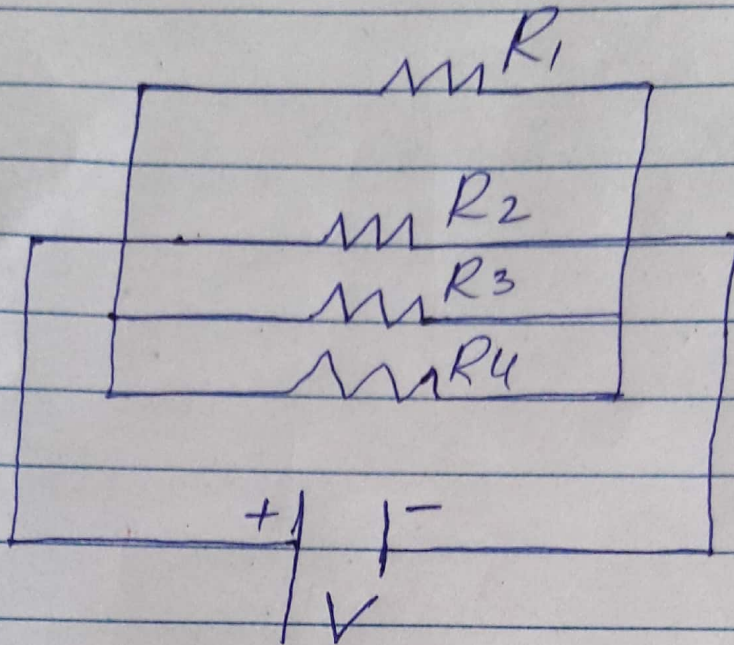


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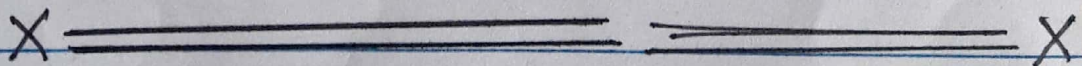
Date: ___/___/___

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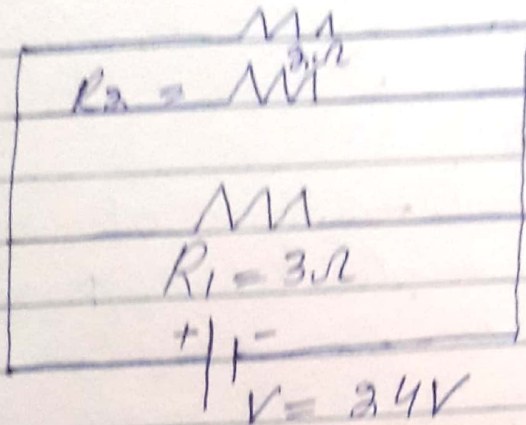
While total conductance increases in parallel combination.

$$G_e = G_1 + G_2 + G_3 + \dots + G_n$$



Q 02: Answer as:-

$$R = 1 \Omega$$



Solution:- To find I_1 :

$$I_1 = \frac{V}{R_1} \Rightarrow I_1 = \frac{24}{1} \Rightarrow I_1 = 24 \text{ A}$$

$$P_1 = I^2 R \Rightarrow P_1 = (24)^2 (1) \Rightarrow P_1 = 576 \text{ W}$$

To find I_2 :

$$I_2 = \frac{V}{R_2} \Rightarrow I_2 = \frac{24}{2}$$

$$\Rightarrow I_2 = 12 \text{ A}$$

$$P_2 = \frac{V^2}{R_2} \Rightarrow P_2 = \frac{(24)^2}{2} \Rightarrow P_2 = 288 \text{ W}$$

To find I_3 :

$$I_3 = \frac{V}{R_3} = \frac{24}{3}$$

$$\Rightarrow P_3 = 192 \text{ W}$$

Q#03:- (a) Current and voltage:

⇒ Current:- Charge flowing through any cross-section of conductor in unit time is called current

$$I = \frac{Q}{t} \Rightarrow \text{Its unit is ampere (A).}$$

⇒ Voltage:-

Work done on unit positive test charge in an electric field is called voltage

$$V = \frac{W}{q}$$

(b) Resistance and Conductance

⇒ Resistance:-

Opposition offered by a conductance to the flow of charge is called resistance

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

⇒ Its unit is ohm (Ω).

⇒ Conductance:- Reciprocal of resistance is called conductance.

$$G = \frac{1}{R} \Rightarrow \text{Its unit is Siemens (S)}$$

⇒ Inductance:- Tendency of an electrical conductor to oppose a change in the electric current flowing through it is called inductance. Its unit is henry (H)

⇒ Power:- The product of current and voltage in an electric circuit is called power

$$P = IV$$

⇒ Energy:- The ability of charge to do work in an electric circuit is called energy.

→ Asynchronous Motor:-

An electric motor whose rotor rotates at the speed less than the synchronous speed. It is also called induction motor.

X—————X

THE END.

⇒ Capacitance:-

⇒ Synchronous Motor:-

An electric motor having a speed exactly proportional to the current frequency.

⇒ Capacitance:- (C)

The ability of a system to store an electric charge.

- the ratio of the change in an electric charge in a system to the corresponding change in its electric potential.

= Formula:-

$$Q = CV$$

THE END