

## CBSE TEST PAPER-04

### SCIENCE & TECHNOLOGY (Class-10)

#### Chapter 12 : Electricity

1. Which metal offers higher resistance to the passage of electricity than copper? (1 mark)
2. A wire of resistance 10 ohm is bent in the form of a closed circle. What is the effective resistance between the two points at the ends of any diameter of this circle? (1mark)
3. What is the S.I. unit of charge? (1 mark)
4. State ohm's law. (1 mark)
5. Define electric resistance? (1mark)
6. Compute the heat generated while transferring 96000 coulomb of charge in one hour through a potential difference of 50 V. (2 marks)
7. When a 12 V battery is connected across an unknown resistor, there is a current of 2.5 mA in the circuit. Find the value of the resistance of the resistor. (2 marks)
8. Two lamps, rated 100 W at 220 V, and 60 W at 220V, are connected in parallel to electrical mains supply. What current is drawn from the line if the supply voltage is 220 V? (2 marks)
9. An electric heater of resistance  $8\Omega$  draws 15 A from the service mains 2 hours. Calculate the rate which heat is developed in the heater (2marks)
10. An electric iron has a rating of 750 W, 220 V. Calculate  
(i) Current passing through it, and (ii) its resistance, when in use. (2marks)
11. A torch bulb is rated 2.5 V and 750 mA. Calculate  
(i) Its power (ii) its resistance and (iii) the energy consumed in 4 hours. (3 marks)
12. Two electric lamps of 100 W and 25 W, respectively are connected in parallel to a supply voltage of 200 V. Calculate total current flowing through the circuit. (3 marks)
13. What do you understand by the electrical resistance of a wire? State and define S.I. unit of resistance.  
The resistance of an electric lamp filament is 230 ohms. The lamp is switched on when the line voltage is 115 volts. What is the current in the lamp circuit? (5 marks)