Unit:-

The SI Unit of a resistene is ohm and it is represented by Ω

Resistene:-

The opposition force offered by Of atom of a conductor to flow of current is called reresistene

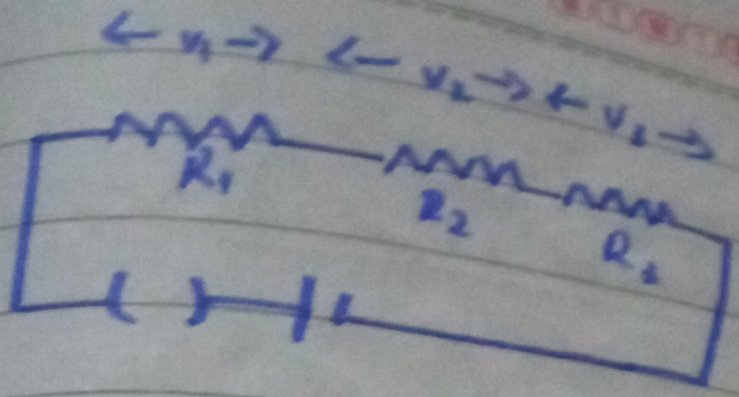
$$1ohm = \frac{Volt}{Ampere}$$

(ii) [illegible]

Combination of Resister:

• Series Combination:-

In Series combination resister are connected in end to end and electic current has ~~same~~ single path throug the circuit. So same electic current pass throug each resister is same.



- The total voltage of battery is sum of individual ~~voltage~~ resistance of the battery.

$$V = V_1 + V_2 + V_3$$

- Where V is voltage across the battery V_1, V_2, V_3 are the voltag across the resistor R_1, R_2, R_3.

$$V = IR_1 + IR_2 + IR_3$$
$$= I(R_1 + R_2 + R_3)$$

- We can replace the combination of resista with with a single resista equivalent Re

$V = IR_e$

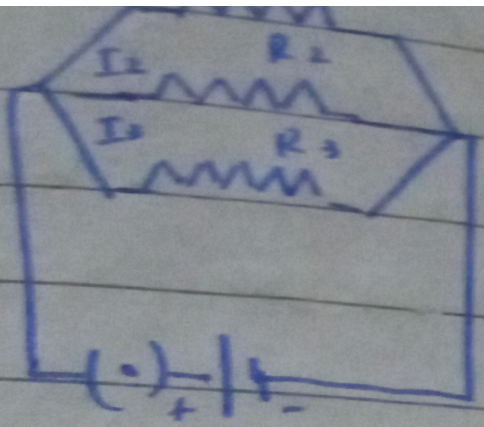
$IR_e = V(R_1 + R_2 + R_3)$

$\boxed{R_e = (R_1 + R_2 + R_3)}$

The equivalent resistance of a series combination is equal to sum of individual resistance combination

Parallel combination of Resister :-

- In parallel combination of a battery one end of each resistor is connected to positive terminal of battery and other end is connected to negative terminal of a battery.



Equivalent Resistenc of parallel circuit:

- In parallel circuit. The total curren is the sum of individual current in various resistene

$$I = I_1 + I_2 + I_3$$

- Since the voltage across each resistor

$$\frac{V}{R_e} = \frac{V}{R_1} + \frac{V}{R_2} + \frac{V}{R_3}$$

$$\frac{V}{R} = V\left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}\right)$$

$$\frac{1}{R} = \left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}\right)$$

- We can replace the combination of resistor with a single resistor

$$\frac{V}{Re} = V\left(\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}\right)$$

- The reciprocal of equivalent resistance of a parallel combination is sum of reciprocal of individual resistance.

- If resistor $R_1\ R_2\ R_3 \ldots R_n$ are connected in parallel Then. Or equivalent resistor of combination

$$\frac{1}{Re} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \ldots + \frac{1}{R_n}$$

Each device in the circuit recieve full battery voltage
Each devic in the circuit may independently off while stopping current flow to other devices in the circuit.

Energy stored