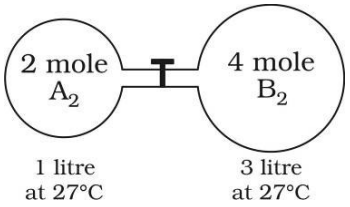
Date Planned : __ / __ / __	Daily Tutorial Sheet-12	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-3	Exact Duration :_____

141. The gas A_2 in the left flask is allowed to react with gas B_2 present in right flask as $A_2(g) + B_2(g) \rightleftharpoons 2AB(g)$; $K_c = 4$ at 27°C. What is the concentration of AB when equilibrium is established ?



(A) 1.33 M **(B)** 2.66 M

(C) 0.66 M **(D)** 0.33 M

142. Ammonium carbamate dissociates as $NH_2COONH_4(s) \rightleftharpoons 2NH_3(g) + CO_2(g)$. In a closed vessel containing ammonium carbamate in equilibrium, ammonia is added such that partial pressure of NH_3 now equals to the original total pressure. Then the ratio of partial pressure of CO_2 now to the original partial pressure of CO_2 will be:

(A) 4 **(B)** 9 **(C)** $\frac{4}{9}$ **(D)** $\frac{2}{9}$

143. 0.020g of selenium vapour at equilibrium occupy a volume of 2.463mL at 1 atm and 27°C. The selenium is in a state of equilibrium according to reaction $3Se_2(g) \rightleftharpoons Se_6(g)$. What is the degree of association of selenium ? (Atomic wt. of Se = 79)

(A) 0.205 **(B)** 0.315 **(C)** 0.14 **(D)** None of these

144. The degree of association (polymerization) for the reaction in aqueous solution

$$6HCHO \rightleftharpoons C_6H_{12}O_6$$

(observed (mean) molar mass of HCHO and $C_6H_{12}O_6$ is 150) will be :

(A) 0.50 **(B)** 0.833 **(C)** 0.90 **(D)** 0.96

145. A vessel of 250 litre was filled with 0.01 mole of Sb_2S_3 and 0.01 mole of H_2 to attain the equilibrium at 440°C as $Sb_2S_3(s) + 3H_2(g) \rightleftharpoons 2Sb(s) + 3H_2S(g)$. After equilibrium, the H_2S formed was analysed by dissolving it in water and treating with excess of Pb^{2+} to give 1.19g of PbS as precipitate. What is the value of K_c at 440°C ?

(A) 1 **(B)** 2 **(C)** 4 **(D)** 8

146. Rate of diffusion of ozonized oxygen is $0.4\sqrt{5}$ times of pure oxygen. What is the per cent degree of association of oxygen assuming pure O_2 in the sample initially ?

(A) 20 **(B)** 40 **(C)** 60 **(D)** None of these