NCERT SOLUTIONS- ACID BASE AND SALT

NCERT Solutions for Class 7 Science Chapter 5 Acid Base And Salt is the essential study material to perfect Acid Base And Salt topics. The NCERT Class 7 Science solutions provided here correctly answer NCERT textbook questions. Solutions curated in a comprehensive manner will help students understand the subtopics in this chapter in a better way.

IMPORTANT SUB-TOPICS MENTIONED IN THE NCERT CLASS 7 SCIENCE CHAPTER 5 ACID-BASE AND SALT:

NCERT Solutions for Class 7 Science Chapter 5 Acid Base And Salt has the following sub-topics as given below:

Sr. no	Topics
1.	Acids and Bases
2.	Natural Indicators Around Us
3.	Neutralisation
4.	Neutralisations in Everyday Life

NCERT SOLUTIONS CLASS 7 SCIENCE CHAPTER 4 ACID-BASE AND SALT:

1. **State differences between acids and bases.**

ANS-

ACIDS	BASES
Sour in taste.	Bitter in taste.
Turn blue litmus paper into red.	Does not change to any colour.
Does not change the colour of red litmus paper.	Turn red litmus paper into blue.
Acids do not change the colour of turmeric	Bases turn turmeric to red

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

ANS- The answer is it is basic in nature.

3. **Name the source from which litmus solution is obtained. What is the use of this solution?**

ANS- Lichens are used to create litmus solutions. The indicator litmus solution is used to determine whether a solution is basic or acidic.

4. **Is the distilled water acidic/basic/neutral? How would you verify it?**

ANS- Using red and blue litmus paper to test, it can be determined that distilled water is neutral in nature. The colour is the same in both instances.

5. **Describe the process of neutralisation with the help of an example.**

ANS- An acid and a base react and result in neutralisation. Acids and bases are both neutralised here. For instance, sodium chloride (NaCl) and water (H2O) are produced when sodium hydroxide (NaOH) and hydrochloric acid (HCl) are combined.
NaOH + HCl → NaCl + H2O + Heat

6. **Mark 'T' if the statement is true and 'F' if it is false.**
   (i) Nitric acid turns red litmus blue. (T/F)
   (ii) Sodium hydroxide turns blue litmus red. (T/F)
   (iii) Sodium hydroxide and hydrochloric acid neutralise each other and form salt and water. (T/F)
   (iv) An indicator is a substance which shows different colours in acidic and basic solutions. (T/F)
   (v) Tooth decay is caused by the presence of a base. (T/F)

ANS-
i) False
ii) False
iii) True
iv) True
v) False

7. **Dorji has a few bottles of soft drinks in his restaurant. But, unfortunately, these are not labelled. He has to serve the drinks on the demand of customers. One customer wants an acidic drink, another wants a basic drink, and the third one wants a neutral drink. How will Dorji decide which drink is to be served to whom?**

ANS- A few drops of soft drink solutions can be tasted by Dorji; the acidic solution tastes sour, the basic solution tastes bitter, and the neutral solution tastes like nothing at all. Dorji can examine the nature of the soft drinks using litmus paper in addition to taste. He should check the acidic solution with blue litmus paper. To test the blue litmus, Dorji must apply a drop of solution. The solution is going to be acidic if it becomes red.

Similar to that, he can test the fundamental solution using red litmus paper. On red litmus, he must dab a drop of the solution. If it becomes blue, the answer will be straightforward.

8. **Explain why**
   (a) An antacid tablet is taken when you suffer from acidity
   (b) Calamine solution is applied on the skin when an ant bites.
   (c) Factory waste is neutralised before disposing it into the water bodies.

ANS-

1. The base-like milk of magnesia in the antacid tablet helps to neutralise the stomach acid. As a result, those who are experiencing acidity use it.

2. Ants inject formic acid into the skin when they bite. Calamine is made up of zinc carbonate, which is naturally basic. As a result, calamine balances the effects of formic acid to provide relief for the afflicted.
3. Acidic factory wastes have the potential to destroy aquatic life. As a result, they are neutralised by adding a base before being dumped into water bodies.

9. 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 indicator.

ANS- The given liquids are tested using the procedures listed below:

- On the turmeric indicator, place a drop of the supplied liquid. The sodium hydroxide solution, which is basic in nature, is what turns the indicator's colour red.
- Now, for each of the other two liquids, add a drop of sodium hydroxide to create two mixes.
- The turmeric indicator received one drop of each mixture after another.
- A sugar solution that is neutral in nature is part of the mixture that turns the indicator red.
- Although sodium hydroxide has been added to the mixture to neutralise the hydrochloric acid, the indicator does not change colour as a result.

10. Blue litmus paper is dipped in a solution. It remains blue. What is the nature of the solution? Explain.

ANS- Given that neither will cause the blue litmus paper to change colour, the two solutions mentioned above may be neutral or basic in nature.

11. Consider the following statements:

A. Both acids and bases change colour of all indicators.
B. If an indicator gives a colour change with an acid, it does not give a change with a base.
C. If an indicator changes colour with a base, it does not change colour with an acid.
D. change of colour in an acid and a base depends on the type of the indicator.

Which of these statements are correct?
(i) All four
(ii) a and d
(iii) b, c and d
(iv) Only d

ANS- (iv) Only d is correct