Practice Challenge - Objective

Subject: Phy

Topic : Electricity Exam Preparation 1

Class: X

Time: 00:20 hrs

1. What resistance must be connected in parallel to a $4\ \Omega$ resistance to make the effective resistance equal to $2.4\ \Omega$?

   A. $6\ \Omega$

   B. $7\ \Omega$

   C. $5\ \Omega$

   D. $3\ \Omega$

2. Two bulbs are marked as ‘A’ having rating 60W, 220V & ‘B’ having rating 100W, 220V. They are connected in parallel to a 220 V source. Which of the two will glow brighter?

   A. Bulb B.

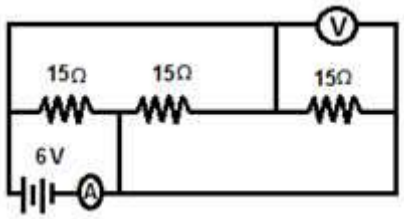
   B. Bulb A.

   C. Both will glow with same brightness.

   D. Bulb A glows and B does not glow.

Practice Challenge - Objective

3. What are the ammeter (A) and voltmeter (V) readings in the circuit?



A. $0A, 0V$

B. $10A, 15V$

C. $0.6A, 6V$

D. $1.2A, 6V$

4. An electric heater of resistance $8\ \Omega$ draws a current of $15\ \mathrm{A}$ from the service mains operated for $2\ \mathrm{h}$. What is the cost of the energy to operate it for 30 days at Rs 3.00 per kWh?

A. Rs. 108

B. Rs. 324

C. Rs. 360

D. Rs. 420

5. Two conducting wires of the same material and of equal lengths and equal diameters are first connected in series and then parallel in a circuit across the same potential difference. The ratio of heat produced in series and parallel combinations would be:

A. 1:4

B. 4:1

C. 2:1

D. 1:2

Practice Challenge - Objective

6. How much electrical energy flows through a wire in 1 second when the power is 1 kW?

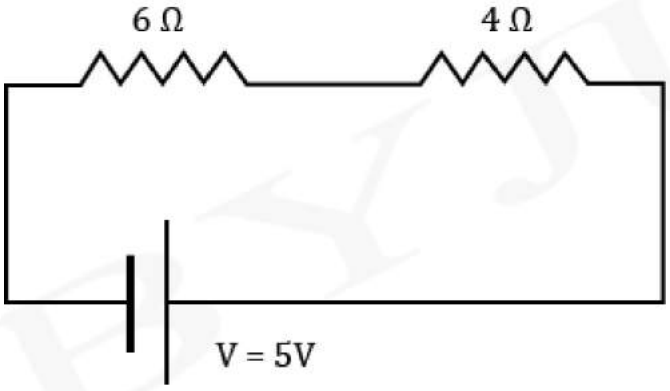
   A. 1400 J

   B. 1000 J

   C. 800 J

   D. 400 J

7. Calculate the heat dissipated in the circuit in 30 seconds.



   A. 30 J

   B. 45 J

   C. 75 J

   D. 125 J

Practice Challenge - Objective

8. In an electrical circuit, two resistors of $2\ \Omega$ and $4\ \Omega$ respectively are connected in series to a $6\ \text{V}$ battery. The heat dissipated by the $4\ \Omega$ resistor in $5\ \text{s}$ will be:

   A. $5\ \text{J}$

   B. $10\ \text{J}$

   C. $20\ \text{J}$

   D. $30\ \text{J}$

9. A toaster-oven is rated at 1.4 kW at 220 V. Which of the following fuse will be best suited for this appliance?

   A. 2.85 A

   B. 5.45 A

   C. 3.20 A

   D. 6.50 A

10. Heat energy dissipated across a conductor carrying current I, having resistance R for a time t, is given by:

    A. IR

    B. I^2R

    C. I^2R^2t

    D. I^2Rt