

PART 1 - PHYSICS

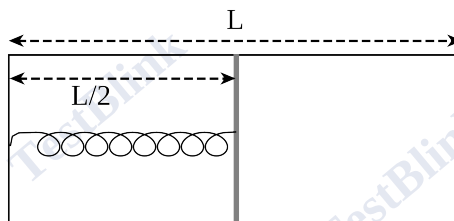
Topic : Kinetic theory

SECTION-B : (Maximum Marks : 4)

- This section contains **ONE** question.
- The answer to each question is a **NUMERICAL VALUE**.
- For each question, enter the correct numerical value of the answer (in decimal notation, truncated / rounded-off to the **SECOND DECIMAL PLACE**; e.g. 6.25, 7.00, -0.33, -0.30, 30.27, -127.30) in the place designated to enter the answer.
- Answer to each question will be evaluated according to the following marking scheme :
 Full Marks : +4 If ONLY the correct answer is entered;
 Zero Marks : 0 In all other cases.

1. The left and right compartments of a thermally isolated container of length L are separated by a thermally conducting, movable piston of area A . The left and right compartments are filled with $\frac{3}{2}$ and 1 moles of an ideal gas, respectively. In the left compartment the piston is attached by a spring with spring constant k and natural length $\frac{2L}{5}$. In thermodynamic equilibrium, the piston is at a distance $\frac{L}{2}$ from the left and right edges of the container as shown in the figure. Under the above conditions, if the pressure in the right compartment is $P = \frac{kL}{A}\alpha$, then the value of α is _____

[JEE Advanced 2025 Paper 2]



Scan or tap for the full solution



Space for Rough Work

JEE ADVANCED KINETIC THEORY — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B																					
Ques.	1																				
Ans.	0.2																				