

Question 714

27-04

0.5-46%

The resistivity of nichrome wire is 1.0×10^{-6} Ohm.m. Calculate the length of wire needed for a 1200 watt electric heater that is connected across a 120 V potential difference. [The wires radius is 0.40 mm]

- (a) 4.5 m.
- (b) 8.0 m.
- (c) 6.0 m.
- (d) 1.5 m.
- (e) 3.0 m.

Question 715

27-04

0.0-32%

Figure 7 shows three cylindrical copper conductors along with their face areas and length. Rank them according to the current through them, greatest first, when the same potential difference V is placed across their lengths.

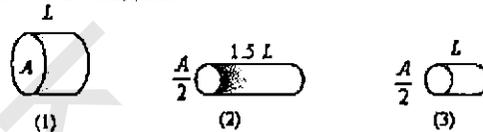


Figure (7)

- (a) 1,3 and 3.
- (b) 2,1 and 3.
- (c) 1,2 and 3.
- (d) 3,2 and 1.
- (e) 1,3 and 2.

Question 716

27-04

0.0-26%

What diameter must a copper wire have if its resistance is to be the same as that of an equal length of an aluminum wire with 3.26 mm diameter? [Resistivity of aluminum = 2.75×10^{-8} Ohm.m; Resistivity of copper = 1.69×10^{-8} Ohm.m;]

- (a) 2.6 mm.
- (b) 3.3 mm.
- (c) 4.0 mm.
- (d) 8.3 mm.
- (e) 10 mm.

27-5 Ohm's LawQuestion 717

27-05

0.1-35%

A hair dryer of resistance 80 ohms is plugged into a 120-V line. The charge passing through it in one hour is:

- (a) 900 coulombs.
- (b) 1.5 coulombs.
- (c) 5400 coulombs.
- (d) 2400 coulombs.
- (e) 90 coulombs.