

Home Assignment

① Distinguish between the concept of knowing acids and bases on the basis of Arrhenius Theory and Lewis Theory?

ans.

Arrhenius Theory

Acid :- According to Arrhenius Theory, an acid dissociates in water to form H^+ ions.

① A strong acid ionises greatly and produces large number of H^+ ions.

② A weak acid ionises slightly and produces less number of H^+ ions.

Base :- A base is a substance which gives OH^- in aqueous solution.

Lewis Theory

Acid :- According to Lewis Theory, an acid is a molecule that can accept a pair of electrons.

① According to Lewis Theory, an acid should have an incomplete octet to accept electrons.

Base :- Base is a compound that can donate a pair of electrons.

Q) Although NH_3 does not contain any OH^- ions still it behaves as a base. why?

Ans Ammonia is a base but it does not contain hydroxyl group because on reacting with water ammonia forms ammonium hydroxide which further on ionisation gives ammonium ion and hydroxide ion.

Q) What is the oxidation state of Mn atom in potassium permanganate?

Ans KMnO_4 (potassium permanganate)
 $1 + x + (-2) \times 4 = 0$
 $x = 7$