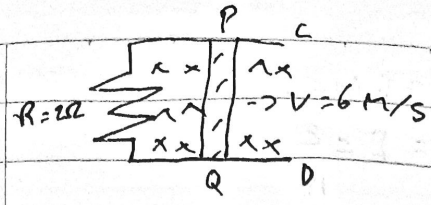
DATE :

1



Dik = induksi magenet = 0,5 wb m^{-2}

$R = 2\Omega$

$L = 0.2$

$v = 6$ m/s

Dit = I ? → $E = I r$

• $E = BLv$

$= 0.5 \cdot 0.2 \cdot 6 = 0,6$ V

• $0,6 = I \cdot 2 = 0,3 = I$

2

Dik = $\Phi = 2 \times 10^{-3}$ w

$N = 500$

$L = 0,4$ henry

Dit : I → $L = \frac{N\Phi}{I} = 0,4 = \frac{300 \cdot 2 \times 10^{-3}}{I}$

$= 0,4 = \frac{1}{x} = 2,5$ A

3

Dik = $A_2 = 2A$

$N_2 = 1,5 N_1$

$w_2 = \frac{3}{4} w_1$

Dit : $E_2 : E_1 = N_2 B A_2 w_2 : N_1 B A_1 w_1$

$= (1,5) B (2A_1)(\frac{3}{4}) : N_1 B A_1 w_1$

$= \frac{9}{4} N_1 B A w_1 = N_1 B A_1 w_1$

$= 9 \cancel{N_1 B A_1 w_1} = 4 \cancel{N_1 B A_1 w_1}$

$= 9 : 4$

4

Dik = $N = 100$

$\Phi_1 = 60$ vwb

$\Phi_2 = 2$ vwb

$T = 3$ ms

Dit : $\varepsilon = -\frac{N(\Phi_1 - \Phi_2)}{\Delta t} = \frac{-10^2 (20 \times 10^{-6} - 60 \times 10^{-6})}{20 \times 10^{-3}}$

$\Rightarrow \frac{-10^2 \cdot 40 \times 10^{-6}}{20 \times 10^{-3}} = 2 \times 10^{-1}$ V

$= 0,2$ V = induksi rata-rata 991

5

Dik = $R = 6\Omega$

$\Phi = (t+4)$ w

$\varepsilon = \frac{d\Phi}{dt} = 3(t+4)^2$ volt

Dit = $I = \frac{\varepsilon}{R} = \frac{3(t+4)^2}{6}$

Jika $(T=4) = \frac{\cancel{3}(4+4)^2}{\cancel{6}\,2} = \frac{64}{2}$

$= 32$ A

DATE :

6 Dik : $A = 10\,cm^2$

$R = 4\,\Omega$

$N = 400$

$\Phi = 10^{-4} \sin 2000t\ w$

dit = I max

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

$\rightarrow \varepsilon = N \times \frac{d\Phi}{dt} / N \times \frac{d(BA)}{dt}$

Jawab

- $\Phi = 10^{-4} \sin 2000t\ w$

$\frac{d\Phi}{dt} = 0{,}2 \cos 2000t \rightarrow \varepsilon = NA\ 0{,}2 \cos 2000t / 4$

$\hookrightarrow 400 \times 100\,cm^2 \rightarrow 400 \times 10^{-2}$

$\varepsilon = 0{,}2 \cos 2000t$

- $I\ Max = 1 = \cos 2000t$

$I_{max} = 0{,}2 \times 1 = 0{,}2\ A$

7 Dik :

$N_0 = 70$

$V_0 = 220\ V$

$V_1 = 1100\ V$

Dit $= N_1 = \frac{V_0}{V_1} = \frac{N_0}{N_1} = \frac{220}{1100} = \frac{70}{N_1}$

$= 0{,}2 = \frac{70}{N_s} = N_s = \frac{70}{0{,}2} = 350$

8 Dik $= I = 2\ A/s$

$I = 5\ s$

$\Phi = 10\ W$

$\rightarrow I = 10\ A$

Dit $= L = \frac{\Phi}{I} = \frac{10}{10}$

$L = 1\ mH$

9 Dik : $V_p = 120\ V$

$V_s = 220\ V$

Efisiensi : 80 %

$P_s = 60$ watt

Dit $= I_{primer} = P_p = V_p \cdot I_p$

$\rightarrow$ Efisiensi $= \frac{(P_s)}{P_p} \times 100\% / \frac{V_s \cdot I_s}{V_p \cdot I_p} \times 100\%$

$80 = \left(\frac{60}{120 \cdot I_p}\right) \times 100\%$

$I_p = 0.$ / $x = \frac{}{6}$