Total No. of Questions:-4
Class Roll No .....

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CS-106

Mid-Semester Examination-I (Nov2024)

B.Tech. I Semester (CSE)

Electrical and Electronics Engineering

Duration: 1hr 30min **Max. Marks: 20**

Note: Attempt all questions.

Q1.a) Define the following terms i)Active Element ii)Passive Element iii)Independent Sources iv)Node v)Mesh **[CO-1/5Marks]**

OR

b) Using nodal analysis find the current flowing through 5 ohm resistance in fig.1.2 **[CO-1/5 Marks]**

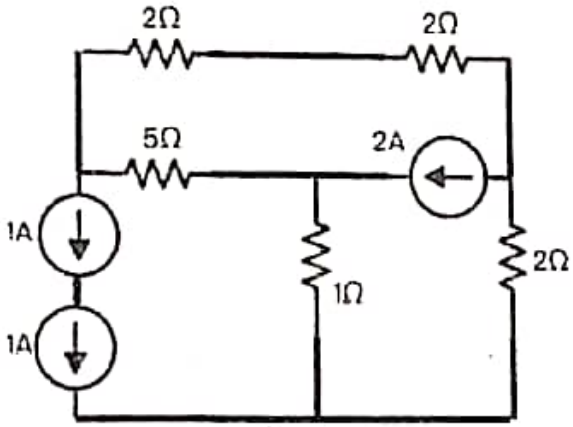

fig 1.2

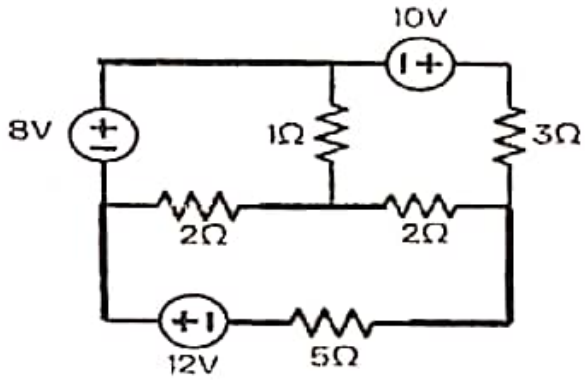

fig.2.1

Q2.a) Determine the current flowing in all resistances of the circuit shown in fig 2.1 using mesh analysis only **[CO-1/5 Marks]**

OR

b) In fig. 2.2 determine the current flowing through R_L when the value of load resistance R_L is i) 3 ohm, ii) 6 ohm & iii) 9 ohm **[CO-1/5 Marks]**

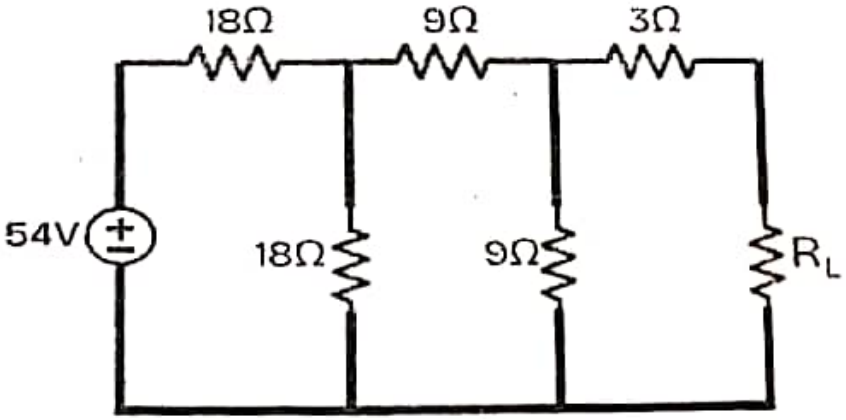

fig. 2.2

[P.T.O]

Q3 a).Define the following terms with respect to AC circuits:

i) Maximum value iii) Average Value ii) RMS value iii) Form Factor iv) Peak factor

[CO-2/5Marks]

OR

b) Derive the relationship between maximum value, RMS value and average value of current in AC circuits when $I = I_m \sin\omega t$

[CO-2/5Marks]

Q4. a)What do you understand by Active, Reactive and apparent power. Draw and explain power triangle

[CO-2/5Marks]

Or

b) A voltage of 125V at 50 Hz is applied across a non-inductive resistor connected in series with a condenser. The current in the circuit is 2.2A. The power loss in the resistor is 96.8W and that in the condenser is negligible. Calculate the resistance and the capacitance.

[CO-2/5Marks]