

-	Acids	Bases
(i)	These are sour to taste.	These are bitter to taste.
(ii)	Acids turn blue litmus red.	Bases do not change the colour of blue litmus.
(iii)	Acids do not change the colour of red litmus.	Bases turn red litmus blue.
(iv)	With china rose indicator, these give dark pink colour.	Bases give green colour with china rose indicator.
(v)	Acids do not change the colour of turmeric indicator.	Bases turn the colour of turmeric indicator to red.

## NCERT Solutions for Class 7 Science Chapter 5

### Acids, Bases and Salts Class 7

Chapter 5 Acids, Bases and Salts Exercise Solutions

**Exercise :** Solutions of Questions on Page Number : 56

**Q1 :**

State the differences between acids and bases.

**Answer :**

**Q2 :**

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

**Answer :**

Ammonia is basic in nature as it turns the colour of red litmus paper to blue.

**Q3 :**

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

**Answer :**

Litmus solution is obtained from lichens. A natural dye extracted from lichens is dissolved in distilled water to obtain litmus solution.

It is used as an indicator to distinguish between acids and bases.

Solution	Colour of litmus solution
Acidic	Red
Basic	Blue



Neutral

No change

Q4 :

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

Answer :

Distilled water is neutral in nature. The same can be verified by using red and blue litmus papers. Neither will show a colour change with distilled water. This proves that distilled water is neutral.

Q5 :

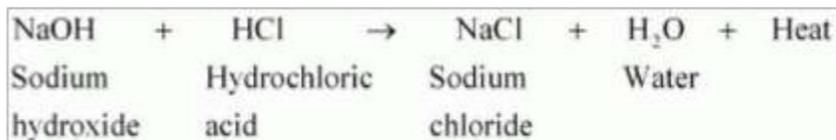
Describe the process of neutralization with the help of an example.

Answer :

The reaction between an acid and a base is known as neutralization reaction. In this reaction, both acid and base cancel each other's effect. Neutralisation reaction results in the formation of salt and water. During this reaction, energy in the form of heat is evolved.

Acid + Base  $\rightarrow$  Salt + Water + Heat

For example, when sodium hydroxide (NaOH) is added to hydrochloric acid (HCl), sodium chloride (NaCl) and water (H<sub>2</sub>O) are obtained.



Q6 :

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) 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)

Answer :

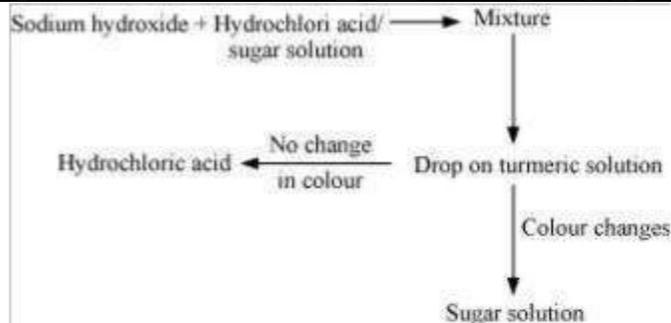
(i) Nitric acid turns red litmus blue. (F)

(ii) Sodium hydroxide turns blue litmus red. (F)

(iii) Sodium hydroxide and hydrochloric acid neutralise each other and form salt and water. (T)

(iv) Indicator is a substance which shows different colours in acidic and basic solutions. (T) (v) Tooth decay is caused by the presence of a base. (F)





**Q10 :**

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

**Answer :**

We know that basic and neutral solutions do not change the colour of blue litmus paper. Since blue litmus remains blue after dipping in the solution, the solution is either basic or neutral in nature.

Put a drop of this solution on a red litmus paper. If it turns blue, then the above solution is basic in nature and if no colour change occurs, then it is neutral.

**Q11 :**

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 and c (iv) only d

**Answer :**

- (iv) Only d is correct.