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23. What is the nature of metal oxides ?

Watch Video Solution

24. What is the nature of non - metal oxide ?

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25. If you add copper oxide to HCl solution in a beaker, how does colour of solution change?

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26. a) All non - metal oxides are basic in nature.

b) All metal ozicles are acidic in nature

Which of the above ls incorrect ?

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27. What is the common property of acids?

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28. Which ions are produced by acids in solutions ?

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29. For the reaction $A \rightarrow B$, the rate law expression is : rate = K[A].

Which of the following statements is incorrect ?

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30. In the above ezperiment bulb glows to the following solutions

A. alcohol

B. glucose

C. hydrochloric acid

D. sulphuric acid

Answer:

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31. Give example for a solutlon which gives H^+ ions in solutions.

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32. Which substance is used to dry a gas in a guard tube?

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33. What is a hydronium ion ?

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34. Which substance are called as alkalis?

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35. What will happen when a dry blue litmus paper dipped in dry HCl?

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36. Which of the following is a correct process ?

a) Acid must always be added slowly to water

b) Water must always be added slowly to acid.

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37. Suggest one indicator to test strength of acid or base.

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38. By which scale concentration of hydrogen ion in a solution is measured ?

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39. What is the pH of a neutral solution ?

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40. Match the following

a) pH of acidic solutions 1) less than 7

b) pH of basic solutions 2) 7

pH of neutral solution 3) greater than 7

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41. What is the range of pH values ?

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42. When does tooth decay start in our mouth ?

A. $pH < 7$

B. $pH > 7$

C. $pH < 5.5$

D. None

Answer: C

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43. Write one antacid.

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44. Take white antacid powder with water in a test tube add methyl orange indicator to it. Which colour do you observe ?

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45. Write the chemical reaction of milk of magnesia with excess of acid in our stomach.

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46. Guess the nature of the soil, if a farmer treats the soil of his fields with quick lime or calcium carbonate ?

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47. Which substance in your kitchen is useful to treat a honey-bee bite ?

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48. Which acid is produced by nettle plants ?

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49. What is the pH of a salt which was produced by a strong acid and a strong base ?

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50. What is the chemical name of table salt ?

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51. What is the raw material of Chlor-alkali process ?

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52. Which alkali is formed in Chlor-alkali process ?

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53. Write the products which are formed in Chloro alkali process

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54. Which substance is produced by the action of chlorine on dry slaked lime ?

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55. Match the following

a) Bleaching powder 1)$Na_2CO_3 \cdot 10H_2O$

b) Baking soda 2)$NaHCO_3$

c) Washing soda 3) $CaOCl_2$

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56. What is the chemical name of baking Soda ?

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57. If you heat baking soda, which gas is released?

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58. Which salt is used in fire extinguishers ?

A. $NaHCO_3$

B. NaCl

C. $CaOCl_2$

D. None

Answer: A

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59. How many water molecules are presented in a washing soda molecule ?

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60. What is the colour of $CuSO_4 \cdot 5H_2O$?

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61. How many no. of water molecules are there in one molecule of Gypsum ?

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62. Match the following

1) Plaster of Paris 1) $CaSO_{412}H_2O$

b) Gypsum 2) $Na_2CO_3 \cdot 10H_2O$

c) Washing soda $CaSO_4 \cdot 2H_2O$

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63. What is the chemical name of plaster of paris ?

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64. f you add water to P.O.P., what will happen?

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65. Which of the following should kept in air tight containers ?

A. $CaOCl_2$

B. $CaSO_4\frac{1}{2}H_2O$

C. $CaSO_4 \quad 2H_2O$

D. Above all

Answer:

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66. What happens if we keep $CaS\frac{O_{41}}{2}H_2O$ in open air?

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67. Which apparatus is useful to test a base solution ?

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68. Which substance is an acid ?

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69. Which substance does not show any colour with litmus ?

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70. Banaras,kanchipuram,dharmavaram are which type of fabrics?

A. Cotton

B. nylon

C. silk

D. Non of the above

Answer:

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71. Vijay tested a solution with phenolphthalein indicator it was changed into pink colour. What is the colour of methyl orange in that solution ?

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72. Calcium hydroxide is used to test which, gas ?

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73. Take 10 ml of water in a test tube. Add few sodium hydroxide pellets to it. Touch the bottom of the test tube. How do you feel ?

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74. pH substance

1) 12 A) Tomato juice

2) 4 B) Water

3) 7 C) Cooking soda

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75. How many water molecules are presentedin a molcule of plaster of paris ?

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76. The number of molecules of water in one unit formule is called by what ?

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77. Carbon dioxide

A. non-metal oxide-acidic

B. non-metal oxide-basic

C. metal oxide-acidic

D. none of the above

Answer:

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78. Person (A): All acids react with metals and release CO_2 gas.

Person

(B) : Some bases react with metals and release H_2 gas.

Which one is correct ?

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79. Which substance is base ?

A. metal oxide

B. metal hydroxide

C. both

D. zinc

Answer:

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80. Which gas is evolved when NaCl is added to H_2SO_4 ?

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Section 2

1. Take some water in a test tube and add concentrated H_2SO_4 to it. Shake the test tube well. If you touch the bottom of the test tube, you feel it as hot. Now, instead of H_2SO_4 , if you add NaOH pellets to water in another test tube and touch the bottom, what do you observe?

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2. Why does the soil of agricultural lands get tested for pH?

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3. What happens if the copper sulphate crystals taken into dry test tube are heated ?

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4. Write the molecular formulae of common salt and baking soda which are widely used at home.

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5. Mention the precautions to take while conducting an experiment to prove acids produce ions only in aqueous solutions.

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6. What is a litmus solution ?

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7. What are olfactory indicators ?

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8. What is the action of acids and bases with metals ? Give examples.

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9. What is the action of acids with carbonates and metal hydrogen carbonates?.

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10. What is neutralization reaction?

Watch Video Solution

11. What is the reaction of metal oxides with acids ?

Watch Video Solution

12. Metal oxide reacts with acid and gives salt and water. What is the nature of metal oxides?

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13. What do acids have in common?

Watch Video Solution

14. What is responsible for acidic property of acids?

Watch Video Solution

15. What do bases have in common?

Watch Video Solution

16. What are alkalis ?

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17. When acid is added to water, what type of reaction is it ?

Watch Video Solution

18. How do you decide the strength of acid or base ?

Watch Video Solution

19. What is a pH scale ?

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20. What is the range of a pH scale?

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21. How do you use pH scale to know whether a solution is acid or base ?

Watch Video Solution

22. What is the chemical name and formula of table salt?

Watch Video Solution

23. What is bleaching powder? Write its formula.

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24. Write the chemical equation for preparation of Baking soda.

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25. What is Baking powder ?

Watch Video Solution

26. What is water of crystallization?

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27. What is the reaction of Plaster of Paris with water ?

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28. What are the salts obtained from common salt ?

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29. What is a rock salt ?

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30. What does $10H_2O$ signify in the formula :$Na_2CO_{3.10}H_2O$?

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31. Write the formulas of gypsum and Plaster of Paris.·

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32. Write any two Acid Base indicators.

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33. Which salt is used in the manufacture of borax?

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34. What is the name of aqueous sodium chloride ?

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35. Who introduced pH ?

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36. Is the substance present in antacid tablet acidic or basis ?

Watch Video Solution

37. Give pH of neutral, acid and base.

Watch Video Solution

38. What is conformation test for hydrous and anbydrous salt ?

Watch Video Solution

39. P.O.P, cement, calcium chloride should be stored in moisture proof containers. Why?

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40. Give some examples for hydrous and anhydrollls salts.

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41. X is a substance, which was given red colour ,ivith methyl orange solution and H_2 gas ,ivlth Zn pieces. What would be X ?

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42. "A + B $\rightarrow$ Salt + water". It was written on the blackboard. To find the nature of the substances A and B, ·ask some questions.

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43. There are 3 substances in test tube A, test tub1e B and test tube C. B and C can form A. B and C can form H_2 gas. A, Band C gives different colours ,with universal solution. B turns blue litmus into red but not A and C. What would be A, B and C ?

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44. Suggest to your friend, the substances required to prepare sodium zincate (Na_2ZnO_2) in the lab?

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45. X' is a substance which gives CO_2 , water and. common salt on adding HCl to it. What would be 'X' ?

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46. Observe and prepare two questions while doillLg the following activity in the lab. Take 2 ml of dil. NaOH in a test tube and add on1e drop of phenolphthalein indicator. Mter that add dil. HCl solution to the above sc,lution drop by drop.

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47. Predict 'X' from the given figure. If X+base $\rightarrow$ water+NaCl

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48. Guess the reason for that the HCl, evolved in the reaction.

$2NaCl + H_2SO_4 \rightarrow 2HCl + Na_2SO_4$ is not an acid.

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49. What happens when $Mg(OH)_2$ is dissolved in water?

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50. x' ions cannot exist as bare ions. They associate with water molecules and exist as 'y' ions. Predict 'x' and 'y'.

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51. Which one of the following is preferred to control the acidity? Why?

A. $Mg(OH)_2$

B. NaOH

C. $NaCO_3$

D. HCl

Answer:

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52. What is the nature of the salt $CaSO_4$ formed by the reaction between calcium hydroxide and sulphuric acid?

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

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54. Why pura acetic acid does not turn blue litmus to red?

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55. Which substance / tool is used to test the gases, H_2 and CO_2?

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56. Name the required substances to perform a neutralization reaction in your lab?

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57. What precaution to be taken while diluting the con. Acid?

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58. How do Plaster of Paris obtain from gypsum?

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59. What is the change you observe in litmus paper with acid ?

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60. What is the change you observe in litmus paper with base ?

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61. Explain the procedure that you follow to reduce water from a given salt.

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62. Write the observations, when the hydrated salt or unhydrated salt is heated.

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63. Write some olfactory and artificial indicators

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64. Fill the table with given substances

$NaCl, Al(SO_2)_3, Na_2CO_3, CuSO_4, HCl, NaHCO_3, KCl, Na(SO_4)_2$

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65. Write some acids, bases and salts.

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66. label the parts of the figure in the experiment acid react with metal, explain.

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67. Label the parts in the given figure

View Text Solution

68. Label the parts in the given figure

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69. What do the given symbol represents?

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70. How do you appreciate the olfactory indicators?

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71. How do you appreciate the Plaster of Paris?

Watch Video Solution

72. How does neutralization reaction helps us ?

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73. How do you appreciate bleaching powder ?

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74. How do the universal indicator help us to know the strength of acid or base ?

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75. Name some acids which are used in domestic pupose?

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76. Name some salts which are used in your home?

Watch Video Solution

77. What will you do if a honey bee stings a person ?

Watch Video Solution

78. What will you do if the soil of your fields of crops are in acidic nature ?

Watch Video Solution

79. Which substance is used in bakeries to get soft and spongy cake ? What is its reaction ?

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80. How can you prepare turmeric indicator ? What is the use of it ?

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81. What are the uses of Hydrochloric acid (HCl) ?

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82. If someone in the family is suffering from a problem of acidity, which of the following would you suggest as a remedy : lemon juice, vinegar or baking soda solution ? Which property do you think of while suggesting the remedy ?

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Section 3

1. What value of pH in the mouth leads to tooth decay ? Why ?

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2. Equal lengths of magnesium ribbons are taken in test tubes A and B. Hydrochloric acid is added to test tube A. while acetic acid is added to test tube B. Amount and concentration of both the acids are same. In which test tube will the fizzing occur more vigorously and why?

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3. Name the four chemicals that are obtained from common salt and write their molecular formulae.

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4. Observe the information given in the table and answer the questions given below the table.

i) Which one of them may be the neutral salt among A. B, C ?

ii) What may happen when some drops of phenolphthalein is added to the substance B?

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5. Why do we use antacids? Write it's nature.

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6. Which product will form when Cao is dissolved in water ? How do you find the nature of product?

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7. Write the experimental procedure to test carbon dioxide gas.

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8. How do you know the nature of salt formed due to the reaction between acids and bases?

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9. Write a short note on pH scale.

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10. Write about universal indicator.

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11. Name two salts and water their formulae which possesses water of crystallization .

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12. What is a neutralization reaction? Give two examples

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13. Acid should be added to water but not water to the acid. Why ?

Watch Video Solution

14. Which gas is liberated when, acids react with metals ? Give one example?

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15. Some salts are given under. Classify them into hydrous and anhydrous salts. Sodium carbonate, Sodium chloride, Sodium hydrogen carbonate.Copper sulphate, hypo, Magnesium Sulphate (epsum salt)

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16. Ravi : "All compounds those contain hydrogen are acids".

Saritha : "Acids should produce H_3O^+ ions in water".

Who is correct?

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17. Ravi : "All compounds those contain hydrogen are acids".

Saritha : "Acids should produce H_3O^+ ions in water".

Who is wrong? Correct him / her by asking some questions. Frame them.

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18. Srilatha often confused with acids and bases. By asking some questions, Suneetha clarified the concepts of acids and bases. What would be those questions ?

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19. pH = - log $[H^+]$ it was written on the blackboard by Mohan. ?

By seeing this, James got many doubts in his mind. What would be those doubts .

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20. Balu : "Close the lid tightly after using the Plaster of Paris".

Venu : Why?

To clarify the doubt of Venu, Balu asked Venu some questions. What would be those questions?

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21. Mounica observed that the dry HCl gas was not turned the dry blue litmus paper into red colour.

Jahnavi explained the reason to Mounica by asking her some questions. What would be those questions ?

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22. Solution x turned blue litmus to red and Solution y turned red litmus to blue.

What products could be formed when x and y are mixed ?

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23. Solution x turned blue litmus to red and Solution y turned red litmus to blue.

Which gas is released when we put magnesium pieces in solution x?

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24. Solution x turned blue litmus to red and Solution y turned red litmus to blue.

Will any chemical reaction take place when zinc pieces are put in solution y ?

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25. Solution x turned blue litmus to red and Solution y turned red litmus to blue.

Which of the above solutions produce more hydrogen ions in solution ?

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26. Why do curd and sour substances not be kept in copper vessels ?

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27. What are the materials required to prepare and test the hydrogen gas in the lab by using acid and metal ? Where do you observe the evolved hydrogen gas ?

Watch Video Solution

28. How do you test the CO_2 gas ?

Watch Video Solution

29. Observe the colour and fill the given table.

Watch Video Solution

30. Arrange the apparatus bulb, battery, electrodes and a beaker and test the given substances for conduction of electricity. Answer the following questions

Watch Video Solution

31. Explain the procedure to confirm the given salt is a hydrous or anhydrous.

Watch Video Solution

32. Based on the properties of acids, bases and neutral solutions, fill the following table.

Indicators	Acedic solution	Basic solution	Neutral solution
Red litmus			No change in colour
Blue litmus	Red		
Phenolphthalein	No change in colour		
Methyl orange		yellow	
Universal			Parrot green

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33. Substance 'A' : It is produced by non metallic oxide.

Substance 'B' : It produces OH^- ions in aqueous solution.

1) Which substance can turn blue litmus to red ? Why ?

2) How do you prepare substance 'B' ?

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34. Fill the following of results of reactions between some substances (acids, bases, neutral substances) and indicators.

Indicator Substance	Litmus blue paper	Litmus Red paper	Methyl orange Indicator	Phenolphthalein solution
HCl		No reaction		
NaOH			Turned into yellow	
Tomato juice				No reaction
Normal		Normal		

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35. 1) Which of the above substance is a strong acid ?

2) Which of the above substances can form salt with basic nature ?

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36. Categorize the following as acids, bases, and salts :

lemon juice, salt water, soap water, tamarind juice, surf water, lime water.

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37. Draw a pH scale and label acids, bases and salts on the scale.

Watch Video Solution

38. Label the parts in given diagram.

Watch Video Solution

39. Adjacent diagram shows the removal of water crystallisation. what you observed?

Watch Video Solution

40. What is the role of pH in our digestive system ?

Watch Video Solution

41. Write some common acids and bases which are involved in our daily lives ?

Watch Video Solution

42. Write the self defence system in the bodies of animals and plants.

Watch Video Solution

Section 4

1. How do the acid rains influence the aquatic life ? What is our main responsbillty in safeguarding the aquatic life ?

Watch Video Solution

2. Explain an activity to show the water of crystallisation in $CuSO_{4.5}H_2O$.

Watch Video Solution

3. Draw a neat diagram showing a base solution in water conducts electricity. Why the solution of sugar/ glucose in water do not conduct electricity ?

Watch Video Solution

4. Read the information given in the table and answer the following questions.

List out the acids in the above table.

Solution	pH value	Reaction with Phenolphthalein solution	Reaction with Methyl orange solution
HCl	1	No colour change.	Turns into red colour.
Distilled water	7	No colour change.	No colour change.

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5. Read the information given in the table and answer the following questions.

What is the nature of the solution which gives pink colour with Phenolphthalene solution?

Watch Video Solution

6. Read the information given in the table and answer the following questions.

List out the neutral solution in the above table.

Watch Video Solution

7. Read the information given in the table and answer the following questions.

Name the strongest acid and the strongest base among the given solutions.

Solution	pH value	Reaction with Phenolphthalein solution	Reaction with Methyl orange solution
HCl	1	No colour change.	Turns into red colour.
Distilled water	7	No colour change.	No colour change.

Watch Video Solution

8. List out the materials required to test whether the solutions of given acids and bases contain ions or not. Explain the procedure of the experiment.

Watch Video Solution

9. Observe the following table and answer the questions given below.

The table contains the aqueous solutions of different substances with the same concentrations and theii respective pH value Which one of the above acid solutions is the weakest acid ? Give a reason

Watch Video Solution

10. Observe the following table and answer the questions given below.

The table contains the aqueous solutions of different substances with the same concentrations and theii respective pH values.

Which one of the above solutions is the strongest base ? Give a reason.

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11. Which of the above two produce maximum heat when they react ? What does called release heat energy ? acetic acid hydrochloric acid sodium hydroxide sodium chloride

Watch Video Solution

12. Observe the following table and answer the questions given below.

The table contains the aqueous solutions of different substances with the same concentrations and theii respective pH values.

Which one of the above solutions has the pH equal to that of the distilled water? What is the name given to solutions of that pH value ?

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13. List out the material for the experiment "when Hydrochloric acid reacts with $NaHCO_3$ and evolves CO_2". Write the experimental procedure.

Watch Video Solution

14. Prepare a table based on the colour responses of acid, base and salt with indicators such as red litmus paper, blue litmus paper, methyl orange and phenolphthalein indicators.

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15. If the pH values of solutions X, Y and Z are 13, 6 and 2 respectively then

which solution· is a strong acid ? Why ?

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16. If the pH values of solutions X, Y and Z are 13, 6 and 2 respectively then

which solution contains ions along with molecules of solution '?

Watch Video Solution

17. If the pH values of solutions X, Y and Z are 13, 6 and 2 respectively then

which solution Is a strong base ? Why ?

Watch Video Solution

18. If the pH values of solutions X, Y and Z are 13, 6 and 2 respectively then

does the pH value of a solution increase or decrease when a base is added to it '? Why?

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19. Describe how sodium hydroxide is obtained from common salt.

Watch Video Solution

20. Describe chlor - alkali process.

Watch Video Solution

21. Describe process of preparation of bleaching powder ? Write its uses.

Watch Video Solution

22. Write the chemical equation of preparation of baking soda. What are the uses of baking soda ?

Watch Video Solution

23. How do you prepare washing soda ? What are its uses ?

Watch Video Solution

24. Distinguish between acids and bases.

Watch Video Solution

25. Define pH. Calculate the pH of 0.001 M of HCl

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26. Define the following. Give one example for each.

Strong acid

Watch Video Solution

27. Define the following. Give one example for each.

Strong base

Watch Video Solution

28. Define the following. Give one example for each.

Weak acid

Watch Video Solution

29. Define the following. Give one example for each.

Weak acid

Watch Video Solution

30. Write any four chemical properties of acids.

Watch Video Solution

31. Write the formulae of the following salts

Sodium sulphate

Watch Video Solution

32. Write the formulae of the following salts

Ammonium chloride

Identify the acids and bases for which the above salts are obtained also write chemical equations for the reactions between such acids and bases which type of chemical reactions they are.

Watch Video Solution

33. Five solutions A, B, C, D, E, F as 5, 2, 1, 3, 7 and 9 respectively which solution is

(a) Neutral

(b) Strongly alkaline

(c) Strongly acid

(d) Weakly acidic

Arrange the pH in increasing order of Hydrogen ion concentration.

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34. Who am I?

I can roughly measure pH value from 0-14.

Watch Video Solution

35. Who am I?

I am called antichlor and am used to remove excess chlorine from clothes when treated with bleaching powder.

Watch Video Solution

36. Who am I?

I am a product of gypsum and am used to making chalks and fire proof materials.

Watch Video Solution

37. Who am I?

I am a compound of calcium and can be used for disinfecting drinking water as well as for decolourisation.

Watch Video Solution

38. Who am I?

I give different smell in acid and base solution

Watch Video Solution

39. Who am I?

I am an oxide capable of showing properties for both acids and bases.

Watch Video Solution

40. Who am I?

I am a covalent coQJ.pound and conducts electricity in aqueous medium.

Watch Video Solution

41. Who am I?

I am a salt of potassium hydroxide and nitric .acid.

Watch Video Solution

42. Who am I?

I am the term used when a solid becomes liquid when exposed to moist air.

Watch Video Solution

43. Who am I?

I am derived from tomato and turn blue litmus into red.

Watch Video Solution

44. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

1) Leela :.....?

Jagadeesh : Acid+Base $\rightarrow$ Salt+Water.

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45. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

2) Leela :.....?

Jagadeesh: By neutralization reaction. We can prepare a salt.

Watch Video Solution

46. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

3) Leela : .....?

Jagadeesh : $CH_3COOH + NaOH to CH_3COONa + H_2O$

Watch Video Solution

47. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

4) Leela : .....?

Jagadeesh : Here, the acid $CH_3COONa + H_2O$

Watch Video Solution

48. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

Leela : .....?

Jagadeesh : It is a weak acid.

Watch Video Solution

49. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

Leela : .....? Jagadeesh : Here, the base, NaOH is used.

Watch Video Solution

50. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

Leela : .....?

Jagadeesh : NaOH is strong base.

Watch Video Solution

51. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

Leela : .....?

Jagadeesh : The salt which is formed by weak acid and strong base is basic in nature.

Watch Video Solution

52. Jagadeesh: How can we predict the nature of a salt, sodium acetate (CH_3COONa)?

Leela: Explained the doubt of Jagadeesh by asking some questions. Here their conversation is given in incomplete sentence.

Frame the questions and fill in it.

Leela : .....? Jagadesh : CH_3COONa (Sodium acetate) is basic in nature.

Watch Video Solution

53. X' is a substance which is used in paper industry, textile industry and in laundries. It is also used to prepare of chloroform. What is 'X' ? Write the formula of X.

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54. Y' is a substance which is used in bakery. It is a mild non-corrosive base. What is 'Y'. Write the formula of 'Y'.

Watch Video Solution

55. 'Z' is a substance which is used in glass, soap and paper industry. It is also used in the preparation of borax. What is 'Z' ? Write it's formula

Watch Video Solution

56. 'S' is a substance which is used in Orthopedic hospitals and also making toys. What is 'S' ? Write its formula. · All the four substances, X, Y, Z and S are products of chlor-alkali process

Watch Video Solution

57. On heating the hydrated salt looses water molecules present in it. To show this what are equipment required ? and draw a neat diagram.

Watch Video Solution

58. Observe the chemical equations and answer the following questions.

What is your interpretation from the reaction (1)?

Watch Video Solution

59. Observe the chemical equations and answer the following questions.

What are the properties of acid ?

Watch Video Solution

60. Observe the chemical equations and answer the following questions.

Pick and write the neutralization reactions ?

Watch Video Solution

61. Observe the chemical equations and answer the following questions.

Which reaction is useful to produce an acid ?

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62. Name the acid/s.

Watch Video Solution

63. Name the base/s.

Watch Video Solution

64. Name the weak acid/s

Watch Video Solution

65. Name the neutral solution/s.

Watch Video Solution

66. Fill the following table of results of reactions between some substances (acids, bases, neutral substances) and indicators.

View Text Solution

67. which of the following is a strong acid?

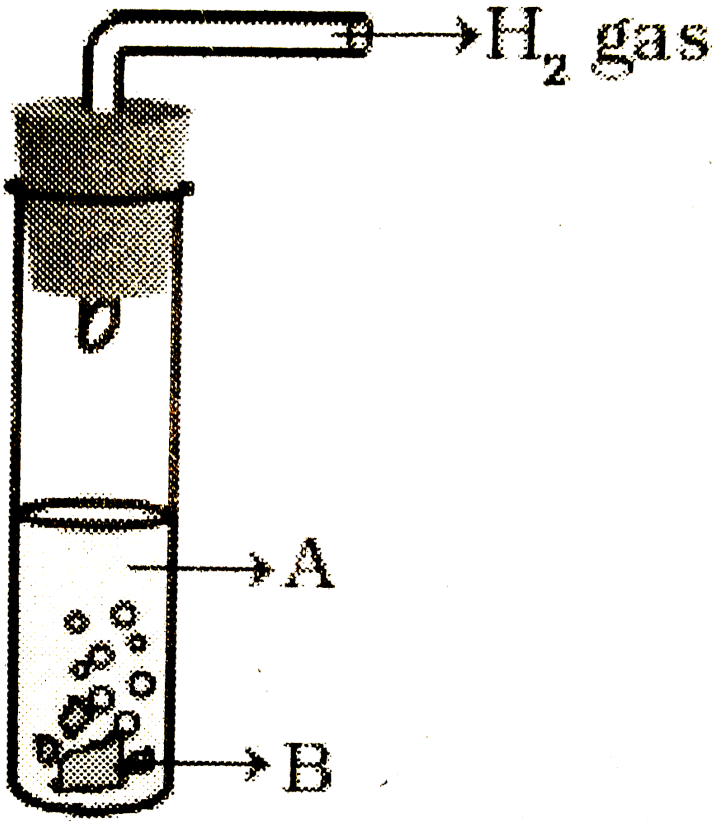
A. citric acid

B. Acetic acid

C. Tartaric acid

D. hydrochloric acid

Answer:



68.

From the above picture answer the following

Which acid is used in above experiment IN the place of A?

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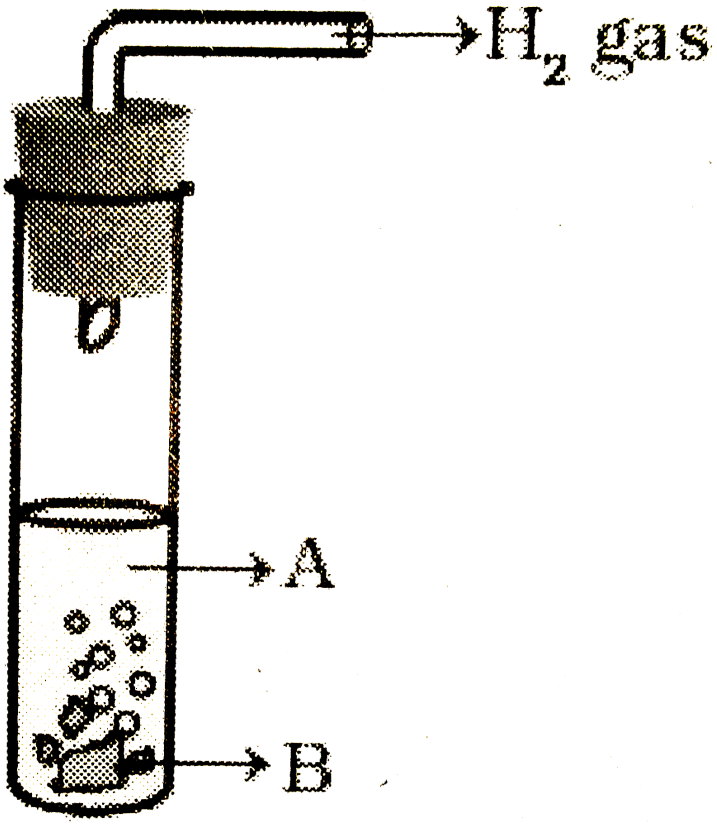
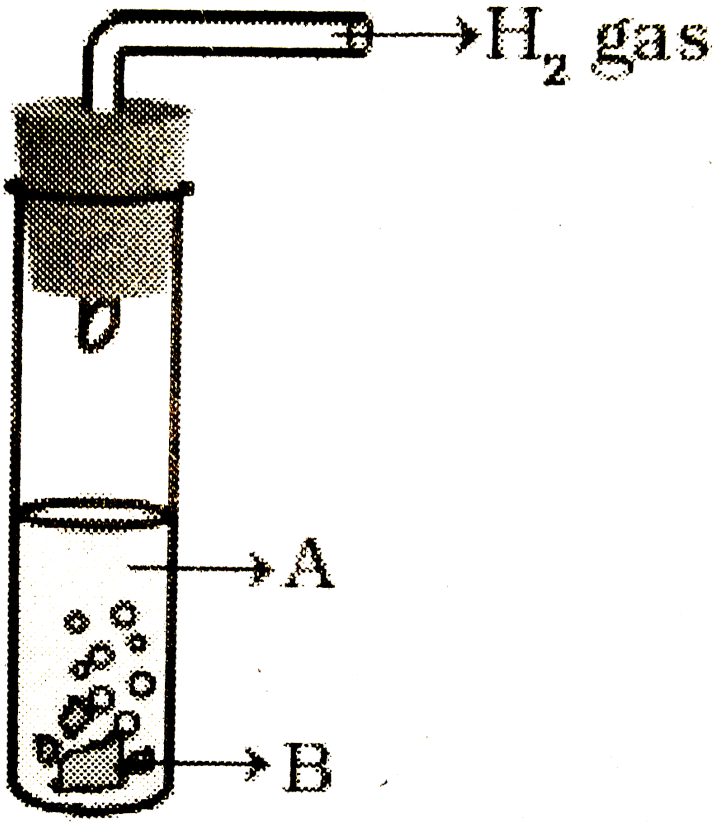


69.

From the above picture answer the following

Which metal is used in the place of B?

Watch Video Solution



70.

From the given picture answer the following

In the above experiment hydro chloric acid used in the place of A.which is strong acid or weak acid?

Watch Video Solution

71.

Now, answer the following questions

Which of the above substances are acids ? Why ?

View Text Solution

72.

Now, answer the following questions

Which of the above substance was tested with Phenolphthalein indicator ? What type of substance it is ?

View Text Solution

73.

Now, answer the following questions

What will be produced if we add 'A' and 'B' ?

View Text Solution

74. 

Now, answer the following questions

What is substance 'D' ? Why ?

View Text Solution

75. What is the action of acids and bases with metals ? Give examples.

Watch Video Solution

76. Draw the diagram that showing the reaction of zinc granules with dll. HCI and testing hydrogen gas by a burning matchstick.

Watch Video Solution

77. What is the action of acids with carbonates and metal hydrogen carbonates?.

Watch Video Solution

78. Draw the diagram that showing the reaction of Na_2CO_3 with dll. HCl and testing of evolved gas.

Watch Video Solution

79. Draw a diagram of arrangement of apparatus of acid solution in water conducts electricity

Watch Video Solution

80. Draw a diagram of arrangement of apparatus of acid solution in water conducts electricity

Watch Video Solution

81. How do you appreciate the common salt as it is raw substance to many salts ?

Watch Video Solution

82. NaCl plays major role in the domestic and industrial field's justify your answer.

Watch Video Solution

83. Discuss briefly the examples showing the importance of pH in daily life.

Watch Video Solution

84. Write the daily life use the given substances

bleaching powder

Watch Video Solution

85. Write the daily life use the given substances

baking soda

Watch Video Solution

86. Write the daily life use the given substances

Washing soda

Watch Video Solution

87. Write the daily life use the given substances

Plaster of paris

Watch Video Solution

88. Mention two situations where do you use hydrated and unhydrated salts in your daily life.

Watch Video Solution