

Ans)

1) Distinguish between the concept of Arrhenius theory and Lewis theory.

Ans) Alg to Arrhenius theory.

⇒ An acid is a substance which when dissolved in water, it ionizes and releases hydrogen ions ( $H^+$  in aq. sol<sup>n</sup>)

⇒ A base is a substance which gives hydroxide ion ( $OH^-$ ) in aq. sol<sup>n</sup>.

Alg to Lewis theory

⇒ Acids are substances that accept a pair of electrons to form a covalent bond.

⇒ Bases are substances that donate a pair of electrons to form a covalent bond.

2) Ans)  $\text{NH}_3$  doesn't contain any  $\text{OH}^-$  ions  
still it behaves as a base

because on reacting with  
water ammonia forms ammonium  
hydroxide which further on ionization  
gives ammonium ion and hydroxide  
ion.

3) What is the oxygen state of K-atom  
in potassium permanganate? Ans) 1 +