

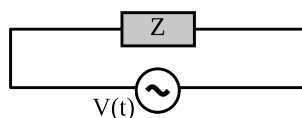
PART 1 - PHYSICS

Topic : Alternating current

SECTION-1 : (Maximum Marks : 4)

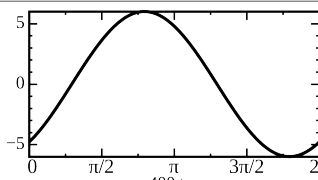
- This section contains **ONE** question.
- Each question has **TWO** lists: **List-I** and **List-II**.
- Four options are given representing matching of elements from List-I and List-II. **ONLY ONE** of these four options corresponds to a correct matching.
- For each question, choose the option corresponding 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.	

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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) $P \rightarrow 3, Q \rightarrow 5, R \rightarrow 2, S \rightarrow 1$

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

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

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

Scan or tap for the full solution



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

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-1																											
Ques.	1																										
Ans.	A																										