

PART 1 - PHYSICS

Topic : Moving charges and magnetism**SECTION-A : (Maximum Marks : 4)**

This section contains **ONE** question.

Each question has **FOUR** options (A), (B), (C) and (D). **ONLY ONE** of these four options is the correct answer.

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. An infinitely long wire, located on the z-axis, carries a current I along the +z-direction and produces the magnetic field $\vec{B}$. The magnitude of the line integral $\int \vec{B} \cdot d\vec{l}$ along a straight line from the point $(-\sqrt{3}a, a, 0)$ to $(a, a, 0)$ is given by

$[\mu_0$ is the magnetic permeability of free space.]

[JEE Advanced 2024 Paper 1]

(A) $7\mu_0 I/24$

(B) $7\mu_0 I/12$

(C) $\mu_0 I/8$

(D) $\mu_0 I/6$

Scan or tap for the
full solution



Space for Rough Work

JEE ADVANCED MOVING CHARGES AND MAGNETISM — AMPERE'S CIRCUITAL LAW AND ITS APPLICATIONS — PYQS

Test Pattern : **JEE (Advanced)**

ANSWER KEY

SECTION-A

[illegible]