

PYQSide

JEE MAIN THERMODYNAMICS (PHYSICS) — SPECIFIC HEAT CAPACITIES OF GASES (CP, CV) — PYQS

Max. Marks: 12

Questions: 3

Section B (Numerical)

- Q.1** 5 moles of unknown gas is heated at constant volume from 10 °C to 20 °C. The molar specific heat of this gas at constant pressure $c_p = 8$ cal/mol.°C and $R = 8.36$ J/mol.°C. The change in the internal energy of the gas is _____ calorie.

[JEE Main 2026 (Online) 2nd April Evening Shift]

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- Q.2** When 300 J of heat is given to an ideal gas with $C_p = \frac{7}{2}R$, its temperature rises from 20°C to 50°C keeping its volume constant. The amount of the gas is (approximately) _____ $\times 10^{-3}$ mol. ($R = 8.314$ J/mol K)

[JEE Main 2026 (Online) 24th January Evening Shift]

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- Q.3** 10 mole of oxygen is heated at constant volume from 30°C to 40°C. The change in the internal energy of the gas is _____ cal. (The molecular specific heat of oxygen at constant pressure, $C_p = 7$ cal/mol °C and $R = 2$ cal/mol °C.)

[JEE Main 2026 (Online) 21st January Morning Shift]

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ANSWER KEY

Ques.	1	2	3				
Ans.	300	481	500				