

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																								