

Chapter 27 Current and Resistance

27-2 Electric current

Question 692

27-02
0.39-33%

The sum of the currents entering a junction equals the sum of the currents leaving that junction is a consequence of:

- (a) Newton's second law
- (b) Coulomb's law
- (c) conservation of charge
- (d) Ampere's law
- (e) conservation of energy

Question 693

27-02

If 4.7×10^{16} electrons pass a particular point in a wire every minute, what is the current in the wire?

- (a) 2.9×10^{-3} A.
- (b) 9.1×10^{-3} A.
- (c) 1.3×10^{-4} A.
- (d) 2.9×10^{-5} A.
- (e) 4.7×10^{-3} A.

Question 694

27-02

A portion of a circuit is shown in figure (6), with the values of the currents given for some branches. What is the direction and value of the current I ?

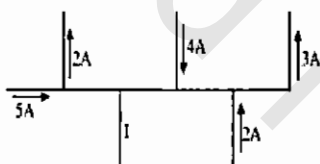


Figure 6

- (a) Up, 4 A.
- (b) Down, 4 A.
- (c) Down, 2 A.
- (d) Up, 6 A.
- (e) Down, 6 A.

Question 695

27-02
0.54-55%

Conduction electrons move to the right in a certain wire. This indicates that:

- (a) the current density points to the left but the direction of the electric field is unknown.
- (b) the current density and the electric field both point to the right.
- (c) the current density points to the right but the electric field points to the left.
- (d) the current density points to the left but the electric field points to the right.
- (e) the current density and the electric field both point to the left.