

B.TECH. - VIEP-ELECTRICAL ENGINEERING

Term-End Examination

December, 2013

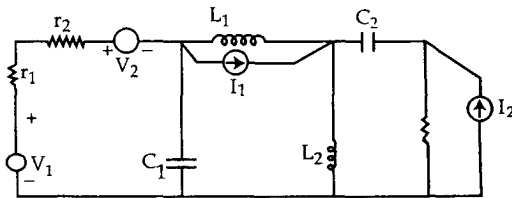
BIEE-014 : NETWORK THEORY

Time : 3 hours

Maximum Marks : 70

- Note :** (i) Attempt *any seven* questions.
 (ii) Each question carry *equal* marks.

1. Draw the oriented graph of the network shown in fig (1) and write the incidence matrix and also draw reduced network graph into connected subgraphs eliminating minimum no. of elements.



4+6=10

Fig (1)

2. For the network shown in fig (2) draw (a) The graph (b) Select a tree (c) Obtain the cut set matrix. Also find the number of twigs and links.

3+3+4=10

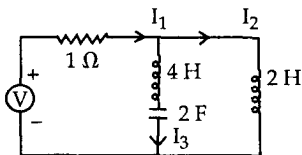


Fig (2)

3. State and verify the maximum power theorem with the help of suitable example and also write the advantages. 5+3+2=10
4. What is Laplace Transformation ? Explain its uses and applications in circuit analysis. 5+5=10
5. Obtain the open circuit parameters and loop equation of the network shown in fig (3) 5+5=10

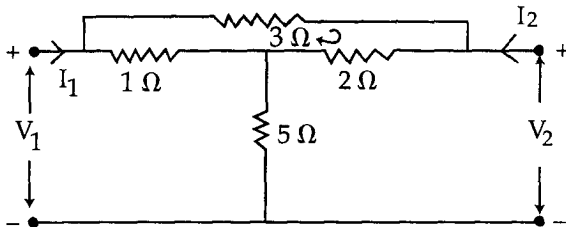


Fig. (3)

6. (a) Derive the expression for reciprocity in Z - parameters. 5x2=10
 (b) Derive the expression for reciprocity in ABCD parameters.
7. (a) Write the difference between low pass and high pass filters. 5x2=10
 (b) Write a short note on Stability on the basis of poles and Zeros.
8. Explain Foster - I and Caver - I with the help of example. 5+5=10

9. Find the Norton's equivalent circuit across X - Y 10
in S - domain, hence find thevenin's equivalent
Ckt too. Ckt show in fig (4)

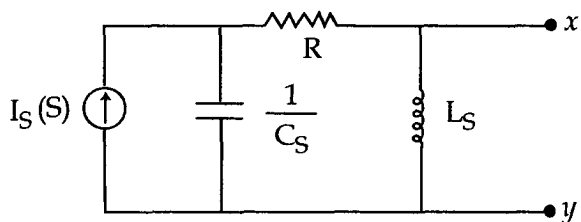


Fig. (4)

10. Write a short note on : 2x5=10
- (a) Tree
 - (b) Cut - set
 - (c) Loop
 - (d) Mesh
 - (e) Links
