

* Assignment *

NAME

Majid Mahmood

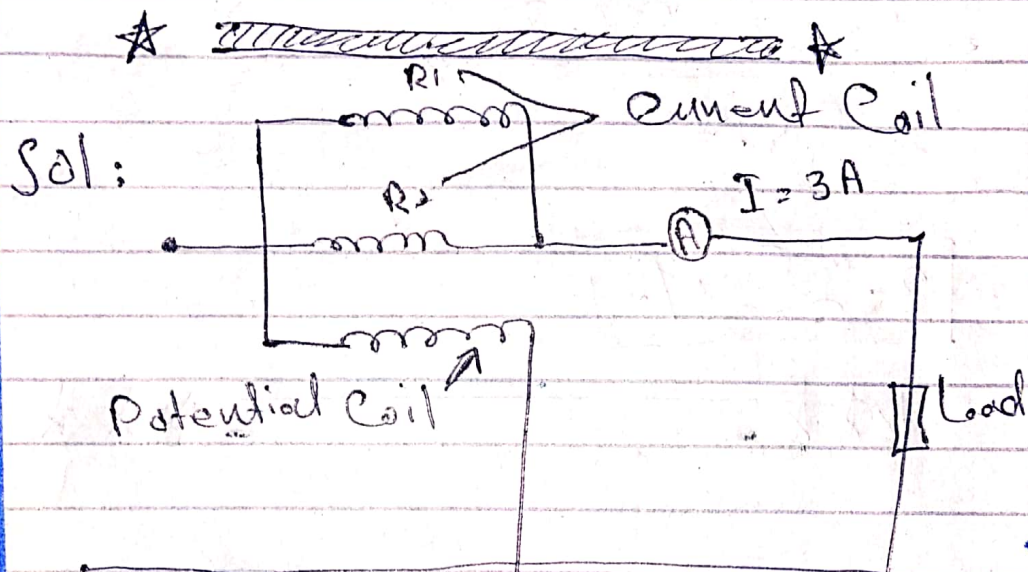
ID

13876

Subject

EMI

Q1:



Effect Resister of the
Current Coil:

$$R_c = \frac{R_1 R_2}{R_1 + R_2} = \frac{0.7 \times 0.7}{0.7 + 0.7}$$

$$R_c = \boxed{0.35 \Omega}$$

① Power loss in the wattmeter:

$$I^2 R_c = (3)^2 \times (0.35)$$

$$= \boxed{3.15 W}$$

⑤ True Load Power:

$$= 100 - 3.15 = \boxed{96.85 \text{ W}}$$

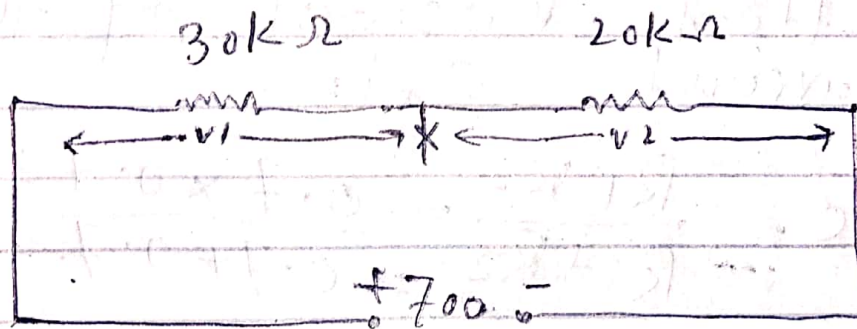
③ Percentage error:

$$= \frac{100 - 96.85}{96.85} \times 100$$

$$= \boxed{3.25 \%}$$

Q2

Sol:



The figure shows the condition of the problem

Hence by voltage divider rule the reading of the two voltmeter etc.

$$V_1 = \frac{30k\Omega}{30k + 20k} \times 700$$

$$V_1 = \frac{30k}{50k} \times 700$$

$$V_1 = \frac{3}{5} \times 700$$

$$V_1 = \frac{2100}{5} = \boxed{420V}$$

$$V_2 = \frac{20k}{20k + 30k} \times 700$$

$$V_2 = \frac{20k}{50k} \times 700$$

$$V_2 = \frac{1400}{5} = \boxed{280V}$$

$$V = V_1 + V_2$$

$$700 = 420 + 280$$

$$700 = 700$$

★ ★ ★ ★ ★ ★ ★