

Total No. of Questions : 4]

SEAT No. :

PB14

[6268]-208

[Total No. of Pages : 3

S.E. (Electrical Engineering) (Insem)
NETWORK ANALYSIS
(2019 Pattern) (Semester - IV) (203147)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams must be drawn whenever necessary.
- 4) Assume suitable data, if necessary.
- 5) Use of non-programmable calculator is allowed.

Q1) a) Explain the classification of networks. [7]

b) Using Mesh analysis, find V_x in the network shown in Fig. 1. [8]

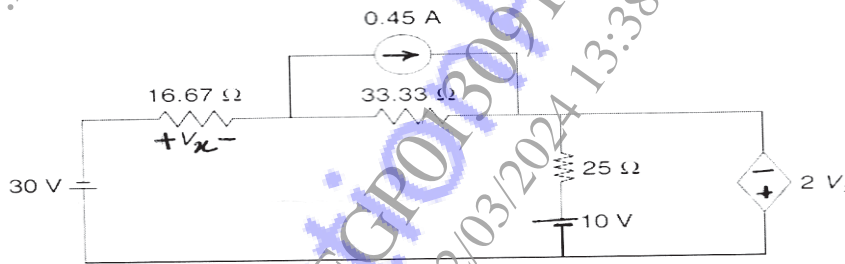


Fig. 1

OR

Q2) a) Draw the Dual of the network shown in Fig. 2. [7]

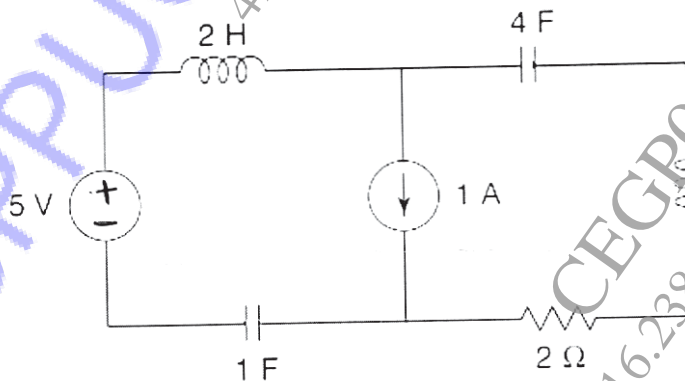


Fig. 2

P.T.O.

- b) Using Nodal analysis, find the voltage across 5 Ohm resistance in the network shown in Fig.3. [8]

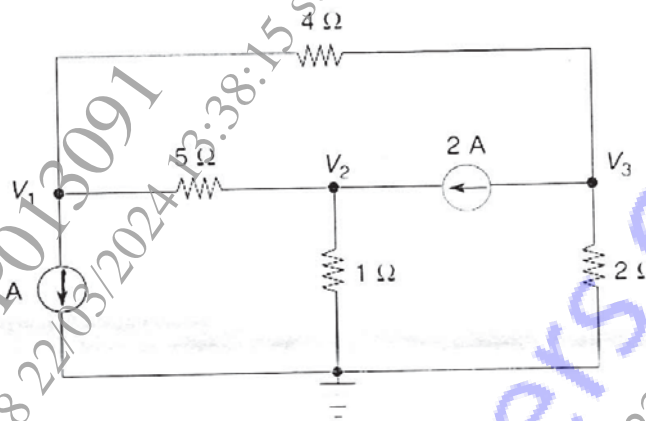


Fig. 3

- Q3) a) State and prove maximum power transfer theorem for the network. [7]
 b) Using Superposition Theorem, find the current in 10 Ohm resistance shown in the network Fig. 4. [8]

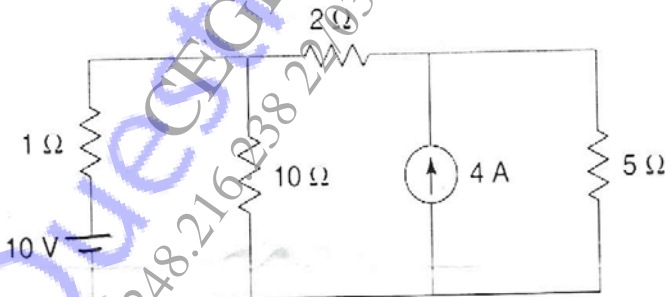


Fig. 4

OR

- Q4) a) Explain the following terms with reference to network topology. [7]
 i) Tree
 ii) Rank of a Graph
 iii) Incident Matrix
 iv) Branch

- b) Using Thevenin's theorem, find current in 10 Ohm resistance in Fig. 5. [8]

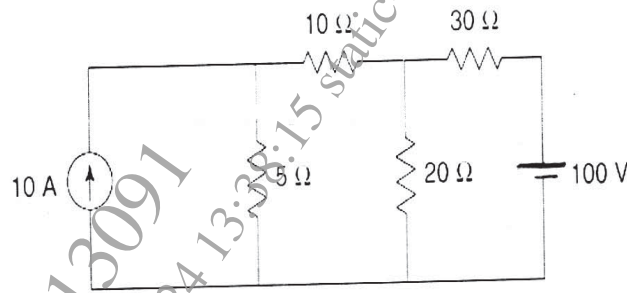


Fig. 5

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