

CBSE TEST PAPER-05

SCIENCE & TECHNOLOGY (Class-10)

Chapter 12 : Electricity

1. What is the unit of resistance? (1 mark)
2. The potential difference between the terminals of an electrical iron is 240 V and the current is 5.0 A. What is resistance of the electric iron? (1mark)
3. Why do we copper wires as connecting wires? (1 mark)
4. What is the S.I. unit of electric power? (1mark)
5. How many joules are in one watt-hour? (1mark)
6. An electric lamp is marked 100 W, 220 V. It is used for 5 hour daily. Calculate
(i) its resistance while glowing
(ii) energy consumed in kWh per day. (2marks)
7. A bulb is rated at 5.0 volt, 100 mA. Calculate its (i) power (ii) resistance. (2 marks)
8. An electric bulb draws a current of 0.2 A when the voltage is 220 volts. Calculate the electric charge flowing through it in one hour. (2 marks)
9. What is a voltmeter? How is it connected in a circuit? (2 marks)
10. Which of the two has greater resistance: a 1 kW heater or a 100 W tungsten bulb, both marked for 230 V? (2 marks)
11. What are the factors on which the resistance of a conductor depends? Give the corresponding relation. (3 marks)
12. A copper wire of length 2 m and area of cross-section $1.7 \times 10^{-6} \text{ m}^2$ has a resistance of 2×10^{-2} ohms. Calculate the resistivity of copper. (3 marks)
13. (a) Why are coils of electric irons and electric toasters made of an alloy rather than a pure metal?
(b) How does the resistance of a wire vary with its:
(i) area of cross-section? (ii) diameter?
(c) What will be the resistance of a metal wire of length 2 metres and area of cross-section $1.55 \times 10^{-6} \text{ m}^2$, if the resistivity of the metal be $2.8 \times 10^{-8} \Omega \text{ m}$? (5 marks)