

Class X Important Questions Electric Current & and Its Effect

Q.1. what is represented by joule/coulomb?

Q.2 A charge of 2C moves between two plates, maintained at a p.d of 1V. What is the energy acquired by the charge?

Q.3. How much work is done in moving a charge of 3 coulomb from a point at the volts 115 to a point at 125 volts?

Q.4. A man has five resistors each of value 0.2 Ohms. Find the maximum resistance obtain by connecting them.

Q.5. In a circuit the current flowing through a resistor is 1 Ohm per second. Find the heat generated in the 4 ohm resistor?

Q.6. If the length of a wire is doubled, but its cross section remains the same, then what will be its resistance?

Q.7. What is the work done in moving a charge of 3 C across two points having potential difference 20V?

Q. 8. An electric bulb of 40 W is connected to a source of 220 V. Find the current drawn by the bulb?

Q.9.What is the electrical energy consumed in lighting an electrical bulb of 60 W for 5 hours?

Q.10. An electric iron consumes energy at a rate of 840W when it is connected to a source of voltage 220V. Find the current flowing through it?

Q.11. A refrigerator rated 400W operates for 8 hour per day. Find the total number of commercial units for 30 days?

Q.11. How much current will an electric heater coil draw from a 220 volt line, if the resistance of the heater coil is 40?

Q.12.The combination of resistances shown below has equivalent resistance equal to 12 ohm, what is the value of R?

Q.13.Calculate the amount of charge that would flow in 1 hour through the elements of an electric bulb drawing a current of 0.4 A .

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- Q.14. What is the power of an electric lamp, if it draws 20 A current when connected to 220 V line?
- Q.15. The potential difference between the terminals of an electric heater is 30 volt when it draws current of 4 A from the source. What current will the heater draw if the potential difference is increased to 120 volt?
- Q.16. A current of 4 A exists in a 10 resistor for 4 minute. Find the charge and the number of electrons that pass through any cross-section of the resistor in this time.
- Q.17. A 100 watt electric bulb is lighted for 2 hours daily and four 40 watt bulbs are lighted for 4 hours daily. Calculate the electric energy consumed in kwh in 30 days.
- Q.18. Two lamps, one rated 100 W at 220 volts and the other 60W at 220 volts are connected in parallel to a 220 V supply. What current is drawn from the supply line?
- Q.20. To produce 1000 joule of heat in 10 seconds, how much voltage should be applied to 50 resistance.
- Q. 21. An electric wire is stretched to increase its length by 25%. By what % will the resistance be increased and what will be increase in its resistivity?
- Q.22. An electric iron of resistance 20Ω takes a current of 5 A. Calculate the heat developed in 30 sec.
- Q.23. A 60 W electric lamp gives off energy in the form of light at the rate of 7.5 J/s. What percentage of energy does the lamp transform into light?
- Q. 24. Two metallic wires A and B are connected in parallel. Wire A has length l and radius r , wire B has a length $2l$ and radius $2r$. Compute the ratio of the total resistance of parallel combination and the resistance of wire A.
- Q.25. A simple electric circuit has 24 V batteries and a resistor of 30 ohm. What will be the current in the circuit?