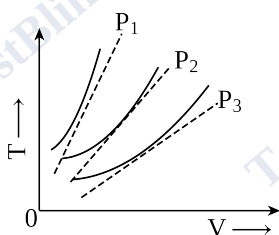


NEET KINETIC THEORY — MOLECULAR NATURE OF MATTER, BEHAVIOUR OF GASES — PYQS

Max. Marks: 32
Questions: 8

Section A (MCQ) — 8 questions

- Q.1** The following graph represents the T-V curves of an ideal gas (where T is the temperature and V the volume) at three pressures P_1 , P_2 and P_3 compared with those of Charles's law represented as dotted lines.



Then the correct relation is : [NEET (UG) 2024]

- (1) $P_3 > P_2 > P_1$ (2) $P_1 > P_3 > P_2$
 (3) $P_2 > P_1 > P_3$ (4) $P_1 > P_2 > P_3$

Scan or tap for the full solution



- Q.2** The volume occupied by the molecules contained in 4.5 kg water at STP, if the intermolecular forces vanish away is [NEET (UG) 2022]

- (1) $5.6 \times 10^6 \text{ m}^3$ (2) $5.6 \times 10^3 \text{ m}^3$
 (3) $5.6 \times 10^{-3} \text{ m}^3$ (4) 5.6 m^3

Scan or tap for the full solution



- Q.3** A cylinder contains hydrogen gas at pressure 249 kPa and temperature 27°C . Its density is : ($R = 8.3 \text{ J mol}^{-1} \text{ K}^{-1}$) [NEET (UG) 2020]

- (1) 0.2 kg/m^3 (2) 0.1 kg/m^3
 (3) 0.02 kg/m^3 (4) 0.5 kg/m^3

Scan or tap for the full solution



- Q.4** A given sample of an ideal gas occupies a volume V at a pressure P and absolute temperature T. The mass of each molecule of the gas is m. Which of the following gives the density of the gas ? [NEET 2016 (Phase 2)]

- (1) $P/(kT)$ (2) $Pm/(kT)$ (3) $P/(kTV)$ (4) mkT

Scan or tap for the full solution



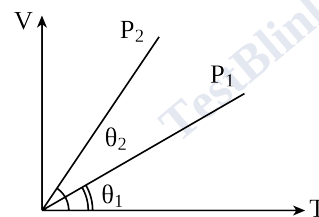
- Q.5** Two vessels separately contain two ideal gases A and B at the same temperature, the pressure of A being twice that of B. Under such conditions, the density of A is found to be 1.5 times the density of B. The ratio of molecular weight of A and B is [AIPMT 2015]

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

Scan or tap for the full solution



- Q.6** In the given (V - T) diagram, what is the relation between pressure P_1 and P_2 ? [NEET 2013]



- (1) $P_2 < P_1$ (2) Cannot be predicted
 (3) $P_2 = P_1$ (4) $P_2 > P_1$

Scan or tap for the full solution



- Q.7** At 10°C the value of the density of a fixed mass of an ideal gas divided by its pressure is x. At 110°C this ratio is [AIPMT 2008]

- (1) $\frac{10}{110}x$ (2) $\frac{283}{383}x$ (3) x (4) $\frac{383}{283}x$

Scan or tap for the full solution



- Q.8** The equation of state for 5 g of oxygen at a pressure P and temperature T, when occupying a volume V, will be

(where R is the gas constant) [AIPMT 2004]

- (1) $PV = (5/32)RT$ (2) $PV = 5RT$
 (3) $PV = (5/2)RT$ (4) $PV = (5/16)RT$

Scan or tap for the full solution



ANSWER KEY

Ques.	1	2	3	4	5	6	7	8			
Ans.	4	4	1	2	4	1	2	1			