

PART 1 - PHYSICS

Topic : Alternating current

SECTION-A : (Maximum Marks : 4)

This section contains **ONE** question.

Each question has **TWO** lists: **List-I** and **List-II**.

Four options are given representing matching of elements from List-I and List-II. **ONLY ONE** of these four options corresponds to a correct matching.

For each question, choose the option corresponding to the correct answer.

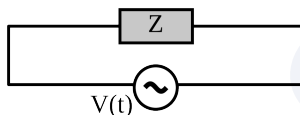
Answer to each question will be evaluated according to the following marking scheme :

Full Marks : +4 If **ONLY** the correct option is chosen;

Zero Marks : 0 If none of the options is chosen (i.e. the question is unanswered);

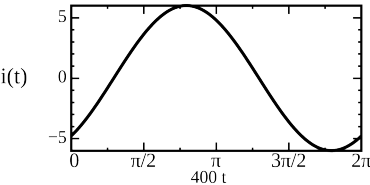
Negative Marks : -1 In all other cases.

1. A circuit with an electrical load having impedance Z is connected with an AC source as shown in the diagram. The source voltage varies in time as $V(t) = 300\sin(400t)$ V, where t is time in s. **List-I** shows various options for the load. The possible currents $i(t)$ in the circuit as a function of time are given in **List-II**.



List-I		List-II	
P.		1.	
Q.		2.	
R.		3.	
S.		4.	

Space for Rough Work

List-I		List-II	
		5.	

Choose the option that describes the correct match between the entries in List-I to those in List-II. [JEE Advanced 2025 Paper 1]

- (A) $P \rightarrow 3, Q \rightarrow 5, R \rightarrow 2, S \rightarrow 1$
 (C) $P \rightarrow 3, Q \rightarrow 4, R \rightarrow 2, S \rightarrow 1$

- (B) $P \rightarrow 1, Q \rightarrow 5, R \rightarrow 2, S \rightarrow 3$
 (D) $P \rightarrow 1, Q \rightarrow 4, R \rightarrow 2, S \rightarrow 5$

Scan or tap for the full solution 

Space for Rough Work

JEE ADVANCED ALTERNATING CURRENT — SERIES
LCR CIRCUIT, IMPEDANCE AND PHASE — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																									
Ques.	1																								
Ans.	A																								