

1.2

$$R_1 = \frac{2 \times 35 \times 10^{-2}}{2000 \times 4\pi \times 10^{-7} \times 0.015} = 18.57 \times 10^3 \frac{\text{A.t}}{\text{wb}}$$

$$R_2 = \frac{2 \times 40 \times 10^{-2}}{2000 \times 4\pi \times 10^{-7} \times 0.01} = 31.83 \times 10^3 \frac{\text{A.t}}{\text{wb}}$$

$$\phi = \frac{F}{R_1 + R_2} = \frac{300}{(18.57 + 31.83) \times 10^3} = 5.95 \text{ mwb}$$

$$B_1 = \frac{\phi}{A_1} = \frac{5.95 \times 10^{-3}}{0.01} = 0.595 \text{ T}$$

$$B_2 = \frac{\phi}{A_2} = \frac{5.95 \times 10^{-3}}{0.015} = 0.397 \text{ T}$$

$$\phi = \frac{Ni}{\sum R_j} \Rightarrow i = \frac{\phi (R_1 + R_2)}{N} = \frac{0.012 (18.57 + 31.83) \times 10^3}{300}$$

$$\underline{i = 2.016 \text{ A}}$$