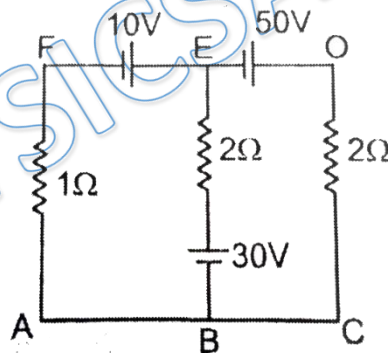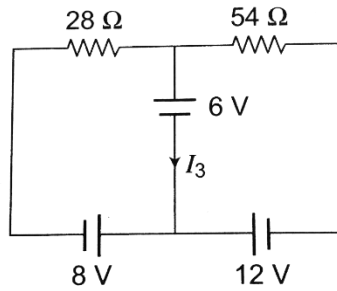Q 1. A circuit has a section ABC as shown in figure. If the potentials at points A, B and C are V_1, V_2 and V_3 respectively. The potential at point O is?
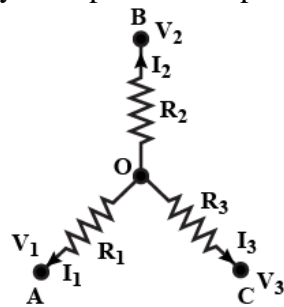
(a) $V_1 + V_2 + V_3$

(b) $\left[\frac{V_1}{R_1} + \frac{V_2}{R_2} + \frac{V_3}{R_3}\right]\left[\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}\right]^{-1}$

(c) $\left[\frac{V_1}{R_1} + \frac{V_2}{R_2} + \frac{V_3}{R_3}\right]$
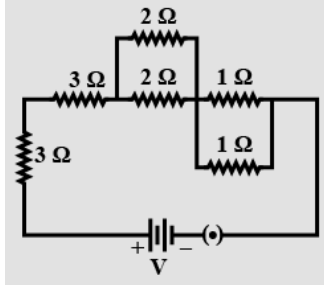
(d) zero

Q 2. Find the current in wire AB:

(a) 10 amp (b) 12 amp

(c) 7 amp (d) 4 amp

Q 3. Consider the circuit shown in the figure. The magnitude of current I_3 is equal to:
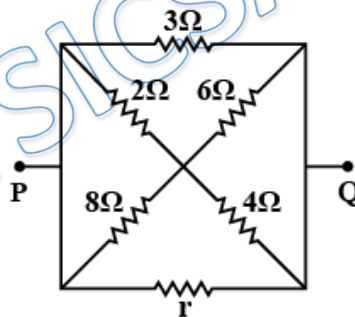
(a) 5 *amp*   (b) 3 *amp*

(c) 2 *amp*   (d) $\frac{5}{6}$ *amp*

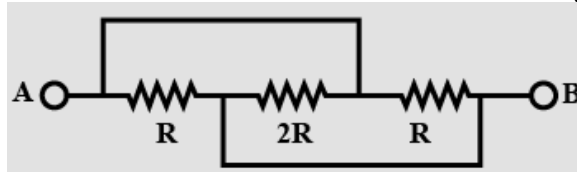Q 4.   Find the equivalent resistance of the following circuit.

(a) $\frac{15}{2}$ *Ω*   (b) $\frac{13}{2}$ *Ω*

(c) 7 *Ω*   (d) 12 *Ω*

Q 5.   In the network shown, the equivalent resistance between P and Q is $\frac{4}{3}$ *Ω*. Hence the value of r is:

(a) 3 *Ω*   (b) 4 *Ω*
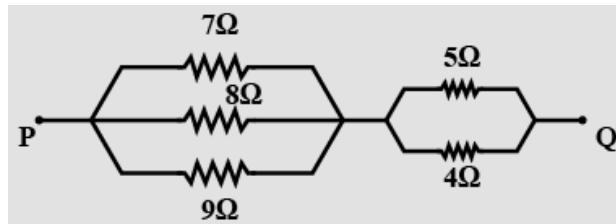
(c) 5 *Ω*   (d) 6 *Ω*

Q 6.   The effective equivalent resistance between A and B in the figure, is?
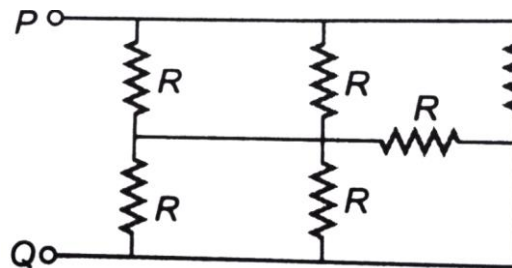

(a) $\frac{3}{2}R$ (b) $\frac{2}{3}R$

(c) $\frac{2}{5}R$ (d) $2R$

Q 7. For the circuit given below, calculate the equivalent resistance between the points P and Q:

(a) 3.56 Ω (b) 2.56 Ω
(c) 4.86 Ω (d) 7.26 Ω

Q 8. In the circuit shown in figure $R = 55\Omega$ the equivalent resistance between the point P and Q is:

(a) 30 Ω (b) 35 Ω
(c) 55 Ω (d) 25 Ω
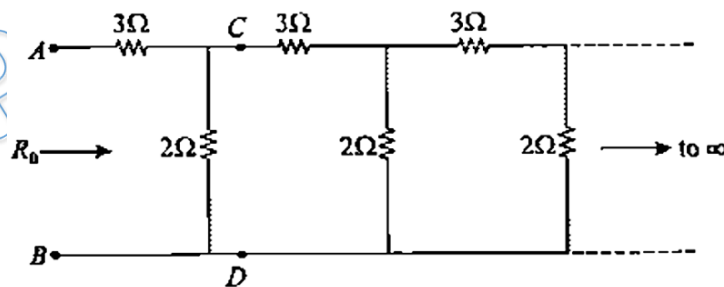
Q 9. A wire of resistance R is cut into n equal parts. These parts are then connected in parallel. The equivalent resistance of combination will be:
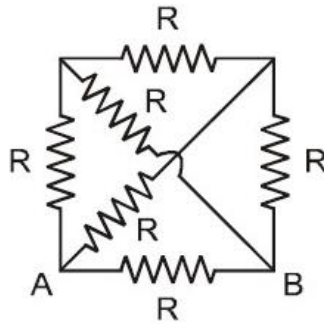(a) nR (b) $\frac{R}{n}$
(c) $\frac{n}{R}$ (d) $\frac{R}{n^2}$

Q 10. Find the equivalent resistance of the infinite ladder circuit shown in figure across terminals A and B :
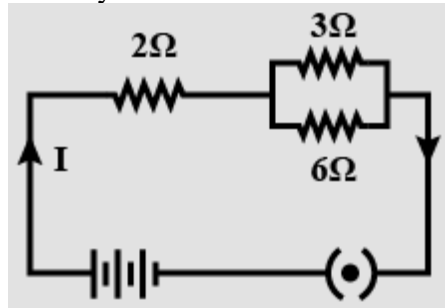

(a) $\frac{3+\sqrt{33}}{2}$ (b) $\frac{3+\sqrt{35}}{2}$
(c) $\frac{2+\sqrt{35}}{3}$ (d) $\frac{2+\sqrt{33}}{3}$
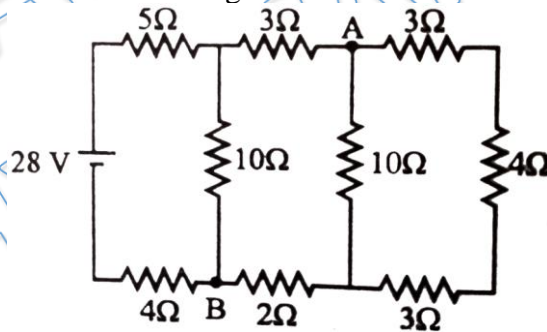
Q 11. The equivalent resistance between A and B is:

(a) R (b) $\frac{R}{2}$

(c) $2R$ (d) none of these

Q 12. In the given electric circuit, the current flowing through 3 ohm resistor is 1 ampere. Find the voltage of the battery and the current drawn from it:

(a) 6 V, 1 amp   (b) 4 V, 1.5 amp
(c) 6 V, 1.5 amp   (d) 4 V, 1 amp

Q 13. Consider the circuit shown in the figure:

(a) the current in the 5Ω resistor is 2A
(b) the current in the 5Ω resistor is 1A
(c) the potential difference $V_A - V_B$ is 10V
(d) the potential difference $V_A - V_B$ is 5V

Answer Key

Q.1 b	Q.2 a	Q.3 d	Q.4 a	Q.5 d
Q.6 c	Q.7 c	Q.8 d	Q.9 d	Q.10 a
Q.11 b	Q.12 c	Q.13 a		