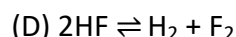
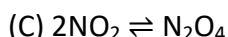
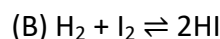
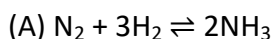


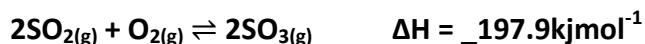
NAME:		ROLL NO:		TIME:	15: MIN
SUB:	Chemistry	Date:		CLASS:	1 st Year
SYLLABUS	Chp. 8 (Chemical Equilibrium)	T. MARKS	10	OBT. M	

Q. 1 Choose the Correct Answer. Cutting, Erasing, Double Selection is Strictly Prohibited. (1x10=10)

1. For which system, does the equilibrium constant, K_c has units of (concentration)⁻¹?



2. Which statement about the following equilibrium is correct?



(A) The value of k_p falls with a rise in temperature.

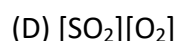
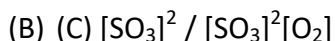
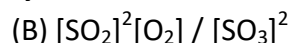
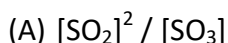
(B) The value of k_p falls with increasing pressure.

(C) Adding V_2O_5 catalyst increases the equilibrium yield of sulphur trioxide.

(D) The value of k_p is equal to k_c .

3. $2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$

The conventional equilibrium constant (k_c) for the system as described by the above equation is:



4. A saturated solution represents a dynamic equilibrium. Macroscopically, the concentration of dissolved solute is constant. Microscopically, this occurs because:

(A) No more solute particles are dissolving.

(B) The rate of dissolution of solute is zero.

(C) Solute particles are dissolving and precipitating at the same rate.

(D) All solute particles have dissolved.

5. Which of the following statements correctly describes the effect of temperature on the equilibrium constant?

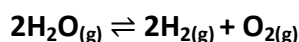
(A) K_c is directly proportional to temperature.

(B) K_c is inversely proportional to temperature.

(C) K_c depends on the enthalpy change of the reaction.

(D) Temperature has no effect on the value of K_c .

6. Consider the gas-phase equilibrium system represented by the equation:



Given that the forward reaction is endothermic, which of the following changes will decrease the equilibrium amount of H_2O ?

(A) Adding more oxygen

(B) Adding a solid phase catalyst

(C) Decreasing the volume of the container (the total pressure increase)

(D) Increasing the temperature at constant pressure

NAME:		ROLL NO:		TIME:	15: MIN
SUB:	Chemistry	Date:		CLASS:	1 st Year
SYLLABUS	Chp. 8 (Chemical Equilibrium)	T. MARKS	10	OBT. M	

7. $K_c = 0.040$ at 450°C for the given reaction, evaluate K_p for the reaction:



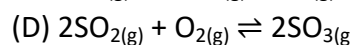
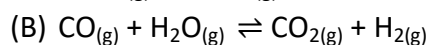
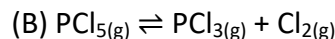
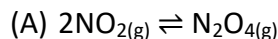
(A) 0.40

(B) 0.64

(C) 2.4

(D) 0.052

8. In which of the following gaseous equilibria, pressure has no effect on the equilibrium position?



9. Consider the equilibrium $2\text{H}_{2(g)} + \text{O}_{2(g)} \rightleftharpoons 2\text{H}_2\text{O}_{(g)}$. if the concentration of $\text{H}_2\text{O}_{(g)}$ is increased, the concentration of $\text{H}_{2(g)}$ and $\text{O}_{2(g)}$ will:

(A) Increase

(B) Decrease

(C) Remain the same

(D) Change irregularly

10. For a specific reaction, the value of the equilibrium constant K_c :

(A) Always remains the same at different reaction conditions.

(B) Increases if the concentration of one of the reactant is increased.

(C) Changes with changes in the temperature.

(D) Increase if the concentration of one of the reactant is increased.



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NAME:				ROLL NO:		TIME:	15: MIN
SUB:	Chemistry	Date:			CLASS:	1 st Year	
SYLLABUS	Chp. 8 (Chemical Equilibrium)			T. MARKS	10	OBT. M	

Answer Key

1	C	2	A	3	B	4	C
5	C	6	D	7	C	8	C
9	A	10	C				