



## Physics Worksheet Class X

### Electricity

1. Which metal is used as the filament of an electric bulb and why?
2. How does a fuse work in the electric circuit?
3. Which materials are preferred for making a fuse wire and why?
4. Give the ratings of various fuses used in the domestic circuit.
5. Define the commercial unit of energy. Relate it to joules.
6. Name the physical quantity which is same in all the resistors when they are connected in series.
7. Define resistivity of a conductor. What is its S.I unit?
8. Two resistors are connected in series. What happens to the net resistance-will it increase or decrease?
9. Two resistances of  $5\Omega$ ,  $5\Omega$  are connected in parallel. The potential difference across the combination is  $5V$ . Calculate the current across each resistor.
10. A copper wire has a resistance of  $0.5\Omega$ . Another copper wire is of the same mass as the first one but double in length. Find the resistance of the second wire.
11. A piece of wire having resistance  $R$  is cut into four equal parts.
  - a. How will the resistance of each part compare with the original resistance?
  - b. If the four parts are connected in parallel, what will be the resistance of the combination?
12. A wire of resistance  $25\Omega$  is bent in the form of a circle. What is the resistance between two points at the end of any diameter of the circle?
13. Why are copper wires used as connecting wires?
14. Why is element of electrical heating devices made up of alloys?

15. When a potential difference of 20V is applied across a given resistor, it draws a current of 3A. If 30V is applied across the same resistor, what will be the current?
16. An electric iron draws a current of 0.5A when the voltage is 200V. Calculate the amount of electric charge flowing through it in an hour.
17. Express ohm's law by a mathematical formula as well as a graph line. How can one obtain the value of resistance from the same?
18. What are the characteristics of a good fuse wire?
19. A cylinder of a material is 10 cm long and has a c-sec of  $2\text{cm}^2$ . If its resistance along the length be 20 ohms, calculate its resistivity.
20. Name a device that helps to maintain a potential difference across a conductor.
21. Mention one reason why tungsten is exclusively used for making filaments of electric lamp.