

Computer Aided Design

Sheet (2)

- 1- From A matrix calculate the B and C matrices and verify your answer by mean of obtained graph.

$$A = \begin{bmatrix} 1 & 0 & 1 & 0 & 0 & -1 \\ 0 & 1 & -1 & 0 & 1 & 1 \\ 0 & 0 & 0 & 1 & -1 & 0 \end{bmatrix}$$

- 2- For the network shown in Figure (1), write a tie-set matrix and then find all the branch currents and voltages.

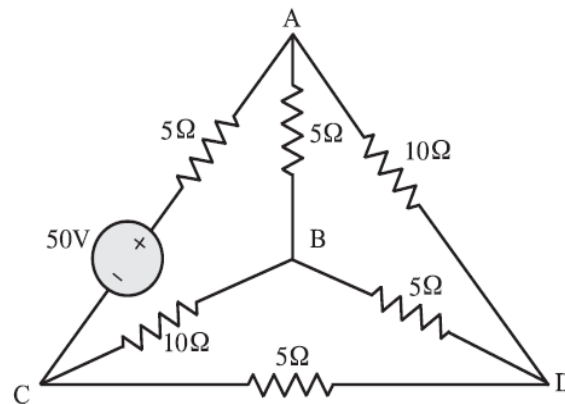


Figure (1)

- 3- Refer the network shown in Figure (2). Solve for branch currents and branch voltages.

Note : s means siemens and it is the unit of measure for admittance which is reciprocal of impedance

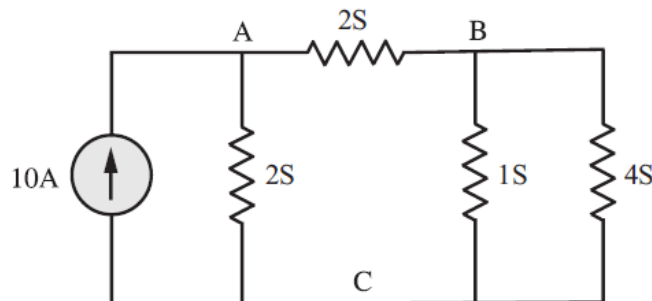


Figure (2)

4- Refer the network shown in Figure (3). Solve for branch currents

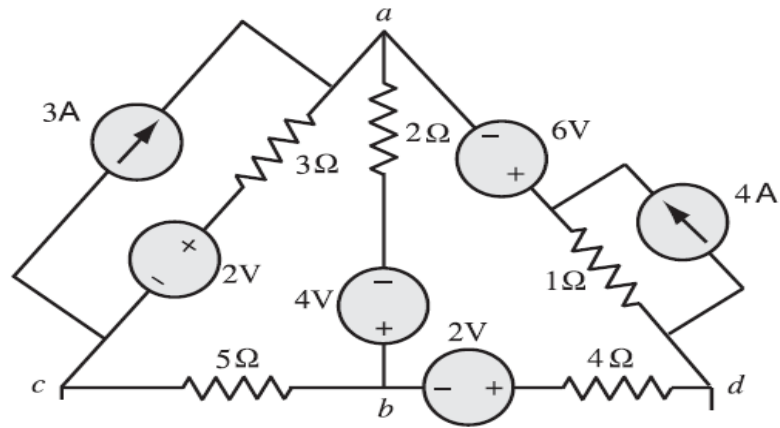


Figure (3)