Assignment

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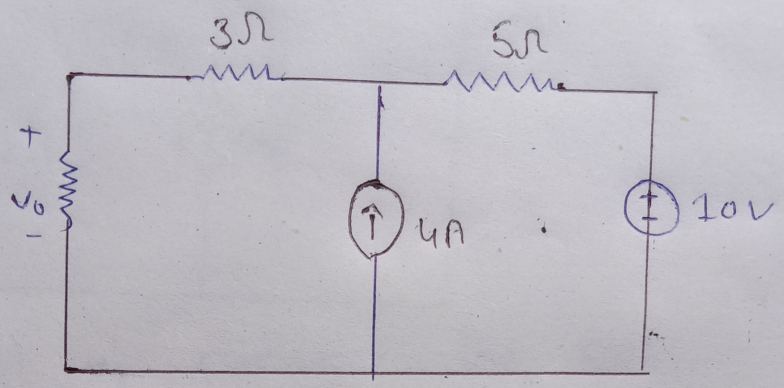
Programe = B-Tech (E)

subject = network analysis (I)

semester = 6th

submitted = TO= Engr: muhammad Aamir Aman

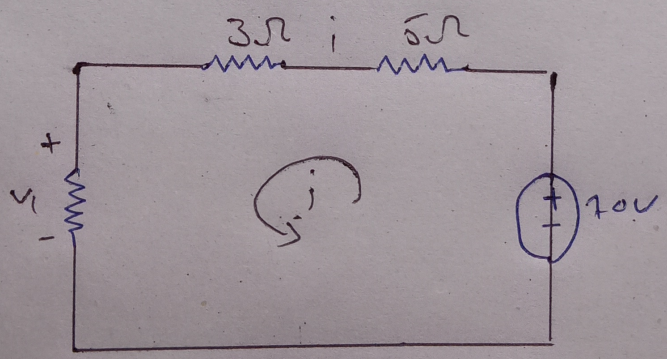
Q(1)



Solution :=>

Let $v_o = v_1 + v_2$

where v_1 and v_2 are contribution to the 10V and 4A sources repectively



(a)

Apply ohm Law

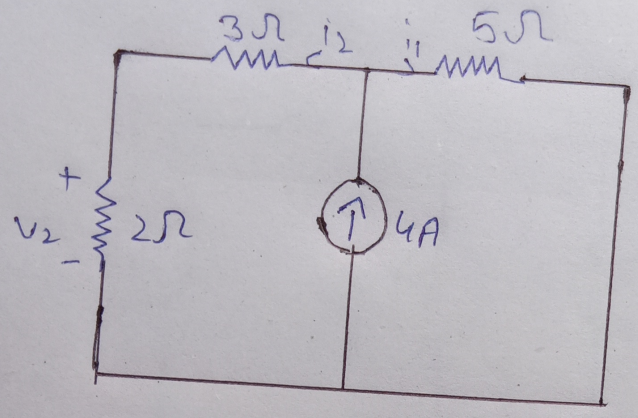
To get v_1 Consider the CKT

$(2+3+5)i = 10$

$i = 10/(10) = 1A$

$v_1 = 2i = 2V$

(P.T.O)



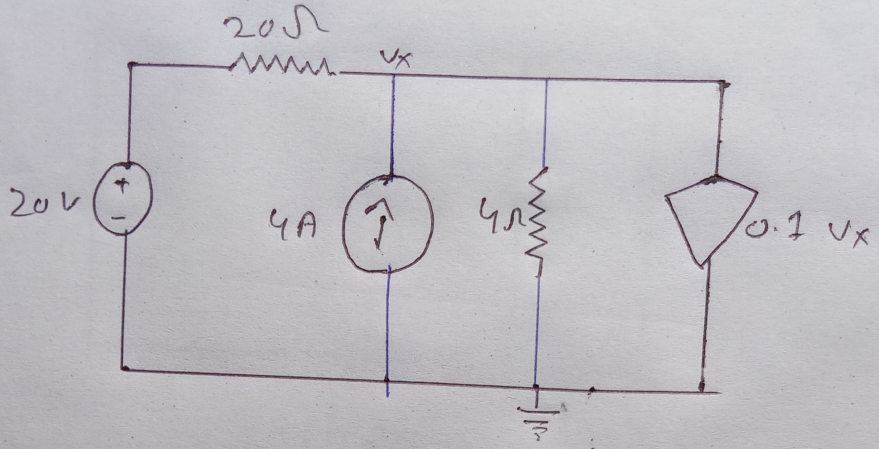
To get V_2 consider the ckt

$i_1 = i_2 = 2A$, $\quad V_2 = 2i_2 = 4V$

Thus

$$V = V_1 + V_2 = 2 + 4 = 6V$$

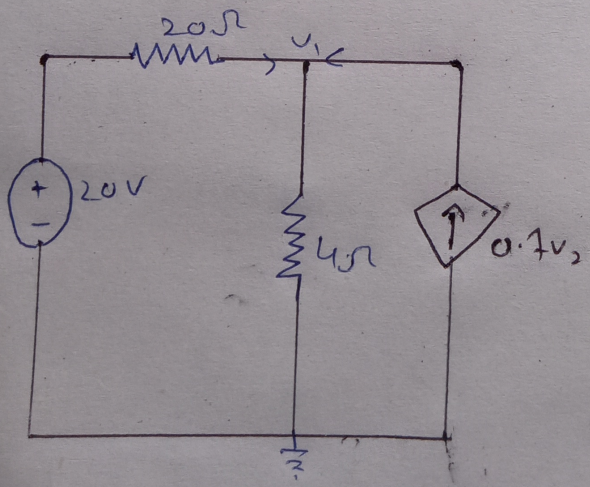
(Q2)



Solution:-

Let $V_x = V_1 + V_2$

where V_1 and V_2 are due to the 20V and 4A source repectively



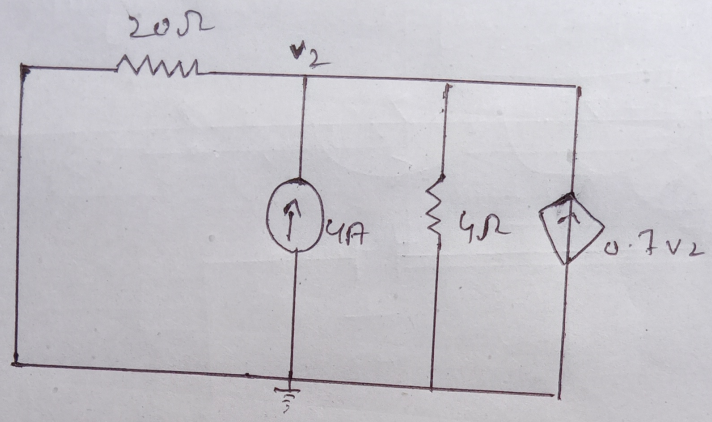
Apply KCL

To obtain V_1 consider

$$\frac{20 - V_1}{20} + 0.1V_1 = \frac{V_1 - 0}{4}$$

$V_1 = 5V$

P.T.O



(b)

Apply KCL

For v_2 consider

$$4 + 0.1v_2 = \frac{v_2 - 0}{20} + \frac{v_2 - 0}{4}$$

$$v_2 = 20$$

Thus,

$$v_x = v_1 + v_2 = 25v$$