

CHEMISTRY-11	Chapter#8 (Complete-Smart Syllabus) Test-3		
	Name:	Class:	ID:
Date: / /	Marks Total: 30	Marks Obtained:	
Time Allowed: 50 Min.			

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

NOTE: Tick The Correct Option:

- The law of mass action was given by:
 - D.C. Down and P. Waage
 - C.M. Gulberg and P. Waage
 - Gay-Lussic and C.M. Gulberg
 - Henderson and Le-Chatelier
- When K_c value is small, the equilibrium position is:
 - Towards left
 - Towards right
 - Remains unchanged
 - None of these
- _____ million tons of ammonia is produced by Haber's process.
 - 110
 - 120
 - 115
 - 200
- The value of K_w at 25°C is:
 - 0.11×10^{-14}
 - 0.30×10^{-14}
 - 1×10^{-14}
 - 3×10^{-14}
- The solubility of KClO_3 in water is suppressed by adding:
 - KClO_3
 - NaCl
 - KMnO_4
 - KCl
- K_c expression for the reaction $\text{PCl}_5(\text{g}) \rightleftharpoons \text{PCl}_3(\text{g}) + \text{Cl}_2(\text{g})$ is:
 - $\frac{2x}{(a-2x)V}$
 - $\frac{x^2}{(a-2x)V}$
 - $\frac{x^2V^2}{(a-2x)}$
 - $\frac{x^2}{(a-x)V}$
- The factor which does not alter K_c as well as the position of equilibrium.
 - Concentration
 - Pressure
 - Temperature
 - Catalyst
- Molar concentration of water is:
 - 1 mole dm^{-3}
 - 18 moles dm^{-3}
 - 55.5 moles dm^{-3}
 - 1.8×10^{-16} moles dm^{-3}
- At 100°C , the pOH of pure water is:
 - 7
 - <7
 - >7
 - None
- In an acidic buffer consisting of $\text{CH}_3\text{COOH} + \text{CH}_3\text{COONa}$, if we increase the concentration of CH_3COONa , the pH of the solution:
 - Increases
 - Decreases
 - Remains constant
 - Both 'b' & 'c'

Maximum Marks: 20 **(SUBJECTIVE TYPE)** Time Allowed: 40 Min.

SECTION-I

Q.2: Give brief answers to the following questions:

(12)

- What is meant by chemical equilibrium?
- Differentiate between K_c and K_p ? OR What is the relation between K_c and K_p ?

- iii. Why does the solubility of glucose in water increase by increasing temperature?
- iv. Define pH and pOH. How are they related with pK_w ?
- v. What do you mean by percentage ionization of acid?
- vi. Define buffers? How are they prepared or what are their types? OR Differentiate between acidic and basic buffers.

SECTION-II

NOTE: Attempt All Questions:

(08)

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



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: Benzoic acid, $\text{C}_6\text{H}_5\text{COOH}$, is a weak mono basic acid ($K_a = 6.4 \times 10^{-5} \text{ mole dm}^{-3}$). What is the pH of a solution containing 7.2 g of sodium benzoate in one dm^3 of 0.02 mole dm^{-3} benzoic acid?