

CHEMISTRY-11	Chapter#08(Complete) Test-6A		
	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:

- 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
- 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) $K_p = K_c (RT)^{-\Delta n}$
- The value of K_w at $25^\circ C$ is:
 (a) 0.11×10^{-14} (b) 0.30×10^{-14} (c) 1×10^{-14} (d) 3×10^{-14}
- 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
- By adding NH_4Cl to NH_4OH solution, the ionization of NH_4OH :
 (a) Increases (b) Decreases
 (c) Remains same (d) Increases 100 times
- A change in _____ changes K_c as well as the position of equilibrium.
 (a) Concentration (b) Pressure (c) Temperature (d) Both 'a' & 'b'
- _____ of the total nitrogen fixation on the earth is accomplished by Haber's process?
 (a) 10% (b) 25% (c) 13% (d) 33%
- 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)

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

SECTION-II

NOTE: Attempt All Questions:

(12)

Q.3: Write a note on synthesis of ammonia gas by Haber's process keeping in mind the applications of chemical equilibrium in industry.

Q.4: Prove that $pK_a + pK_b = pK_w$

Q.5: Write a note on buffer capacity.