Atomic Energy Central School No.4, Rawatbhata

Ch: 7 Equilibrium Module 4 (Worksheet1)

Subject: Chemistry **Class: XI**

Q.1. Define weak acid and strong acid.

Q.2. What do mean by degree of ionization of electrolyte.

Q.3. Define Lewis acid and Lewis base.

Q.4. Which out of following pairs is acid according to Arrhenius concept:
a) HCl(g) and HCl(aq)
b) $CH_3COOH(l)$ and $CH_3COOH(aq)$

Q.5. Which theory justifies water as amphoteric substance? Write chemical equation to show its amphoteric nature.

Q.6. Explain " All Bronsted bases are Lewis bases"

Q.7. Write two limitations of Lewis theory.

Q.8. Write down the conjugate acid and conjugate base of following:
(i) H2O (ii) HSO_4 (iii) NH_3 (iv) HS−

Q.9. Explain why "All Arrhenius bases are not Bronsted bases."

Q.10. Give two examples of Strong electrolytes ,weak electrolytes and non-electrolytes

Q.11. Why is ammonia termed as a base though it does not contain OH^- ions?

Q.12. Write the conjugate base formula for the following acids.

a)	HS^-	d)	H_3PO_4
b)	HCN	e)	H_3O^+
c)	$N_2H_5^+$	f)	$CH_3NH_3^+$

Q.13. Explain acid- base reactions by Lewis theroy.

Q.14. Classify each of the following species as Lewis acid or Lewis base.
i. NH_3 ii. $AlCl_3$ iii. BCl_3 iv. Ag^+

Q.15. In the following reactions, identify the acid-base conjugate pairs.

$ClO^-(aq) + H_2O(l) \rightleftharpoons HOCl(aq) + OH^-(aq)$

$CH_3NH_2(aq) + H_2PO_4^-(aq) \rightleftharpoons CH_3NH_3^+(aq) + HPO_4^{2-}(aq)$

$HBr(aq) + NH_3(aq) \rightleftharpoons NH_4^+(aq) + Br^-(aq)$

$PO_4^{3-}(aq) + H_2O(l) \rightleftharpoons HPO_4^{2-}(aq) + OH^-(aq)$

$CH_3COOH(aq) + H_2O(l) \rightleftharpoons CH_3COO^-(aq) + H_3O^+(aq)$

~~~~~~~BEST OF LUCK~~~~~~
~~~~~~~