

UDAAN 3.0 2024

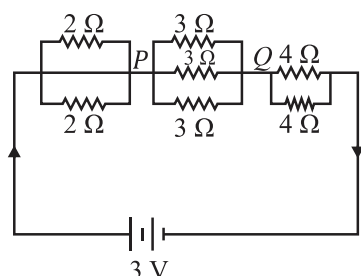
Electricity

DHA-03

1. What is the lowest total resistance that can be combination of four coils of resistance $4\ \Omega$, $8\ \Omega$, $12\ \Omega$ and $24\ \Omega$?

(A) $2\ \Omega$ (B) $1\ \Omega$
(C) $\frac{1}{2}\ \Omega$ (D) $0.1\ \Omega$

2. The current in the circuit shown in figure is:

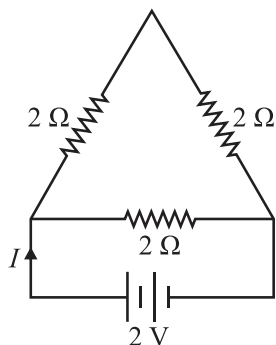


(A) 3 A (B) 2 A
(C) 1 A (D) 0.75 A

3. An equilateral resistance is formed with each side having a resistance $6\ \Omega$. What is the resistance across any side of the triangle?

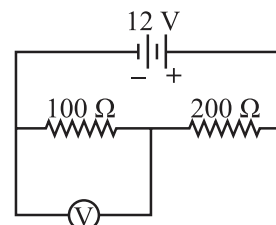
(A) $2\ \Omega$
(B) $6\ \Omega$
(C) $4\ \Omega$
(D) None of these

4. What is the current in the circuit shown (figure)?



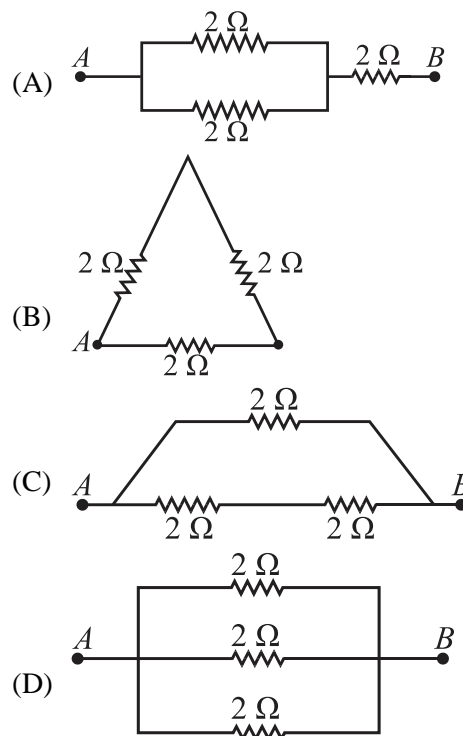
(A) 1.5 A (B) 0.5 A
(C) 2.5 A (D) None of these

5. In the circuit shown in figure. The reading of the voltmeter V will be

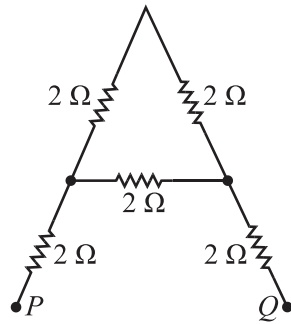


(A) 4 V
(B) 2 V
(C) 6 V
(D) 3 V

6. Which of the following networks yields maximum effective resistance between A and B

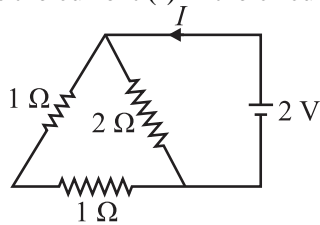


7. What is the resistance between P and Q ?



- (A) $\frac{3}{4}\Omega$ (B) $\frac{4}{3}\Omega$
(C) $\frac{16}{3}\Omega$ (D) infinity

8. What is the current (I) in the circuit?



- (A) $\frac{1}{2}\text{ A}$ (B) 2 A
(C) $\frac{3}{2}\text{ A}$ (D) None of these

9. The resistance of a semiconductor material (germanium or Silicon) _____ with rise in temperature.
(A) Increases
(B) Decreases
(C) remains the same
(D) First increases then decreases



Note: Kindly find the Video Solution of DHAs Questions in the DPPs Section.

ANSWERS

1. (A)
2. (D)
3. (C)
4. (A)
5. (A)

6. (A)
7. (C)
8. (B)
9. (B)

Hints and Solutions

- | | |
|---|---|
| <p>1. (A)
In parallel combination equivalent resistance is always less than the individual resistance.</p> | <p>6. (A)
Use concept of series and parallel combination of resistance.</p> |
| <p>2. (D)
Find equivalent resistance and then use formula [$V = IR$]</p> | <p>7. (C)
Use concept of series and parallel combination of resistance.</p> |
| <p>3. (C)
Use concept of series and parallel combination of resistance.</p> | <p>8. (B)
Use concept of series and parallel combination of resistance and then use formula [$V = IR$]</p> |
| <p>4. (A)
Use concept of series and parallel combination of resistance and then use formula [$V = IR$]</p> | <p>9. (B)
The resistance of semiconductor decreases with rise in temperature.</p> |
| <p>5. (A)
Find current across $100\ \Omega$ resistance and then use formula [$V = IR$] for finding the voltmeter reading.</p> | |



PW Web/App - <https://smart.link/7wwosivoicgd4>
Library - <https://smart.link/sdfez8ejd80if>