**Answer on Question #52267-Physics-Other**

Calculate the power of an electric fan which operates normally on a 240 - volts mains when drawing a current of 13A

3.12kW

4.24kW

1.43W

340W

**Solution**

$$P = UI = 240V \cdot 13A = 3.12\ kW.$$

**Answer: 3.12kW.**

7 How much current is drawn from a 240 V- mains by an appliance whose power rating is 130W?

0.54 A

1.85 A

0.36 A

2.12 A

**Solution**

$$I = \frac{P}{U} = \frac{130W}{240V} = 0.54\ A.$$

**Answer: 0.54 A.**

8 Calculate the fuse rating for a fuse which is required to protect an appliance whose power rating is 1.2 kW and operated on a 240 V- mains given that the fuse rating is 120 per cent of the calculated current

13A

6A

16A

2A

**Solution**

$$I = \frac{P}{U} = \frac{1.2\ kW}{240V} = 5A.$$

$$I_{fuse} = 1.2I = 6A.$$

**Answer: 6A.**

9 Calculate the total load on the circuit to which 20 light bulbs each of 100W, 10 fans each of 90W and 2 water dispensers each of 1.2kW are connected and runs on a 240 V mains

11.2 kW

5.3 kW

3.8 kW

18.4 MW

**Solution**

$$P_{tot} = 20 \cdot 100\text{W} + 10 \cdot 90\text{W} + 2 \cdot 1.2\text{kW} = 5.3\text{kW}.$$

**Answer: 5.3 kW.**

10 A geyser with power rating of 2.5 kW is running on a 240 V - mains. Calculate the resistance to the flow of current offered by the geyser

23.04 ohms

16.80 ohms

36.15ohms

8.24 ohms

**Solution**

$$R = \frac{U^2}{P} = \frac{(240\text{ V})^2}{2.5\text{ kW}} = 23.04\ ohms.$$

**Answer: 23.04 ohms.**