

NEET KINETIC THEORY — LAW OF EQUIPARTITION OF ENERGY — PYQs

Max. Marks: 12
Questions: 3

Section A (MCQ) — 3 questions

- Q.1** According to the law of equipartition of energy, the number of vibrational modes of a polyatomic gas of constant $\gamma = \frac{C_p}{C_v}$ is (C_p and C_v are the specific heat capacities of the gas at constant pressure and constant volume, respectively):

[RE-NEET (UG) 2024]

- (1) $\frac{4+3\gamma}{\gamma-1}$ (2) $\frac{3+4\gamma}{\gamma-1}$ (3) $\frac{4-3\gamma}{\gamma-1}$ (4) $\frac{3-4\gamma}{\gamma-1}$

Scan or tap for the full solution



- Q.2** The average thermal energy for a mono-atomic gas is : (k_B is Boltzmann constant and T absolute temperature)

[NEET (UG) 2020]

- (1) $\frac{3}{2}k_B T$ (2) $\frac{5}{2}k_B T$ (3) $\frac{7}{2}k_B T$ (4) $\frac{1}{2}k_B T$

Scan or tap for the full solution



- Q.3** A gas mixture consists of 2 moles of O_2 and 4 moles of Ar at temperature T . Neglecting all vibrational modes, the total internal energy of the system is

[NEET 2017]

- (1) $15 RT$ (2) $9 RT$ (3) $11 RT$ (4) $4 RT$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3								
Ans.	3	1	3								