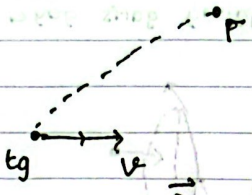


Kalisma

Medan Magnet

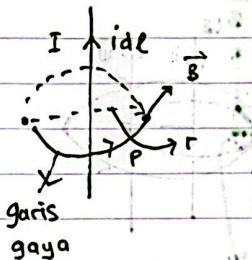
1. Medan Magnet oleh muatan bergerak



$$\vec{B} = \frac{\mu_0}{4\pi} \frac{qv \times \hat{r}}{r^2}$$

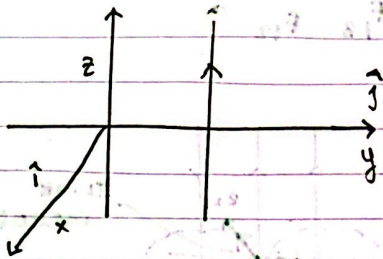
$$= \frac{\mu_0 qv}{4\pi r^2} \sin \theta$$

2. $\vec{B}$ oleh arus listrik



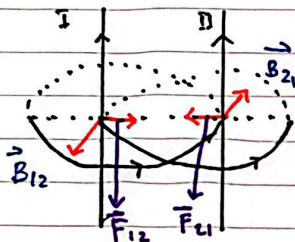
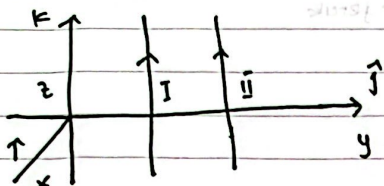
$$\vec{B} = \frac{\mu_0}{4\pi} \frac{I \vec{dl} \times \vec{r}_0}{r^2}$$

garis gaya

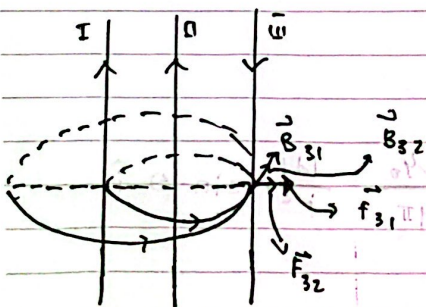
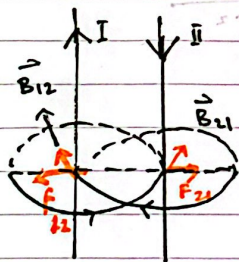


$$\vec{B} = \frac{\mu_0}{4\pi} \frac{I dl \hat{k} \times \hat{r}}{r^2} \Rightarrow = \frac{\mu_0}{4\pi} \frac{I dl}{r^2} \sin \theta \cdot \hat{i}$$

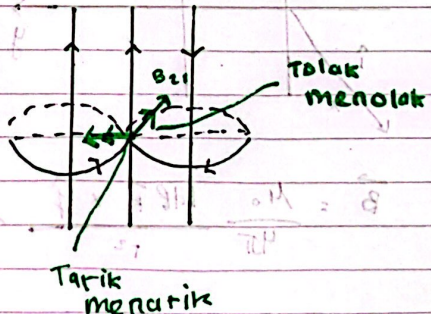
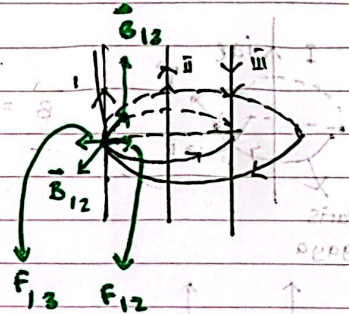
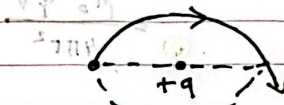
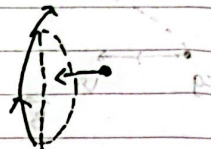
tanpa M nota 1



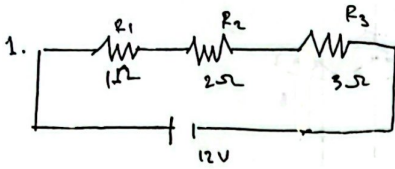
$$F = i d \vec{l} \times \vec{B}$$



Medan magnet selalu
Menyinggung garis gaya.



NPM : 2213022018 / A



a. Hitung arus pada R_3

$$I_{R_3} = \frac{V}{R_{total}} = \frac{12}{1 + 2 + 3}$$

$$= \frac{12}{6}$$

$$= 2 \text{ A}$$

(2A)

Hitung

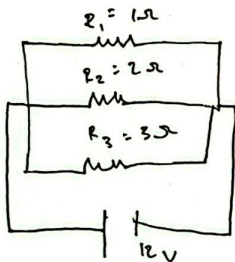
b. Tegangan pada R_2

$$I_{R_2} = \frac{V}{R_2} = \frac{12}{2} = 6 \text{ A}$$

$$V = I \cdot R_2$$

$$= 6 \times 2 = \frac{12}{3} \text{ V} = 4 \text{ V}$$

2.



d. Hitung arus pada R_3

$$R_t = \frac{1}{\frac{1}{1} + \frac{1}{2} + \frac{1}{3}}$$

$$= \frac{6 + 3 + 2}{6}$$

$$= \frac{11}{6}$$

$$= 1,83$$

$$I_{R_3} = \frac{V}{R_3}$$

$$= \frac{12}{1,83}$$

$$= 6,55 \text{ A}$$

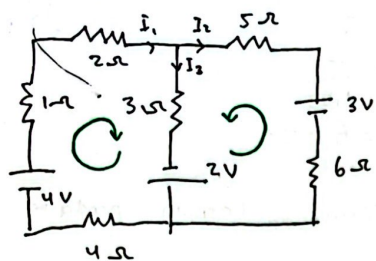
Tegangan R_1
 R_2
 R_3 } 12V
(15)

b) Hitunglah tegangan pada R_2

$$V_{R_2} = 12 \times 1,83$$

$$= 21,96$$

3.)



Hitung arus tiap loop (I_1, I_2, I_3)

Loop I

(15)

$$\sum \mathcal{E} + \sum I R = 0$$

$$-\mathcal{E}_1 + \mathcal{E}_2 + I_1 (R_1 + R_2 + R_4) + I_3 (R_3) = 0$$

$$-4 + 2 + I_1 (1 + 2 + 4) + I_3 (3) = 0$$

$$-2 + I_1 (7) + I_3 (3) = 0$$

$$-2 + I (10) = 0$$

$$I (10) = 2$$

$$I = \frac{2}{10}$$

$$I = 0,2 \text{ A}$$

Loop II

$$\sum \mathcal{E} + \sum I R = 0$$

$$-\mathcal{E}_3 + \mathcal{E}_2 + I_2 (R_5 + R_6) + I_3 (R_3) = 0$$

$$-3 + 2 + I_2 (5 + 6) + I_3 (3) = 0$$

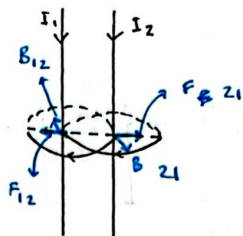
$$-1 + I_2 (11) + I_3 (3) = 0$$

$$-1 + I (14) = 0$$

$$I = \frac{1}{14}$$

$$I = 0,07 \text{ A}$$

4.



(20)

75