

1) Distinguish between the concept of knowing acids and bases on basis of Arrhenious theory & Lewis theory.

According to Arrhenious theory,

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

→ A base is a substance which give hydroxide / hydroxyl ion ( $OH^-$ ) in their aq. sol<sup>n</sup>.

According to Lewis theory,

→ Acids are substances that accepts a pair of electron to form a covalent bond.

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

Q) Although  $\text{NH}_3$  doesn't contain any  $\text{OH}^-$  ions still it behaves as a base. Why?

Because it forms  $\text{OH}^-$  ions when added to water as it ionises to form ammonium ions and hydroxide ions after forming  $\text{NH}_4\text{OH}$  when mixed with water.

Q) What is the oxidation state of K-atom in potassium permanganate.  $+1$