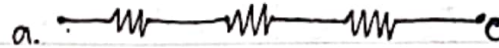
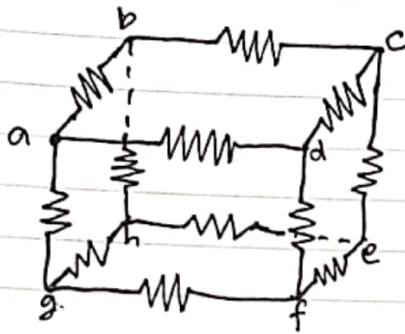


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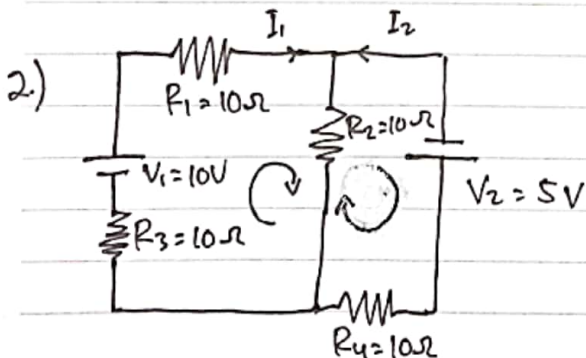


1.) Hitung hambatan ac

$$\frac{1}{R_{p1}} = \frac{1}{R_{ab}} + \frac{1}{R_{ad}} + \frac{1}{R_{ag}}$$

$$\frac{1}{R_{p1}} = \frac{1}{R_{ec}} + \frac{1}{R_{eh}} + \frac{1}{R_{eg}}$$

$$\frac{1}{R_{p3}} = \left(\frac{1}{R_{ab}} + \frac{1}{R_{ad}} + \frac{1}{R_{ag}} \right) \left(\frac{1}{R_{ec}} + \frac{1}{R_{eh}} + \frac{1}{R_{eg}} \right)$$



$$V_1 > V_2$$

Hitunglah arus pada masing-masing loop!

Jawab:

$$\text{Loop I} \Rightarrow \sum V + \sum IR = 0$$

$$-10 + I_1(10+10) + I_3 \cdot 10 = 0$$

$$-10 + 20 I_1 + 10 I_3 = 0$$

$$-10 + 20 (I_2 + I_3) + 10 I_3 = 0$$

$$-10 + 20 I_2 + 30 I_3 = 0$$

$$20 I_2 + 30 I_3 = 10$$

$$\text{Loop II} \Rightarrow \sum V + \sum I.R = 0$$

$$-5 + I_2 \cdot 10 + I_3 \cdot 10 = 0$$

$$-5 + 10I_2 + 10I_3 = 0$$

$$10I_2 + 10I_3 = 5$$

Eliminasi :

$$20I_2 + 30I_3 = 10 \quad | \times 1$$

$$10I_2 + 10I_3 = 5 \quad | \times 2$$

$$20I_2 + 30I_3 = 10$$

$$20I_2 + 20I_3 = 10$$

$$10I_3 = 0$$

$$I_3 = 0$$

$$10I_2 + 10I_3 = 5$$

$$10I_2 + 10 \cdot 0 = 5$$

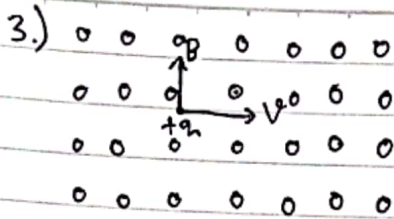
$$I_2 = \frac{5}{10}$$

$$= 0,5 \text{ A}$$

$$I_1 = I_2 + I_3$$

$$= 0,5 + 0$$

$$= 0,5 \text{ A}$$

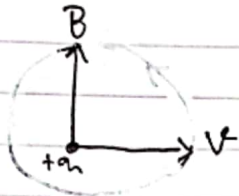


a.) gambat arah gerakan muatan listrik tersebut.

b.) rumuskan jumlah putaran setiap detiknya

Jawaban:

a.) Arah gerakan muatan listrik



b.) Jumlah putaran setiap detik

$$F = m \cdot a$$

$$= m \left(\frac{v}{t} \right) = \frac{mv}{\frac{s}{v}}$$

$$qvB = m \frac{v^2}{r}$$

$$r = \frac{mv^2}{qvB}$$

$$T = \frac{2\pi r}{v}$$

$$= \frac{2\pi \frac{mv^2}{qvB}}{v}$$

$$= \frac{2\pi m}{qvB}$$

$$f = \frac{1}{T}$$

$$= \frac{1}{\frac{2\pi m}{qvB}}$$

$$= \frac{qvB}{2\pi m}$$