

BIJENDRA PUBLIC SCHOOL, PURNEA

Class - 7

Subject - SCIENCE

Chapter - 5 ACIDS, BASES AND SALTS

A. Very Short Answer Questions:

1. Name the two acids present in food items you enjoy.

Ans. The two acids present in food items we enjoy are:-

Lactic acid : Present in curd

Carbonic acid : Present in cold drink

2. Which of the following is not an alkali?

Sodium hydroxide, Calcium hydroxide, Aluminium hydroxide

Ans. Aluminium hydroxide.

3. Name the indicator which gives green colour in basic solution and magenta colour in acidic solution.

Ans. China rose indicator is green colour in basic solution and magenta colour in acidic solution.

4. What causes irritation and swelling after a bee sting?

Ans. When a bee stings, formic acid gets injected into the skin which causes irritation and swelling.

5. Which acid is prepared from sulphur?

Ans. Sulphuric acid.

B. Short Answer Questions:

1. Write two characteristics of bases.

Ans. Two characteristics of bases are:-

i. Bases are bitter in taste.

ii. Bases are soapy in touch.

2. Name two synthetic base indicators.

Ans. Two synthetic base indicators are:-

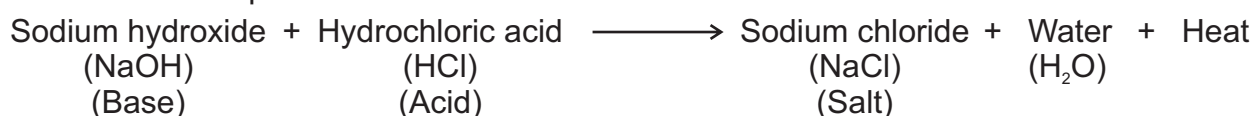
i. Phenolphthalin

ii. Methyl orange

3. What is meant by neutralisation reaction? Give one example.

Ans. The reaction between an acid and a base to form a salt and water is called neutralisation reaction and the salt formed may give acidic, basic or neutral solution.

For example :-



4. What are antacids?

Ans. Antacids contain weak bases which has the ability to neutralises the excess acid.
For example: Baking soda is a weak base and can neutralises the excess acid in the stomach.

5. How is the basic soil treated?

Ans. Basic soil can be treated by using organic matter / manure. Because, the decaying organic matter produces acid and neutralises effect of the excess base in the soil.

C. Long Answer Type Questions:

1. What will you observe when:-

- a. A drop of sodium hydroxide is added to blue litmus.
- b. A drop of hydrochloric acid is added to china rose indicator.
- c. A drop of dilute sulphuric acid is added to red-cabbage juice.

Ans. a. When a drop of sodium hydroxide is added to blue litmus it stays blue because it is a strong basic compound.

b. When a drop of hydrochloric acid is added to china rose indicator the colour of acid solution will be changes into magenta colour.

c. When a drop of dilute sulphuric acid is added to red-cabbage juice the colour of acid solution will be change in red colour.

2. An acidic substance is mixed with an equivalent amount of basic substance:-

- a. What is the reaction called?
- b. What are the products formed?

Ans. When an acidic substance is mixed with an equivalent amount of basic substance then they react to each other to form a salt and water is called neutralisation reaction.

a. This reaction is called neutralisation reaction.

b. The products formed will be salt and water.

3. What is the nature of a solution of washing soda? How will you confirm it?

Ans. Washing soda is basic in nature. It is bitter in taste and their solutions have soapy touch. We can confirm it by litmus test. It turns red litmus to blue.

4. Give two points of difference between an acid and a base.

Ans.

Acids

1. Acids are sour in taste.
2. Acids turn blue litmus to red.

Bases

1. Bases are bitter in taste.
2. Acids turn red litmus to blue.

5. Mention two uses of each of the following:-

- i. Ammonium hydroxide
- ii. Hydrochloric acid
- iii. Magnesium hydroxide

Ans. i. Ammonium hydroxide

- a. It is used as a cleansing agent.
- b. For preparing ammonium salts.

ii. Hydrochloric acid

- a. It is used for cleaning tiles, toilet etc.
- b. Used for cleaning iron sheets before galvanization.

iii. Magnesium hydroxide

- a. It is used in making antacid formulations(solution).
- b. Also used for making antacid tablets and gel.

D. Tick (✓) the Odd-One out giving reason:

1. Tartaric acid, Acetic acid, Lactic acid, Hydrochloric acid

Ans. Hydrochloric acid : This one is mineral acid and rest three are organic acids

2. Magnesium hydroxide, Ammonium hydroxide, Antacid, Aluminium hydroxide

Ans. Antacid:-It is the formulation which works against an acid but the three are basic substances.

3. Turmeric, Yellow colour, Methyl orange, Plant product

Ans. Plant product is odd one because all others are natural indicators.

4. Acids, Bitter taste, Soapy, Bases, Caustic soda

Ans. Caustic soda is the odd one because this one is the example of substance i.e. a base and rest three substances and their nature.

E. Define the following terms:

1. Mineral acids: The acids obtained from minerals are called mineral acids and also called inorganic acids. Mineral acids are strong acids.

For example:-

Sulphuric acid (H_2SO_4), Hydrochloric acid (HCl) and Nitric acid (HNO_3) etc.

It is very important from the industrial point of view.

2. Acid - base indicators: The indicators used for identifying an acid or a base are also called acid-base indicators.

OR

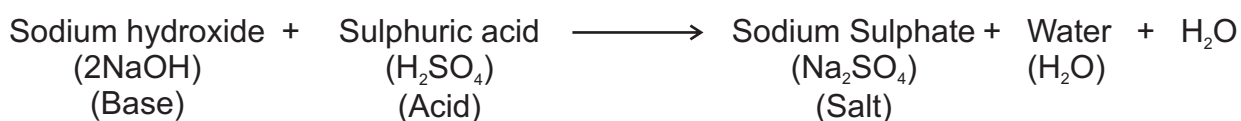
A substance that changes its colour when added to an acid or base is called an acid - base indicator.

3. Natural and Synthetic indicators:- The indicators available but the naturally-occurring indicators are called natural indicators. For example:- *Turmeric *Litmus *China rose *Red-cabbage juice.

The indicators available commercially in the market are called synthetic indicators. For example:- *Phenolphthalein *Litmus *Methyl orange

4. Neutralization reaction:-The reaction between an acid and a base or an alkali to form salt and water is called neutralization reaction and the salt formed may give acidic, basic or neutral solution.

For example:-



HOTS:- HIGH ORDER THINKING SKILLS

1. The observations made during an experiment are recorded below:-

Solution	A	B	C	D
Blue litmus	Reddish	Deep red	No change	Mauve
Red litmus	No change	No change	Blue	Mauve

i. Which of these is strongly acidic, weakly acidic, neutral, basic?

Ans. Strongly acidic:-Solution 'B' because it changes into deep red.

Weakly acidic:-Solution 'A' because it becomes reddish in colour.

Neutral:-Solution D.

Basic:-No change in colour.

ii. Which of the two solutions will react to illustrate the neutralisation reaction?

Ans. When solution 'B' (strongly acidic) reaction with solution 'C' (strongly basic) reacts with each other then it shows neutralisation reaction.

2. Turmeric stains on white clothes are yellow. These stains turn red when such clothes are washed with soap. Give reason for it.

Ans. Turmeric stains on white clothes give yellow colour and it turns red when treated with soap because soap is a basic substance and when it reacts with turmeric gives red colour.