

01

Acids can react with bases or alkalis to produce salt and water

- (a) Name this type of reaction.**
- (b) Write a balanced chemical equation for the following reactions.**
 - (i) Magnesium oxide powder and sulfuric acid solution**
 - (ii) Iron(II) oxide powder and nitric acid solution**
 - (iii) Aluminium oxide powder and hydrochloric acid solution**
 - (iv) Ammonium hydroxide solution and hydrochloric acid solution**
 - (v) Sodium hydroxide solution and ethanoic acid solution (CH_3COOH)**
 - (vi) Potassium hydroxide and nitric acid solution**

Your solution here:

02 The table given below shows the colours of two indicators, methyl orange and methyl red, commonly used in the laboratory at different pH values.

pH	2	3	4	5	6
Methyl orange	Red		Yellow		
Methyl red	Red			Yellow	

Four solutions of different pH values are given below.

Solutions	P	Q	R	S
pH	2	3	5	6

- (a) In which solution(s) will both the indicators be red ?
 (b) In which solution(s) will both the indicators be yellow ?

Your solution here:

03 pH scale is used to measure the strength of an acid or a base. Its value ranges from 0 – 14. pH of acids lies between 0 – 6, that of bases between 8 – 14 and pH of neutral salt is 7.

- (a) What is the pH of sodium chloride ?
- (b) What is the pH range of HCl ?
- (c) Which base has a maximum pH value ?
- (d) What is the pH of drinking water ?

Your solution here:

04 When chlorine gas is bubbled into water for killing the harmful germs, the following reaction takes place.



- Is the resulting solution acidic, basic or neutral ? Explain your answer.
- When a piece of blue litmus paper is put into the solution, it turned red in colour. Why ?
- Write the formula of the salt formed if aqueous sodium hydroxide is added to HCl solution.

Your solution here:

05 When calcium hydroxide is added to the acidic soils, It neutralises acids very fast. The soil will not be acidic anymore and plants can grow healthily.

- (a) Why neutralization reaction is very slow and less effective when limestone or lime are added to acidic soils ?
- (b) Why calcium hydroxide should not be mixed with fertilizers containing ammonium salts to reduce the acidity of soil ?

Your solution here: