PHYSICS - X-PART-2 CLASS 02

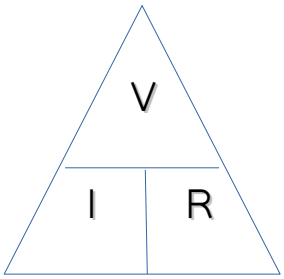
Ohm's Law

* When temperature remains constant, the current through a conductor is directly proportional to the potential difference between its ends.
* In other words the ratio of potential difference to the current is a constant.

V / I = a constant

* This constant is the resistance of the conductor. This is indicated by the letter R.

$$\therefore R = \frac{V}{I}$$



V = IR

I = V / R

R = V / I

* Resistors are conductors used to include a particular resistance in a circuit. Its symbol is

Unit of resistance = Unit of voltage / Unit of current

= volt / ampere

* volt/ampere is ohm. The symbol of this is Ω (Greek letter omega).

Rheostat

* Rheostat is a device used to regulate the current in a circuit by changing the resistance gradually.

* The symbol of a rheostat is 

Resistance

* Resistance is a measure of the opposition to current flow in an electrical circuit.

*Write down the factors affecting the resistance of a conductor

- Area of cross section (thickness)
- Nature of the material
- Length of the conductor
- Temperature of the conductor

Assignment

* Make a simple circuit with two 1.5V cells, a 3V bulb and a switch.
a) Illuminate the bulb with a cell, and observe the light intensity of the bulb.
b) Connect the cells in series and illuminate the bulb, and observe the light intensity of the bulb.