

<b>CHEMISTRY-11</b>	<b>Chapter#08First Half (8.1-8.2) Test-2A</b>		
	Name:	Class:	ID:
Date: / /	<b>Marks Total: 25</b>	<b>Marks Obtained:</b>	
Time Allowed: 40 Min.			

Maximum Marks: 09

**(OBJECTIVE TYPE)**

Time Allowed: 10 Min.

**NOTE:** Tick The Correct Option:

- For which system does the equilibrium constant,  $K_c$ , has units of (conc.)<sup>-1</sup>?  
 (a)  $N_2 + 3H_2 \rightleftharpoons 2NH_3$  (b)  $H_2 + I_2 \rightleftharpoons 2HI$   
 (c)  $2NO_2 \rightleftharpoons N_2O_4$  (d)  $2HF \rightleftharpoons H_2 + F_2$
- When  $K_c$  value is small, the equilibrium position is:  
 (a) Towards left (b) Towards right  
 (c) Remains unchanged (d) None of these
- At equilibrium, the concentrations of reactants and products are always:  
 (a) Equal (b) Unequal (c) Constant (d) Changing
- For which reaction,  $K_p$  is equal to  $K_c$ :  
 (a)  $N_2 + O_2 \rightleftharpoons 2NO$  (b)  $2SO_2 + O_2 \rightleftharpoons 2SO_3$  (c)  $N_2O_{4(g)} \rightleftharpoons 2NO_{2(g)}$  (d) All
- 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
- Change in temperature will change:  
 (a) Equilibrium position only (b) Equilibrium constant ( $K_c$ ) only  
 (c) Both 'a' & 'b' (d) None
- The solubility of  $Li_2CO_3$  \_\_\_\_\_ by increase of temperature.  
 (a) Increases (b) Decreases (c) Remains same (d) None
- A catalyst increases the rate of both forward and reverse reactions by:  
 (a) Changing the mechanism of the reaction. (b) Decreasing the activation energy.  
 (c) Increasing the number of effective collisions. (d) All
- \_\_\_\_\_ of the total nitrogen fixation on the earth is accomplished by Haber's process?  
 (a) 10% (b) 25% (c) 13% (d) 33%

Maximum Marks: 16

**(SUBJECTIVE TYPE)**

Time Allowed: 30 Min.

**SECTION-I**

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

(12)

- Differentiate between reversible and irreversible reactions.
- Justify that chemical equilibrium is not static but dynamic in nature.
- How does  $K_c$  predict about the extent of chemical reaction?
- Why does ice melt, when it is pressed or pressure is increased on it?
- Why does the solubility of glucose in water increase by increasing temperature?
- What conditions are required for the best possible yield of  $SO_3$ ?

**SECTION-II**

**NOTE:** Attempt All Questions:

(04)

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