Roll Number:_____

Thapar University, Patiala

Department of Electrical & Instrumentation Engineering

B. E. (Second Year): Semester-IV (EIC)	Course Code:UEE503 Course Name: Network Analysis and Synthesis
March 19, 2016	Saturday, 10.30 – 12.30 Hrs
Time: 2 Hours, M. Marks: 70 (50%)	Name of Faculty: Smarajit Ghosh Shailesh Kumar

Note: Attempt all questions

Q1.	Define the following terms: (a) Graph, (b) Tree, (c) Twig, (d) Co-tree and (e) link.	(10)
Q2.	For the graph shown in Figure 1, find the A, B_f and Q_f for the tree formed by the branches (2,3,4).	(15)
Q3.	Determine the condition for maximum power transfer in an AC circuit when the load impedance Z_L is varying.	(10)
Q4.	Obtain the Thevenin's equivalent parameters of the circuit shown in Figure 2 at terminals AB. Also obtain the Norton's equivalent parameters.	(15)
Q5.	Determine the Z-parameters of the circuit shown in Figure 3.	(10)
Q6.	For the network shown in Figure 4, draw the graph and obtain the equilibrium equation on loop basis.	(10)

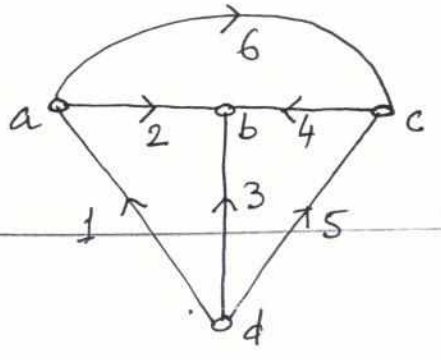

Figure 1

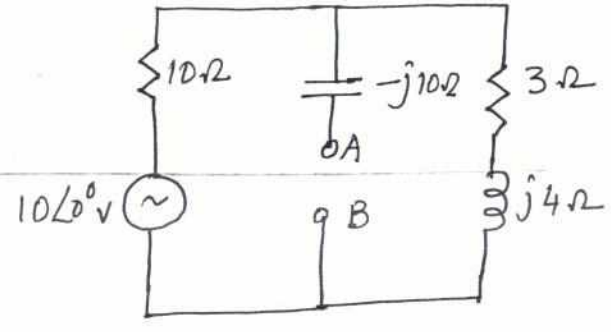

Figure 2

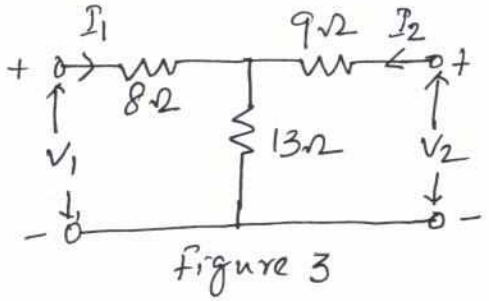

Figure 3

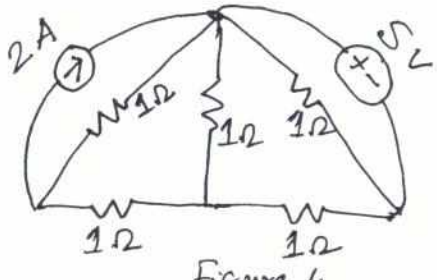

Figure 4

Notice: Evaluated Answer Scripts will be shown in **D205** on **29.03.2016** from **17:00 Hrs to 17:20 Hrs.**