

Electricity-MCQs

1.If R_1 and R_2 are respectively the filament resistances of a 200-watt bulb and a 100-watt bulb which designed to operate on the same voltage then:

- a) $R_1 = 2 R_2$
- b) $R_2 = 2 R_1$
- c) $R_2 = 4 R_1$
- d) $R_1 = 4 R_2$

2.If 600C of electric charge flows through a circuit, what will be the current drawn by the filament of an electric bulb in 10 minutes?

- a) 0.5 A
- b) 1 A
- c) 1.5 A
- d) 2 A

3.A bulb draws a current of 0.22 A from a 220V source. What is the resistance of the filament of the bulb?

- a) 1000 Ω
- b) 10,000 Ω
- c) 15,000 Ω
- d) 20,000 Ω

4.What will be the heat produced each second in a 4 Ω resistance connected across a potential difference of 20 V?

- a) 50 J
- b) 75 J
- c) 100 J
- d) 125 J

5.An electric fan rated 50 W operates 20 hours a day. What is the cost of the energy to operate it for 30 days at Rs 2 per kWh?

- a) Rs 50
- b) Rs 60
- c) Rs 70
- d) Rs 80

6.Two resistors $2R$ and R are connected in series in an electric circuit. The ratio of heats dissipated in $2R$ to that in R is

- a) 1:2
- b) 2:1
- c) 4:1
- d) 1:9

7.An electric bulb is rated 220 V and 100 W. Power consumed by it when operated on 110 V is

- a) 50 W
- b) 75 W

- c) 90 W
- d) 25 W

8. An example of a non ohmic resistance is

- a) Copper Wire
- b) Carbon Resistance
- c) Diode
- d) Both b and c

9. Two resistors of $4\ \Omega$ and $6\ \Omega$ are connected in parallel. The combination is connected across a 6V battery of negligible resistance. What is the current flowing through the battery?

- a) 1 A
- b) 1.5 A
- c) 2 A
- d) 2.5 A

10. A certain piece of copper is to be shaped into a conductor of minimum resistance. Its length and diameter should be respectively

- a) l, d
- b) $2l, d$
- c) $l/2, 2d$
- d) $2l, d/2$

11. What is irrelevant for an electric fuse?

- a) Specific resistance
- b) Radius
- c) Length
- d) Current flowing through it

12. A heater element in an electric iron is made of

- a) Nichrome
- b) Iron
- c) Constantan
- d) Tungsten

13. There are two bulbs in a house. One glows brighter than the other. Which of the two bulbs has a higher resistance?

- a) The brighter bulb
- b) The dim bulb
- c) Both bulbs have same resistance
- d) The brightness of bulb is not linked with its resistance

14. A current passing through a wire into the filament of a bulb makes it glow, but the wire does not glow because

- a) The wire has less resistance than filament
- b) The wire has more resistance than filament
- c) Less current flows in the wire than in the filament

d) None of these

15. The smallest resistance that can be obtained from a combination of 'n' identical resistors each of resistance R is

- a) R/n
- b) R/n^2
- c) nR
- d) n^2R

16. A wire of $36\ \Omega$ resistance is cut into n equal pieces and joined in parallel. The effective resistance is $1\ \Omega$. The value of n is

- a) 6
- b) 9
- c) 12
- d) 15

17. Three resistances form a triangle ABC. If the resistances in AB, BC and AC are $20\ \Omega$, $30\ \Omega$ and $50\ \Omega$, the equivalent resistance across AC will be

- a) $50\ \Omega$
- b) $80\ \Omega$
- c) $40\ \Omega$
- d) $25\ \Omega$

18. Two bulbs of wattage 40 W and 100 W are connected in series to a 200 V line. Then

- a) The potential drop across both the bulbs is 200 V
- b) The potential drop across both the bulbs is same but not 200V
- c) The potential drop across 100 W is more
- d) The potential drop across 40 W is more.

19. Two bulbs A and B are rated 100 W, 120 V and 10 W, 120 V respectively. They are connected in parallel across a 120 V source. Find the current in each bulb. Which bulb will consume more energy?

- a) 0.065 A
- b) 0.073 A
- c) 0.083 A
- d) 0.094 A

20. Two heater coils each rated at 1000W-220V are connected in series to a 440 volts line. What will be the total power consumption?

- a) 500 W
- b) 1000 W
- c) 1500 W
- d) 2000 W

