1. Name the factors that the electrical resistivity of a given wire depends.
2. What is the maximum resistance which can be made using 5 resistors each of (1/5) ?
3. What is the minimum resistance which can be made using 5 resistors each of (1/5) ?
4. An electric kettle consumes 1kw of electric power when operated at 220V. A fuse wire of what rating must be used for it?
5. How will you conclude that the same potential difference (voltage) exists across 3 resistors connected in a parallel arrangement to a battery?
6. What is Joule's heating effect? List the 4 applications in daily life.
7. When a 12 V battery is connected across an unknown resistor there is a current of 2.5mA in the circuit. Find the value of the resistance of the resistor.
8. A battery of 9V is connected in series with resistors of 0.2, 0.3, 0.4, 0.5 and 0.12 respectively. How much current would flow through the 12 resistor
9. How many 176 resistors (in parallel) are required to carry 5A on 220V line?
10. Show how you would connect three resistors each of resistance 6 so that the combination has a resistance of (i)9 (ii)4
11. Several electric bulbs designed to be used on a 220V electric supply line are rated 10W. How many lamps can be connected in parallel with each other across the two wires of 220 V line if the maximum allowable current is 5 A?
12. A hot plate of an electric oven connected to a 220 V line has two resistance coils A and B, each of 24resistance, which may be used separately, in series or in parallel. What are the currents in the three cases?
13. Compare the power used in the 2 resistor in each of the following circuits: (i) a 6 V battery in series with 1 and 2 resistors, and (ii) 4 V battery in parallel with 12 and 2 resistors.
14. Two lamps, one rated 100 W at 220 V, and the other 60 W at 220V, are connected in parallel to electric mains supply. What current is drawn from the line if the supply voltage is 220 V?
15. Which uses ore energy, a 250 W TV set in 1 hour or a 1200 W toaster in 10 minutes?
16. An electric heater of resistance 8draws 15A from the service mains 2 hours. Calculate the rate at which heat is developed in the heater.
17. Explain the following.
    a) Why is the tungsten used almost exclusively for filament of electric lamps?
    b) Why are the conductors of electric heating devices, such as bread toasters and electric irons, made often alloy rather than a pure metal?
    c) Why is the series arrangement not used for domestic circuits?
    d) How does the resistance of a wire vary with its area of cross section?
    e) Why are copper and aluminum wires usually employed for electricity transmission?

•An electric mortor takes 5A from an source of 220v . Determine the power of the mortor and energy consumed in 2 hrs.

•What determines the rate in which energy is delivered by a current?.

•An electric iron of resistance 20ohm takes a current of 5A. Calculate the heat developed in 30s

•compute the heat generated by transfering 96000coulomb of charge in one hour through a potential difference of 50V.

•What does the cord of an electric heater not glow while the heating element does

•What is (a)the highest,(b) the lowest total resistance that can be secured by combinations of four coils of resistance 4ohm,8ohm.12ohm.24ohm?

•How can three resistors of resistances2ohm,3ohm,and 6ohm be connected to give a total resistance of a)4 ohm b)1ohm?

•What are the advantages of connecting electrical devices in parallel with the battery instead of connecting them in series?

•100J of heat is produced eachsecoond in a 4 ohmresistance.Find the potential diiference across the reistor.