CBSE TEST PAPER-03

CLASS - X Science (Electricity and its Effects)

1. An electric heater is salted at 1500w. How much heat is produced per hour? (1)

   (i) 5400 J (ii) 54000 J

   (iii) 5.4×10^5 J (iv) 5.4×10^6 J

2. A student says that the resistance of two wires of same length and same area of cross section is same. This statement is correct if (1)

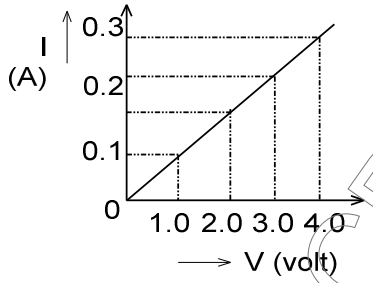
   (a) Both wires are of different materials

   (b) Both wires are made of same material and are at different temperature.

   (c) Both wires are made of same material and are at same temperature.

   (d) Both wires are made of different materials and are at the same temperature.

3. In an experiment ohm s law a student obtained a graph as shown in the diagram. The value of resistance of the resistor is (1)

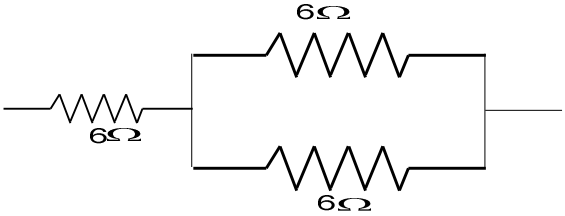


   (a) 0.1 Ω
   (b) 1.0 Ω
   (c) 10 Ω
   (d) 100 Ω

4. Work done to move 1coulomb charge from one point to another point on a charged conductor having potential 10volt is (1)

   (a) 1 Joule (b) 10 Joule (c) zero (d) 100 Joule

5. Three resistors are shown in the figure. The resistance of the combination is (1)



   (a) 3Ω
   (b) 6Ω
   (c) 4Ω
   (d) 7Ω

6. A copper wire has diameter 0.5mm and Resistivity of $1.6\times10^{-8}\Omega m$ what be the length of this wire to make its resistance 10Ω? How much does the resistance change if diameter is doubled? (2)

7. Alloys are used in electrical heating devices rather than pure metals. Give reason. (2)

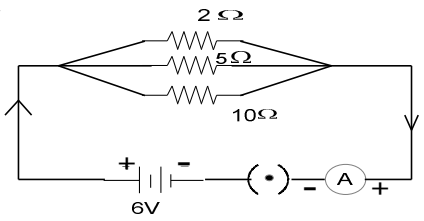
8. On what factor does the resistance of a conductor depend? (2)

9. Calculate the number of electron consisting one coulomb of charge? (2)

10. Apiece of wire of resistance 20Ω is drawn out so that its length is increased to twice its original length calculate the resistance of the wire is the new situation? (3)

11. A battery made of 5cells each of 2Vand have internal resistance 0.1Ω, 0.2Ω, 0.3Ω, 0.4Ω, and 0.5Ω is connected across 10Ω resistance. Draw circuit diagram and calculate the current flowing through 10Ω resistance? (3)

12. In the circuit diagram given here Calculate- (3)



(a) The total effective resistance

(b) The total current

(c) The current through each resistor.

13. You have two circuits (i) a 6V battery is series with 1Ω and 2Ω resistor (3)
(ii) a 4V battery in parallel with 12Ω and 2Ω resistor. Compare the power used in 2Ω resistor in each case.

14. (a) Define electrical energy with S.I. unit? (5)
(b) A house hold uses the following electric appliance;
(i) Refrigerator of rating 400w for ten hour each day.
(ii) Two electric fans of rating 80w each for twelve hours each day.
(iii) Six electric tubes of rating 18w each for 6hours each day.
Calculate the electricity bill of the household for the month of June if the cost per unit of electric energy is Rs. 3.00.