Class-10
Subject-Physics
Topic-Electricity
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1. How is an ammeter connected in a circuit to measure current flowing through it?
2. What happens to resistance of a conductor when its area of cross-section is increased?
3. A given length of a wire is doubled on itself and this process is repeated once again. By what factor does its resistance change?
4. Two resistors of 10 ohm and 15 ohm are connected in series to a battery of 6 V. How can the values of current passing through them be compared?
5. How much current will an electric bulb draw from 220V source if the resistance of bulb is 1200 ohm? If in place of bulb, a heater of resistance 100 ohm is connected to sources, calculate the current drawn by it.
6. Draw the schematic diagrams of an electric circuit comprising of 3 cells and an electric bulb , ammeter ,pug key in the ON mode and another with same components but with two bulbs in parallel and a voltmeter across the combination.
7. A 9 ohm resistance is cut into three equal parts and connected in parallel. Find the equivalent resistance of the combination.
8. An electric iron has a rating of 750 W, 220 V . Calculate the
   a) Current flowing through it.
   b) Its resistance when in use.
9. The potential difference between the terminals of an electric heater is 60V when it draws a current of 4A from the source. Find the resistance of heater in use.
10. The charge possessed by an electron is 1.6×10^{-19} coulombs. Find the number of electrons that will flow per second to constitute a current of 1 ampere.
11. Explain the role of fuse in series with any electric appliance in an electric circuit. Why should a fuse with defined rating for an electric circuit not be replaced by one with a larger rating?
12. The wattage of a bulb is 24 W when it is connected to 12 V battery. Calculate its effective wattage if it operates on a 6V battery(Neglect the change in resistance due to unequal heating of the filament in two cases)
13. Two identical wires one of nichrome and other of copper are connected in series and a current is passed through them. State the change observed in the temperatures of two wires. Justify your answer. State the law which explains the above observation.
14. An electric bulb is rated at 60 W, 240 V. Calculate its resistance. If the voltage drops to 192V , Calculate the power consumed and the current drawn by the bulb.(assume that resistance of bulb remain unchanged)
15. A torch bulb is rated 2.5 V and 750mA. Calculate
   A) Its power
   B) Resistance
   C) The energy consumed, if this bulb is lighted for four hours.