Jaypee University of Engineering & Technology, Guna

T-2 (Even Semester 2022)

18B11EC212- ELECTRICAL CIRCUIT ANALYSIS

Maximum duration: 1 Hour 30 Minutes

Maximum Marks: 25

Notes:

1. This question paper has **six** questions.
2. Write relevant answers only.
3. Do not write anything on question paper.
4. Assume suitable data wherever necessary.

Q1. **(a)** Find out V_O in the network of Fig. (1) using nodal analysis. **[04]**

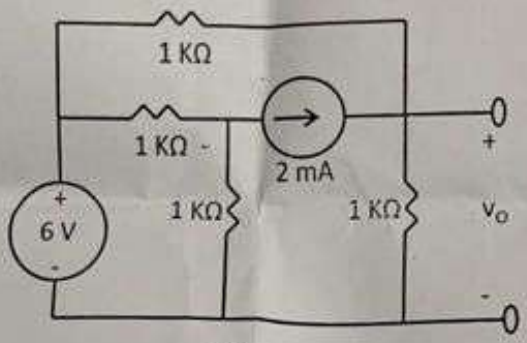

Fig. (1)

Q2. Calculate the voltage and current across 10 Ω in the circuit as shown in Fig. (2) by using Thevenin's theorem. **[05]**

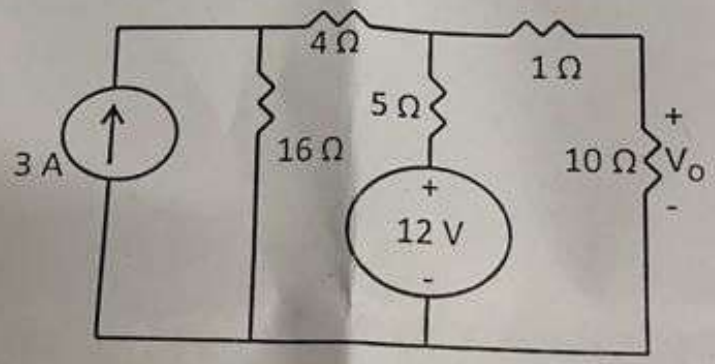

Fig. (2)

Determine the current in the x-y and a-b branch of Fig. (3) and verify the Reciprocity theorem. [04

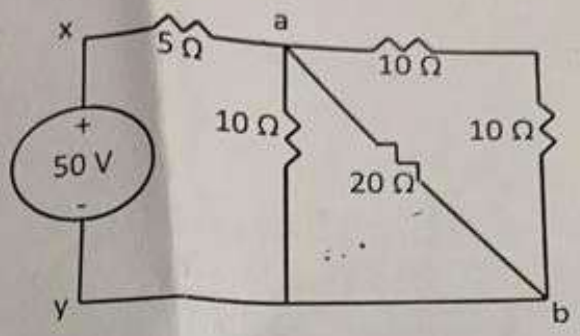

Fig. (3)

Q4. State Thevenin's theorem with the help of suitable circuit diagram.

Q5. In the circuit as shown in Fig. (4), the switch opens at t = 0. Find out $i_1(t)$ and $v_L(t)$ for t > 0. Also determine i_1 and v_L at t = 1 sec.

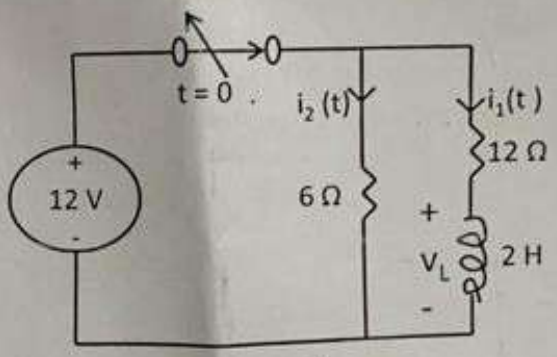

Fig. (4)

Q6. Elaborate the different types of dependent sources along with the suitable circuit diagram.