CHEMISTRY-11	Chapter#08(Complete) Test-4B		
	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. **When 50% reactants in a reversible reaction are converted into product, the value of equilibrium constant K_c is:**
   (a) 2 (b) 1 (c) 3 (d) 4
2. **When K_c value is small, the equilibrium position is:**
   (a) Towards left (b) Towards right
   (c) Remains unchanged (d) None of these
3. **_____ million tons of ammonia is produced by Haber's process.**
   (a) 110 (b) 120 (c) 115 (d) 200
4. **In the presence of common ion, the ionization of an electrolyte will:**
   (a) Increase (b) Decrease (c) No effect (d) Moderate change
5. **pH of a buffer can be calculated by using:**
   (a) Moseley's equation (b) Henderson's equation
   (c) De-Broglie's equation (d) Bohr's equation
6. **The units of K_c for the reaction: $N_2 + 3H_2 \rightleftharpoons 2NH_3$**
   (a) $Moles^2\ dm^{-6}$ (b) $Moles^{-2}\ dm^{-6}$ (c) $Moles^{-2}\ dm^6$ (d) $Moles^2\ dm^6$
7. **If we add HCl to the system $BiCl_3 + H_2O \rightleftharpoons BiOCl + 2HCl$, at equilibrium:**
   (a) The solution will become cloudy. (b) The solution will become clear.
   (c) There will be no effect on the system. (d) All
8. **On increasing temperature from 0^0C to 100^0C the value of K_w increases by:**
   (a) 2 times (b) 10 times (c) 75 times (d) 100 times

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

SECTION-I

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

i. What is equilibrium constant?
ii. What is the effect of rise in temperature on the solubility of KI?
iii. What are the optimum or best industrial conditions for the synthesis of NH_3 in Haber`s process?
iv. What is the effect of change in pressure on $2SO_2+O_2 \rightleftharpoons 2SO_3$?
v. Differentiate between K_a and K_b.
vi. Prove that $pK_a + pK_b = 14$ at 25°C.
vii. How does common ion effect help in identifying the II group basic radicals?
viii. How does a buffer act? Explain with an example.

ix. Define buffer capacity.

x. How can solubility product be determined from solubility? Give an example.

SECTION-II

NOTE: Attempt All Questions: (12)

Q.3: What is the percentage ionization of acetic acid in a solution in which 0.1 moles of it has been dissolved per dm^3 of the solution?

Q.4: The equilibrium constant for the reaction between acetic acid and ethyl alcohol is 4.0. A mixture of 3 moles of acetic acid and one mole of C_2H_5OH is allowed to come in moles and grams. Also calculate the masses of reactants left behind?

Q.5: Calculate the pH of 1.0 mole dm^{-3} of NH_4OH which is 1% dissociated.