St. Andrews Scots School

Adjacent Navniti Apartments,
I.P. Extension, Patparganj, Delhi – 110092
Session: 2025 – 2026
(Answer Key)

Class: VII | **Subject: Science** | **Chapter: Acids, Bases and Salts**

CHECK POINT 1

1. (T) 2. (F) 3. (T) 4. (T)

CHECK POINT 2

1. Lichens 2. neutral 3. synthetic 4. magenta 5. heat 6. electricity

PRACTICE TIME

A. Tick the correct answers:

1. (c) 2. (a) 3. (d) 4. (b) 5. (c) 6. (a) 7. (c)

B. Assertion-Reason type question

1. (a) 2. (c) 3. (d) 4. (b)

C. Match the column:

1. (c) 2. (e) 3. (a) 4. (b) 5. (d)

D. Very short answer type question:

1. Unripe green Apple → Malic acid
   Vinegar → Acetic acid

Tea → Tannic acid
Sour milk → Lactic acid
Orange juice → Citric acid

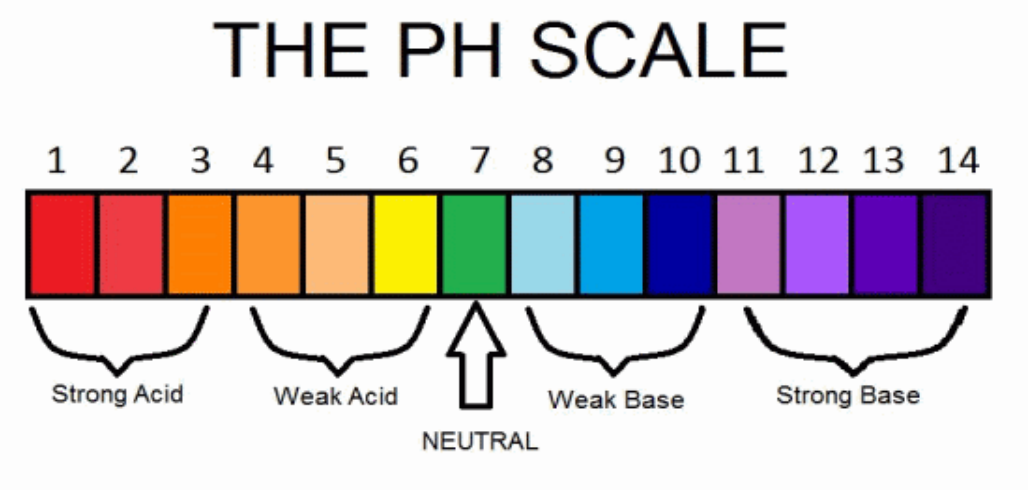
2. (a) H_2SO_4 (b) HNO_3 (c) NaOH (d) $NaHCO_3$

3. The substances which are bitter in taste, produce a soapy feeling and contain a base are called basic substances.

4. A substance that changes colour in acids and bases is called an indicator. Example – litmus, china rose indicator, etc.

5. Acidic substances turn blue litmus paper red.

6. pH paper is used to test the strength of an acid and a base.



7. Sodium chloride (NaCl) is obtained by the reaction between HCl and NaOH.

E. Short answer type questions :

1. (a) Materials containing acid → curd, lemon, amla.
(b) Materials containing base → caustic soda, baking soda,

calcium hydroxide.

2. (a) Turmeric remains yellow with acids and turns red with bases.
   (b) China rose turns magenta with acids and green with bases.
   (c) Blue litmus turns red with acids and remains blue with bases.
   (d) Red litmus turns blue with bases and remains red with acids.

3. Neutralisation is a reaction in which an acid combines with a base to form salt and water.
   As indigestion is caused due to the excess acid formed in the stomach, antacid like milk of magnesia which contains a base called magnesium hydroxide neutralizes the acid. This relieves from indigestion.

4. The factory wastes contain harmful acids and bases. If these wastes are allowed to flow directly into the waterbodies, they may harm aquatic plants and animals. Therefore, it is wise to neutralise the factory wastes before disposing them off into rivers or lakes.

5. The compounds that are formed by the reaction of an acid with a base are called salts.
   Uses of salts
   - The common salt is added to our food. It is also used as preservative in pickles, meat and fish.
   - Potassium nitrate is used as a fertiliser.
   - Copper sulphate is used in textile industries, electroplating and cleaning.
   - Some salts commonly used in laboratory are ammonium chloride, copper sulphate, ferrous sulphate and silver nitrate.

6. An ant's sting contains an acid and baking soda is a base. When baking soda is rubbed on ant's sting, it neutralises the effect of acid. Thus, the pain caused due to an ant's sting gets relieved by rubbing baking soda solution.

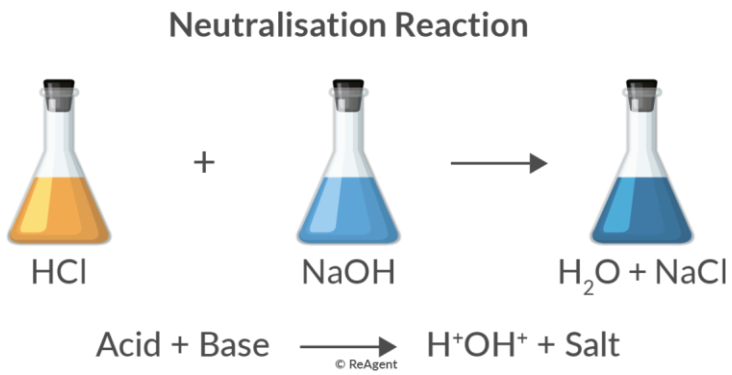
F. Long answer type questions :

1. The neutralization is the property of a base by an acid can be shown by following activity :

Procedure : Take a test tube and add 10 mL dilute hydrochloric acid to it. Observe its colour. Now, add two drops of phenolphthalein to it. Shake gently. Notice, if there is any colour change. Now, add a drop of sodium hydroxide solution with the help of a dropper and shake gently. Notice, if any colour appears in the solution. Keep adding sodium hydroxide solution dropwise and keep shaking till the colour of the solution becomes pink. Add one drop of dilute hydrochloric acid to this solution. Note your observation. Touch the bottom of the test tube and observe if there is any change in temperature.

Observation: No colour change occurs when phenolphthalein is added to dilute hydrochloric acid. The solution remains colourless. Pink colour appears when sodium hydroxide is added to this solution. On adding a drop of dilute hydrochloric acid to this solution, the solution becomes colourless. The solution becomes pink again on adding a drop of sodium hydroxide. The test tube becomes warm.

Conclusion: When dilute hydrochloric acid and sodium hydroxide are mixed in just right amounts, the acid and the base neutralise each other and the resulting liquid is neutral.



2. Differences between acids and bases are:

Acids	Bases
1. Acids are sour in taste.	1. Bases are bitter in taste.
2. Most acids are corrosive in nature, but all acids are not corrosive.	2. Most bases are also corrosive in nature, but all bases are not corrosive.
3. Acids are soluble in water.	3. All bases are not soluble in water.
4. Acids turn blue litmus red.	4. Bases turn red litmus blue.
5. Acids do not give any soapy feeling.	5. Bases give a soapy feeling when rubbed on fingers.
6. Acids can be tested with indicators which give them specific colours.	6. Bases also can be tested with indicators which give them specific colours.

3. A china rose indicator can be prepared by following method:

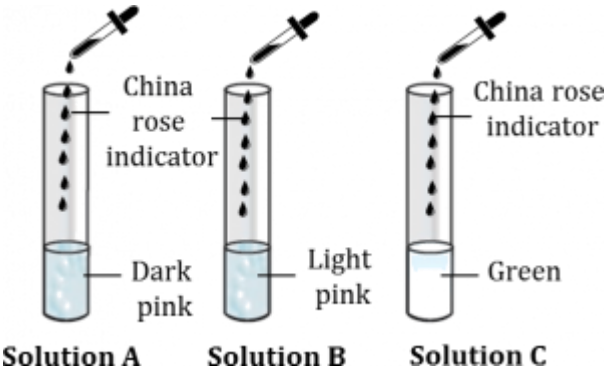
Procedure: Pour some water into a beaker. Put 10–12 china rose petals in it and heat the beaker containing mixture on a burner till the water becomes warm. Keep the mixture on the burner till water becomes coloured. This coloured water is china rose indicator. Now, take some china rose indicator in three test tubes and add some vinegar, lemon juice and soap solution to them separately.

- With vinegar, china rose indicator turns magenta.
- With lemon juice, china rose indicator turns magenta.
- With soap solution, china rose indicator turns green.

Conclusion:

- With vinegar and lemon juice, china rose indicator turns magenta. So, they are acidic in nature.

- With soap solution, china rose indicator turns green. So, it is basic in nature.



G. HOTS :

1. (a) Solution C is a base. Solution D is neutral. Three acids, i.e., A, B and E have been tested.
   (b) The colour of turmeric paper would be red in solution C.
   (c) (ii)

2. A turmeric stain on a white shirt turns red when washed with soap because soap is base and in basic solution, yellow turmeric powder turns to red. Thus, turmeric stain gets neutralized and is removed from the shirt when dry.

Passage/Case-based questions :

1. The sting of bee contains an acid which causes pain and swelling. An acid is neutralized by a base and baking soda contains a base. Hence, Mukul suggested to apply a paste of baking soda.

2. Bee's sting contains formic acid.

K. (a) Some crops do not grow well in acidic or basic soil.
(b) Slaked lime and quicklime are bases which are added to soil to make crops grow well.
(c) Saurabh has scientific temper and helping nature.