Notes

Acids, Bases and Salts

• Acids

The term acid has its origin in the latin word acidus, meaning sour.

- An acid is a substance that has a sour taste. It is defined as a compound which contains replaceable hydrogen in it.
- Acids that contain both hydrogen and oxygen are called oxyacids.
- Acids that contain hydrogen and other non-metallic elements except oxygen are called hydracids.

Properties of Acids

Acids have a sour taste, turn blue litmus to red, conduct electricity and react with metals to form salt and hydrogen gas.

• Bases

A base is a substance, usually the oxide or the hydroxide of a metal, which can react with an acid to produce salt and water.

- Alkalis are bases that are soluble in water.
- The strength of a base is determined by the amount of hydroxide ions that the base provides when dissolved in water.

Properties of Bases

Bases have bitter taste, soapy to touch, turn red litmus to blue and react with metals to form hydrogen gas.

• pH Scale

In 1909 Sorensen devised a scale (known as pH scale) on which the strength of acid solutions as well as basic solutions could be represented by making use of the hydrogen ion concentrations in them.

The pH of a solution is inversely proportional to the concentration of hydrogen ions in it. In the term pH, letter 'p' stands for a German word 'potenz' which means 'power' and letter H stands for hydrogen ion concentration [H⁺]
(i) Acids (or acidic solutions) have a pH of less than 7.
(ii) Bases (or basic solutions) have a pH of more than 7.

(iii) Neutral substances have a pH of exactly 7.