Q: Distinguish between the concept of known acids and bases on basis of Arrehenious Theory & Lewis Theory.

Ans:

LEWIS THEORY

ACID	BASES
=> A species that accepts an electron pair and will have vacant orbitals.	=> a species that donates an electron pair and will have lone-pair electrons.
=> Various species can act as Lewis acids.	=> They are Nucleophillic.
=> Molecules where the central atom can have more than 8 valence shell electrons can be electron acceptors.	=> They utilize the highest occupied molecular orbital or HOMO.

Arrehenious Theory

ACIDS	BASES
=> Acidic in nature.	=> Basic in nature.
2) The concentration of H^+ ion is high.	=> The concentration of OH^- ion is high.
2) Taste sour	=> Taste bitter.
2) PH < 7	=> PH > 7.

2. Although NH_3 doesn't contain any OH^- ion yet it behaves as a base - Why?

Ans Because it easily protonates in aqueous solution, accepting a proton (H^+) from water. By doing this it fulfils the definition of Arrhenius base. Essentially the water is acting as an acid and in the process forms its conjugate base ($-OH$). Since PH is a measurment of hydrogen ion concentration in water and this is directly affected by hydroxide ion concentration, the solution becomes alkaline.

3. What is the On state of K-atom in potassium permuganate?

Ans Oxidation state of ~~K_2~~ K_2MnO_4 is +6.