



CHEMISTRY

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ACIDS, BASES AND SALTS

Example

1. You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?



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2. Three liquids are given to you. One is hydrochloric acid, another is sodium hydroxide and the third is a sugar solution. How will you identify them? You have only turmeric paper indicator.

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Exercise

1. Name one natural indicator and one synthetic indicator.

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2. Name the acid-base indicator extracted from lichens.



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3. What colour do the following indicators turn when added to an acid?

Litmus solution



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4. What colour do the following indicators turn when added to an acid?

China rose indicator



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5. What colour do the following indicators turn when added to a base?

Litmus solution



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6. What colour do the following indicators turn when added to a base?

China rose indicator



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7. What colour do the following indicators turn when added to a base?

Phenolphthalein

A. Red

B. Blue

C. Orange

D. Pink

Answer: D



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8. What colour do the following indicators turn when added to a base?

Turmeric paper

A. Red

B. Blue

C. Green

D. Yellow

Answer: A



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9. Name one indicator which turns red on adding an acid.



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10. Name one indicator which turns red on adding a base.



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11. State whether the following statements are true or false :

Nitric acid turns red litmus blue.



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12. State whether the following statements are true or false :

Sodium hydroxide turns blue litmus red.



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13. State whether the following statements are true or false :

Tooth decay is caused by the presence of a base.



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14. State whether the following statements are true or false :

Change of colour in an acid or base depends on the type of indicator used.

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15. State whether the following statements are true or false :

Indicator is a substance which shows different colours in acidic and basic solutions.

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16. Is sodium hydroxide an acid or a base ?

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17. What can you say about the nature of a solution which turns blue litmus paper red?

- A. Acidic
- B. Basic
- C. Neutral
- D. None of the above

Answer: A



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18. Ammonia is found in many household products such as window cleaners. It turns red litmus blue. What is its nature ?



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19. Name any two gaseous pollutants which cause acid rain.



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20. Name two strong acids and two weak acids.



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21. Name two strong bases and two weak bases.



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22. Name the chemical which is injected into the skin of a person when an ant bites.



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23. What does calamine solution contain ?



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24. What name is given to the reaction in which an acid reacts with a base to form salt and water?



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25. Which indicator is used to carry out the neutralisation reaction of hydrochloric acid with sodium hydroxide solution ?



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26. Name the salt formed when hydrochloric acid neutralises sodium hydroxide solution.

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27. Name two organic acids (naturally occurring acids).

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28. Name two mineral acids.

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29. Give one characteristic property of all acids.

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30. Write one characteristic property of all bases.

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31. Fill in the following blanks with suitable words :

Excessive use of chemical fertilisers make the soil.....

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32. Fill in the following blanks with suitable words :

When an acid is mixed with a base, areaction takes place.

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33. Fill in the following blanks with suitable words :

The products formed in a neutralisation reaction of an acid and a base areand

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34. Fill in the following blanks with suitable words :

Acid + Base \rightarrow + *Water*

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35. Fill in the following blanks with suitable words :

Hydrochl or icacid + Sodiumhydr ⊗ ide → + *Water*

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36. Fill in the following blanks with suitable words :

The acidic or basic nature of a substance is tested by using an

.....

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37. Fill in the following blanks with suitable words :

The substances which show different colours in acidic, basic and neutral solutions are called

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38. (a). What is an indicator? Name three common indicators.

(b). Name the acid-base indicator extracted from lichen.

(c). What colour does the turmeric paper turn when put in an alkaline solution.?



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39. Name the source from which litmus solution is obtained.

What is the use of this solution ?



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40. Why does a yellow curry stain on a white shirt turn red when it is washed with soap ?



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41. Which of the following are acidic and which are basic?

Lime water , Vinegar , Toothpaste , Stomach Juice , Lemon juice , Baking soda solution , Milk Of Magnesia , Ammonia solution



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42. What is colour of china Rose Indicator turn when added to an acid?



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43. What colour do the following indicators turn when added to a base?

Litmus solution

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44. What colour do the following indicators turn when added to a base?

China rose indicator

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45. What colour do the following indicators turn when added to a base?

Phenolphthalein



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46. Name one indicator which turns red on adding a base.



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47. What colour do the following indicators turn when added to a base?

Turmeric indicator



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48. State whether following statement is true or false :-

Nitric acid turns red lithmus blue.



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49. What is a salt ? Name any two salts.

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50. What are the three types of salts ? Give one example of each type of salt.

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51. Choose either the given salt is acidic, basic or neutral :

Sodium chloride

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52. Choose either the given salt is acidic, basic or neutral :

Ammonium chloride

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53. Choose either the given salt is acidic, basic or neutral :

Sodium carbonate

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54. Choose either the given salt is acidic, basic or neutral :

Sodium sulphate

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55. Choose either the given salt is acidic, basic or neutral :

Ammonium sulphate

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56. Explain why, if we touch the test-tube immediately after carrying out the neutralisation reaction of an acid and a base in it, it is found to be somewhat hot.

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57. A student adds dilute sulphuric acid to lime water. Will the reaction mixture become hot or cold ? Why ?

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58. Explain why, an antacid tablet is taken when you suffer from acidity.

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59. Explain why, calamine solution is applied on the skin where an ant bites.

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60. The soil in a field is highly acidic. Name two materials which can be added to this soil to reduce its acidity. Give the reason for your choice.

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61. What material should be added to a soil which is too basic? How does this material help in reducing the basic nature of the soil?

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62. What is an antacid ? How does an antacid work ? Name any one antacid.

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63. Which acid is produced in our stomach ?

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64. What happens if there is an excess of acid in the stomach ?

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65. when excess of acid is released in stomach . How can its effect be cured ?

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66. Give one important use of milk of magnesia (magnesium hydroxide) in our everyday life.

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67. What happens when an ant stings ? What is its remedy?



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68. A shopkeeper has a few bottles of soft drinks in his restaurant which are not labelled. One customer wants acidic drink, another wants basic drink and the third one wants neutral drink. How will the shopkeeper decide which drink is to be served to chests?



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69. State the main differences between acids and bases.



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70. State whether distilled water is acidic, basic or neutral.

How will you confirm it ?

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71. What is meant by acid rain ? How is acid rain caused ?

What damage is caused by acid rain?

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72. What are neutral salts, acidic salts and basic salts. Give two examples each of neutral, acidic and basic salts.

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73. What is an acid ? Name any two acids. How can you test the presence of an acid in a substance?

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74. What is a base ? Name any two bases. How can you test the presence of a base in a substance?

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75. What is neutralisation? Describe the process of neutralisation with the help of an example.

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76. Write a word equation for the neutralisation reaction between sodium hydroxide and hydrochloric acid. Also write the chemical formulae of all the substances involved.



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77. Which of the following type of medicine is used for treating indigestion caused by overeating ?

A. antibiotic

B. analgesic

C. antacid

D. antiseptic

Answer: C



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78. One of the following is not an organic acid. This is :

A. acetic acid

B. formic acid

C. citric acid

D. carbonic acid

Answer: D



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79. The discomfort caused by indigestion due to overeating can be cured by taking:

A. baking soda

B. vinegar

C. lemon juice

D. caustic soda

Answer: A



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80. The property which is common between vinegar and curd is that they:

A. have sweet taste

B. have bitter taste

C. are tasteless

D. have sour taste

Answer: D

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81. One of the following is a medicine for indigestion. This is:

A. sodium hydroxide

B. manganese hydroxide

C. magnesium hydroxide

D. potassium hydroxide

Answer: C

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82. The acid produced naturally in our stomach is:

- A. acetic acid
- B. citric acid
- C. hydrochloric acid
- D. sulphuric acid

Answer: C

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83. Which of the following contains lactic acid?

- A. ant's sting
- B. unripe grapes

C. lemons

D. sour milk

Answer: D



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84. The salt which will give an acidic solution on dissolving in water is

A. sodium sulphate

B. ammonium sulphate

C. sodium carbonate

D. sodium chloride

Answer: B



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85. Which one of the following salts will give a basic solution on dissolving in water ?

- A. sodium carbonate
- B. sodium chloride
- C. sodium sulphate
- D. ammonium chloride

Answer: A



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86. The aqueous solution of one of the following will turn China rose indicator from light pink to green. This solution is of:

A. vinegar

B. baking soda

C. lemon juice

D. carbonic acid

Answer: B



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87. Which of the following is a strong base?

- A. calcium hydroxide
- B. sodium hydroxide
- C. sodium carbonate
- D. ammonium hydroxide

Answer: B



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88. When a basic solution is added to an indicator, a green colour is produced. The indicator should be :

- A. red litmus indicator
- B. china rose indicator
- C. phenolphthalein indicator

D. turmeric paper indicator

Answer: B



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89. Which of the following bases cannot be used as antacids?

A. Sodium carbonate

B. Sodium hydrogencarbonate

C. Magnesium hydroxide

D. Sodium hydroxide

A. A and B

B. B and C

C. A and D

D. B and D

Answer: C



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90. The reaction between an acid and a base to form salt and water is called :

- A. carbonation
- B. hydrogenation
- C. neutralisation
- D. titration

Answer: C



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91. The dilute solutions of which of the following are not harmful to drink ?

A. Magnesium hydroxide

B. Potassium hydroxide

C. Sodium hydrogencarbonate

D. Sodium carbonate

A. A and B

B. B and C

C. A and C

D. B and D

Answer: C



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92. With which of the following 'milk of Magnesia' be reacted so as to have a neutralisation reaction ?

A. baking soda

B. vinegar

C. ammonia solution

D. quicklime

Answer: B



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93. When an ant stings a person, it injects a liquid into the skin of the person which contains:

A. acetic acid

- B. calcium hydroxide
- C. formic acid
- D. potassium hydroxide

Answer: C

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94. The two indicators which give red or pink colour on adding a basic solution are :

- A. China rose indicator
- B. Turmeric paper indicator
- C. Phenolphthalein indicator
- D. Blue litmus indicator

A. A and B

B. B and C

C. C and D

D. A and D

Answer: B



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95. When an ant stings a person, it causes a burning pain.

Which of the following should be rubbed on the stung area of skin to get relief ?

A. lemon juice

B. baking soda solution

C. vinegar solution

D. formic acid solution

Answer: B



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96. The substance which can turn blue litmus to red is :

A. baking soda

B. milk of magnesia

C. lemon juice

D. calamine solution

Answer: C



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97. A yellow stain of turmeric containing curry on a white shirt turns red when soap solution is scrubbed on it. This shows that soap solution is :

A. basic

B. acidic

C. neutral

D. sour

Answer: A



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98. A certain solution does not change the colour of any indicator. This solution is most likely to be :

- A. washing soda solution
- B. acidic solution
- C. common salt solution
- D. Ammonium hydroxide solution

Answer: C



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99. Which of the following does not cause acid rain?

- A. sulphur dioxide
- B. carbon monoxide
- C. carbon dioxide
- D. nitrogen dioxide

Answer: B



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100. Which of the following is a mineral acid ?

A. citric acid

B. acetic acid

C. carbonic acid

D. oxalic acid

Answer: C



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101. Which indicator will produce a pink colour on adding a few drops of sodium hydroxide solution?

- A. blue litmus
- B. phenolphthalein
- C. turmeric paper
- D. china rose indicator

Answer: B

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102. Consider the following salts :

Sodium sulphate, Sodium carbonate, Ammonium sulphate

The aqueous solution of which of these salts will:

turn blue litmus to red ?



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103. Consider the following salts :

Sodium sulphate, Sodium carbonate, Ammonium sulphate

The aqueous solution of which of these salts will:

turn phenolphthalein to pink ?



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104. Consider the following salts :

Sodium sulphate, Sodium carbonate, Ammonium sulphate

The aqueous solution of which of these salts will:

turn China rose indicator to green ?



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105. Consider the following salts :

Sodium sulphate, Sodium carbonate, Ammonium sulphate

The aqueous solution of which of these salts will:

have no effect on any indicator ?



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106. Blue litmus paper is dipped in a solution. It remains blue.

What is the nature of the solution ? Explain.



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107. If someone is suffering from the problem of acidity after overeating, which of the following would you suggest as remedy?

Lemon juice, Vinegar, Baking soda solution

Give reason for your choice.



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108. A white shirt has a yellow stain of curry. When soap is rubbed on this shirt during washing, the yellow stain turns red. On rinsing the shirt with plenty of water, the red stain turns yellow again.

Name the natural indicator present in curry stain.



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109. A white shirt has a yellow stain of curry. When soap is rubbed on this shirt during washing, the yellow stain turns red. On rinsing the shirt with plenty of water, the red stain turns yellow again.

What is the nature of soap (acidic or basic) as shown by the indicator present in curry stain ?



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110. A white shirt has a yellow stain of curry. When soap is rubbed on this shirt during washing, the yellow stain turns red. On rinsing the shirt with plenty of water, the red stain turns yellow again.

Name its synthetic indicator which will give pink colour with soap solution.



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111. You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?



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