CHEMISTRY-11	Chapter#08(Complete) Test-2A		
	Name:	Class:	ID:
Date: / / Time Allowed: 60 Min.	Marks Total: **30**	Marks Obtained:	

Maximum Marks: 06 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1. The pH of 10^{-3} mole dm^{-3} of an aqueous solution of H_2SO_4 is:
   (a) 3.0 (b) 2.7 (c) 2.0 (d) 1.5

2. The solubility product of AgCl is 2.0×10^{-10} $mole^2$ dm^{-6}. The maximum concentration of Ag^+ ions in the solution is:
   (a) 2.0×10^{-10} mol dm^{-3} (b) 1.41×10^{-5} mol dm^{-3} (c) 1.0×10^{-10} mol dm^{-3} (d) 4.0×10^{-20} mol dm^{-3}

3. Catalyst used for the preparation of NH_3 from N_2 and H_2:
   (a) Fe (b) Ni (c) Pt (d) V_2O_5

4. The nature of milk is:
   (a) Acidic (b) Basic (c) Neutral (d) Normal

5. $pH = pK_a + \log \dfrac{\left[Salt\right]}{\left[Acid\right]}$ is known as:
   (a) Einstein equation (b) Gibb's equation
   (c) Plank equation (d) Henderson equation

6. If the difference between pK_b values of two bases is 2, the base with lower pK_b value is _____ than the other.
   (a) 20 times weaker (b) 20 times stronger (c) 100 times weaker (d) 100 times stronger

Maximum Marks: 24 **(SUBJECTIVE TYPE)** Time Allowed: 50 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (16)

 i. Justify that chemical equilibrium is not static but dynamic in nature.
 ii. What do you mean by the term active mass?
 iii. How does K_c predict about the direction of the chemical reaction?
 iv. State Le-Chatelier's principle and discuss the effect of change in concentration of a product in reversible reaction.
 v. What conditions are required for the best possible yield of SO_3?
 vi. What do you mean by percentage ionization of acid?
 vii. Define common ion effect?
 viii. Why do we need buffers?

SECTION-II

NOTE: Attempt All Questions: (08)

Q.3: Define law of mass action & derive equilibrium constant for a general chemical reaction.

Q.4: What is ionic product of water? How does its value vary with change in temperature?

Q.3: The following reaction was allowed to reach the state of equilibrium.

$$2A(aq) + B(aq) \rightleftharpoons C(aq)$$

The initial amounts of the reactants present in one dm^3 of solution were 0.50 mole of A and 0.60 mole of B. At equilibrium, the amounts were 0.20 moles of A and 0.45 mole of B and 0.15 moles of C. Calculate the equilibrium constant K_c.

Q.4: The solubility of CaF_2 in water at 25°C is found to be 2.02×10^{-2} at 25°C? What is the value of K_{sp} at this temperature?