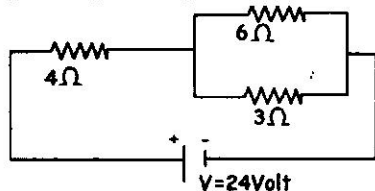


PHYSICS ASSIGNMENT

CLASS X

CHAPTER – ELECTRICITY

1. How does use of fuse wire protect electrical appliances?
2. Calculate the resistance of an electric bulb which allows a 10A current when connected to a 220V power source?
3. Two metallic wires A and B are connected in series. A has length l and radius r , while wire B has length $2l$ and radius $2r$. Find the ratio of total resistance of series combination and the resistance of wire A, if both the wires are of same material?
4. Should the heating element of an electric iron be made of iron, silver or nichrome wire? Justify giving three reasons?
5. a) Define electric resistance of a conductor? (b) A wire of length L and resistance R is stretched so that its length is double and the area of cross section is halved. How will its (a) resistance change (b) resistivity change?
6. Two resistors of resistance R and $2R$ are connected in parallel in an electric circuit. Calculate the ratio of the electric power consumed by R and $2R$?
7. Two wires A and B are of equal length, different cross sectional areas and made of same metal. (a) (i) Name the property which is same for both the wires, (ii) Name the property which is different for both the wires. (b) If the resistance of wire A is four times the resistance of wire B, calculate (i) the ratio of the cross sectional areas of the wires and (ii) The ratio of the radii of the wire.
8. A 9Ω resistance is cut into three equal parts and connected in parallel. Find the equivalent resistance of the combination.
9. Draw schematic diagrams of an electric circuit comprising of 3 cells and an electric bulb, ammeter, plug key in the ON mode and another with the same components but with two bulbs in parallel and a voltmeter across the combination.
10. Two metallic wires A and B of the same material are connected in parallel. Wire A has length l and radius r , wire B has a length $2l$ and radius $2r$. Calculate the equivalent resistance in parallel combination and the resistance of wire A.
11. Draw a schematic diagram of an electric circuit consisting of a battery of five 2V cells, a 20Ω resistor, a 30Ω resistor, a plug key, all connected in series. Calculate the value of current flowing through the 20Ω resistor.
12. In a circuit of two resistors, 5Ω and 10Ω are connected in series. How can the current passing through the two resistors be compared?



13. Calculate i) Total resistance
 ii) Total current
 iii) Current flowing through 3Ω resistor.