TOPIC

Electricity and Magnetism – Section XI – Question 2

QUESTION

The electrical resistance of a wire is
    (A) proportional to the square of the length of the wire.
    (B) inversely proportional to the resistivity of the wire material
    (C) inversely proportional the square of the radius of the wire.
    (D) inversely proportional to the circumference of the wire.

HINT

Since the resistance of the wire is given by

$$R = \frac{\rho L}{A}$$

where
        ρ = resistivity of the wire material,
        L = length of wire,
        A = cross-sectional area of wire.

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