

PART 1 - PHYSICS

Topic : Thermal properties of matter

SECTION-B : (Maximum Marks : 4)

This section contains **ONE** question.

The answer to each question is a **NON-NEGATIVE INTEGER**.

For each question, enter the correct integer corresponding to the answer in the place designated to enter the answer.

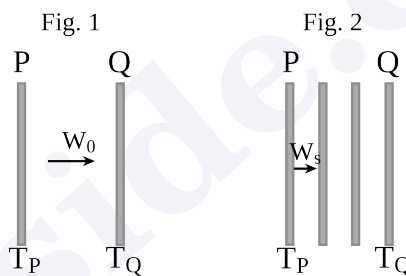
Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct answer is entered;

Zero Marks : 0 In all other cases.

1. Two identical plates P and Q, radiating as perfect black bodies, are kept in vacuum at constant absolute temperatures T_P and T_Q , respectively, with $T_Q < T_P$, as shown in Fig. 1. The radiated power transferred per unit area from P to Q is W_0 . Subsequently, two more plates, identical to P and Q, are introduced between P and Q, as shown in Fig. 2. Assume that heat transfer takes place only between adjacent plates. If the power transferred per unit area in the direction from P to Q (Fig. 2) in the steady state is W_S , then the ratio $\frac{W_0}{W_S}$ is

[JEE Advanced 2025 Paper 1]



Scan or tap for the full solution



Space for Rough Work

**JEE ADVANCED THERMAL PROPERTIES OF MATTER
— HEAT TRANSFER: RADIATION (BLACK BODY,
WIEN'S LAW, STEFAN'S LAW) — PYQS**

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-B																					
Ques.	1																				
Ans.	3																				