

PART 1 - PHYSICS

Topic : Current electricity

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. A metal wire of cross-sectional area 0.5 mm^2 and length 100 m is connected across a battery of e.m.f. 2 V and internal resistance 1Ω . The density, atomic mass and electrical conductivity of the metal are $6.35 \times 10^3 \text{ kg m}^{-3}$, 63.5 gm/mole and $2 \times 10^8 \text{ mho m}^{-1}$, respectively. Assuming one conduction electron per atom of the metal, the drift velocity (in mm s^{-1}) of the electrons in the wire is:

[Take Avogadro's number as 6×10^{23} and charge of the electron as $1.6 \times 10^{-19} \text{ C}$.]

[JEE Advanced 2026 Paper 2]

(A) 0.052

(B) 0.104

(C) 0.208

(D) 0.156

Scan or tap for the
full solution



Space for Rough Work

JEE ADVANCED CURRENT ELECTRICITY — PYQS

Test Pattern : JEE (Advanced)

ANSWER KEY

SECTION-A																									
Ques.	1																								
Ans.	C																								