School of Engineering

B.TECH Electronics and Communication Engineering
Semester End Examination - Jul 2024

Duration : 180 Minutes
Max Marks : 100

**Sem III - G2UB301B/ BTEE2002 - Network Analysis and Synthesis**

*General Instructions*
Answer to the specific question asked
Draw neat, labelled diagrams wherever necessary
Approved data hand books are allowed subject to verification by the Invigilator

1) Compare bilateral and unilateral network.   K1(2)

2) Explain concept of network function in network analysis.   K2(4)

3) Illustrate the concept of source transformation.   K2(6)

4) **Solve all branch currents and the voltage across the 5 ohm resistor by node analysis.**   K3(9)
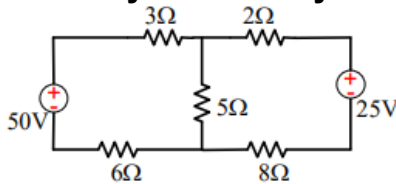
5) For the circuit shown in Fig below, determine Norton's equivalent circuit between the output terminals, AB   K3(9)
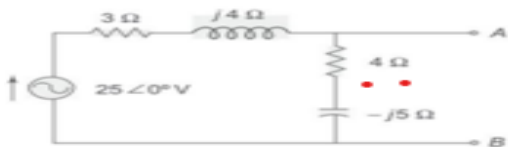
6) The h parameters of the two port are given .Compute Y and ABCD parameters.   K5(10)

$$h = \begin{bmatrix} 5 & 2 \\ 3 & 6 \end{bmatrix}$$

7) Examine how Norton's theorem similar to Thevenin's theorem ? In what respect do they differ?   K4(12)

8) Measure given transfer function.in s -plane f(s)= (s+5)/(s+4) (s+3)   K5(15)

9) A current source of 5A having an internal resistance of 10Ω is   K5(15)

connected to a load resistor of 5Ω. Find the current in the load resistor using source transformation .

10) Derive start to delta conversion. K6(18)