

Previous year JEE questions 11

Equal weights of methane and oxygen are mixed in an empty container at 25°C. The fraction of the total pressure exerted by oxygen is *(1981 - 1 Mark)*

(a) $\frac{1}{3}$

(b) $\frac{1}{2}$

(c) $\frac{2}{3}$

(d) $\frac{1}{3} \times \frac{273}{298}$

(a) **TIPS/Formulae :**

$$\text{Mole fraction of O}_2 = \frac{\text{Moles of O}_2}{\text{Total moles}}$$

$$\text{Partial pressure of O}_2 = \text{Mole fraction of O}_2$$

$$\text{Mole fraction of O}_2 = \frac{\frac{W}{32}}{\frac{W}{16} + \frac{W}{32}} = \frac{1}{3}$$