CHEMISTRY-11	Chapter#08(Complete) Test-6B		
	Name:	Class:	ID:
Date: / /	**Marks Total: 40**	**Marks Obtained:**	
Time Allowed: 75 Min.			

Maximum Marks: 08 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1. **For the reaction $2SO_2 + O_2 \rightleftharpoons 2SO_3$:**
   (a) $K_c = K_p$ (b) $K_c < K_p$ (c) $K_c > K_p$ (d) None
2. **The relationship between K_p and K_c is given by:**
   (a) $K_c = K_p$ (b) $K_c = K\left(\frac{P}{N}\right)^{\Delta n}$ (c) $K_p = K_c(RT)^{\Delta n}$ (d) $K_p = K_c(RT)^{-\Delta n}$
3. **The value of K_w at 25°C is:**
   (a) 0.11×10^{-14} (b) 0.30×10^{-14} (c) 1×10^{-14} (d) 3×10^{-14}
4. **Which aqueous solution has highest pH?**
   (a) 0.1 M NaOH (b) 1.0 M H_2SO_4 (c) 0.1 M HCl (d) 0.2 M HNO_3
5. **By adding NH_4Cl to NH_4OH solution, the ionization of NH_4OH:**
   (a) Increases (b) Decreases
   (c) Remains same (d) Increases 100 times
6. **A change in _____ changes K_c as well as the position of equilibrium.**
   (a) Concentration (b) Pressure (c) Temperature (d) Both 'a' & 'b'
7. **_____ of the total nitrogen fixation on the earth is accomplished by Haber's process?**
   (a) 10% (b) 25% (c) 13% (d) 33%
8. **The greater is the concentration of acetic acid as compared to CH_3COONa, the _____ is the pH of the solution.**
   (a) Greater (b) Lower (c) Both (d) None

Maximum Marks: 32 **(SUBJECTIVE TYPE)** Time Allowed: 65 Min.

SECTION-I

Q.2: Give brief answers to the following questions: **(20)**

i. What is meant by chemical equilibrium?
ii. State law of mass action.
iii. For some systems, K_c has no units. Explain.
iv. What is the effect of catalyst on a system at equilibrium?
v. What will be the effect of change in pressure on the sysnthesis of NH_3?
vi. Calculate the pH of 10^{-4} mole dm^{-3} of $Ba(OH)_2$ solution.
vii. Why do strong acids have weak conjugate bases, and weak acids have strong conjugate bases?
viii. Why do we need buffers?
ix. What happens when a small amount of acid or base is added in an acidic buffer containing CH_3COOH + CH_3COONa?
x. What is solubility product? Derive solubility product expression for $PbCl_2$.

SECTION-II

NOTE: **Attempt All Questions:** **(12)**

Q.3: The solubility of PbF_2 at 25°C is 0.64 gdm^{-3}. Calculate K_{sp} of PbF_2.

Q.4: Study the equilibrium.

$$H_2O(g) + CO(g) \rightleftharpoons H_2(g) + CO_2(g)$$

a) **Write an expression of K_p.**

b) **When 1.00 mole of steam and 1.00 mole of carbon monoxide are allowed to reach equilibrium, 33.3% of the equilibrium mixture is hydrogen. Calculate the value of K_p. State the units of K_p?**

Q.5: Calculate the pH of 1.0 mole dm^{-3} of H_2X, which is only 50 % dissociated.