INTERNATIONAL INDIAN SCHOOL,RIYADH

CLASS : X

SUBJECT: PHYSICS

CHAPTER 12 : ELECTRICITY

1. When does the current flow in an electric circuit?
2. What is the difference between resistance and resistor?
3. What are the factors on which the resistance of conductor depends? Give the corresponding relation.
4. Calculate the resistance of a 2m long nichrome wire of radius 0.321mm. Resistivity of nichrome is 15×10^{-6} Ω m. If the potential difference of 10v is applied across this wire, what will be the current in the wire?
5. Derive an expression for the equivalent resistance of three resistances connected in series?
6. Derive an expression for the combination of three resistances connected in parallel.
7. Express Ohm's law both by a mathematical formula and by a graph.
8. Derive an expression for the heat produced in a resistor R when a voltage drop across it is V. Hence state Joule's law of heating.
9. Describe some practical applications of heating effect of the electric current.
10. An electrical heater is used on a 220v supply and takes a current of 5A
    1. What is its power
    2. What is the cost of using the heater for 50 hours if 1 KWh costs Rs. 1.50?

11. A house hold uses the following electric appliances :

    i) Refrigerator of rating 400 W for 10 hours each day.

    ii) Two electric fans of rating 80 W each for 12 hours each day.

    iii) Six electric tubes of rating 18 W each for 6 hours each day.

    Calculate the electricity bill of the house hold for the month of June if the cost per unit of electric energy is Rs. 3

12. Distinguish between kilowatt and kilowatt hour.

13. Define the term electric energy. Write an expression of the electric energy consumed in an electric circuit.

14. Define the term electric power. Write an expression for it.

15. Define kilowatt hour. How many joules are equal to 1 KWh.

16. Two identical resistors, each of resistance 10 Ohms are connected

    i) in series ii) in parallel, in turns to a battery of 6 volts. Calculate the ratio of power consumed in the combination of resistors in two cases.

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