Date Planned : __ / __ / __	Daily Tutorial Sheet-13	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-3	Exact Duration :_____

147. A mixture of formic acid and oxalic acid is heated with concentrated H_2SO_4. The gas produced is collected and on its treatment with KOH solution, the volume of the gas decreased by one sixth. The molar ratio of two acids in the original mixture :

(A) 1 : 2 **(B)** 2 : 1 **(C)** 4 : 1 **(D)** 1 : 5

148. A mixture of CH_4 and C_2H_2 occupied a certain volume at a total pressure of 63 mm. The sample was burnt to CO_2 and H_2O and the CO_2 alone was collected and its pressure was found to be 69 mm in the same volume and at the same temperature as the original mixture. What fraction of mixture was methane?

(A) 0.10 **(B)** 0.90 **(C)** 0.70 **(D)** 0.55

149. Equal masses of H_2, He and CH_4 are mixed in empty container at 300 K. When total pressure is 2.6 atm. The partial pressure of H_2 in the mixture is:

(A) 0.5 atm **(B)** 1.6 atm **(C)** 0.8 atm **(D)** 0.2 atm

150. A mixture of H_2 and He in 1 : 1 mass ratio is allowed to diffuse through a porous pot. The mole ratio of H_2 to He in the initially effused mixture will be :

(A) $2:\sqrt{2}$ **(B)** $2\sqrt{2}:1$ **(C)** 1 : 2 **(D)** 1 : 1

151. If one litre of O_2 at $15°C$ and 750 mm of Hg pressure contains N molecules, the number of molecules in two litres of SO_2 under the same conditions of temperature and pressure will be :

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

***152.** Which of the following quantities is the same for all ideal gases at the same temperature?

(A) The kinetic energy of 1 mol **(B)** The kinetic energy of 1 gm

(C) The number of molecules in 1 mol **(D)** The number of molecules in 1 gm