Code No: R07A1EC05 **R07** **Set No. 2**

**I B.Tech Examinations,December 2010**
**NETWORK ANALYSIS**
**Common to BME, E.COMP.E, ETM, E.CONT.E, EIE, ECE**

**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

⋆ ⋆ ⋆ ⋆ ⋆

1. Define average value and obtain the same for a half wave rectified voltage wave. [16]

2. Determine the Z parameters of the network shown in figure 2. [16]

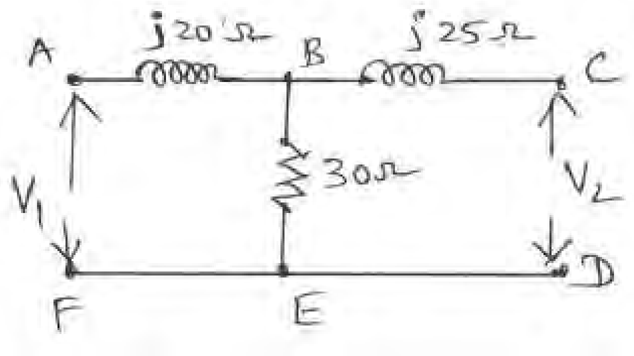


Figure 2

3. State and Explain with proof of Reciprocity Theorem. [16]

4. A prototype HPF has cut-off frequency 6 KHz and design impedance 300 Ohms. Calculate L & C? [16]

5. (a) Define half power frequency. Draw a sketch and explain.
   (b) Derive the formula for half power frequencies. [6+10]

6. For the figure 6 shown, calculate the equivalent resistance of the following combination of resistors and also calculate the source current, total power dissipated. [16]

7. For the network shown in figure 7, draw the oriented graph, select a tree and obtain a tie-set matrix. Write down the KVL equations from the tie-set matrix. [16]

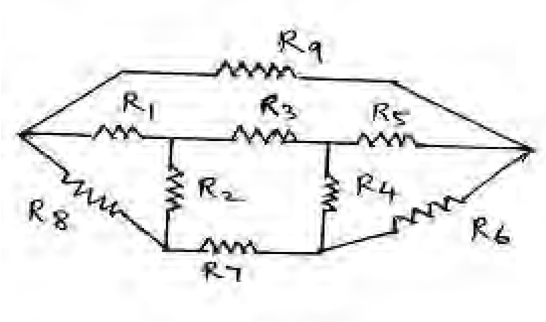


Figure 7

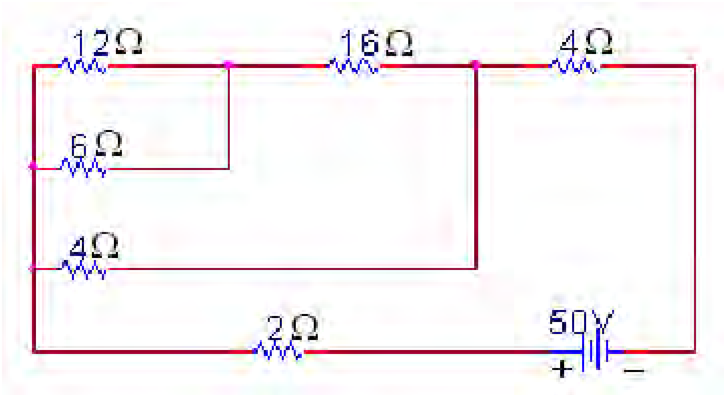


Figure 6:

8. Derive the step voltage response equation for a series RLC circuit. [16]

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Code No: R07A1EC05 **R07** **Set No. 4**

I B.Tech Examinations,December 2010
NETWORK ANALYSIS
Common to BME, E.COMP.E, ETM, E.CONT.E, EIE, ECE

Time: 3 hours Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. State and Explain with proof of Reciprocity Theorem. [16]

2. For the figure 2 shown, calculate the equivalent resistance of the following combination of resistors and also calculate the source current, total power dissipated. [16]

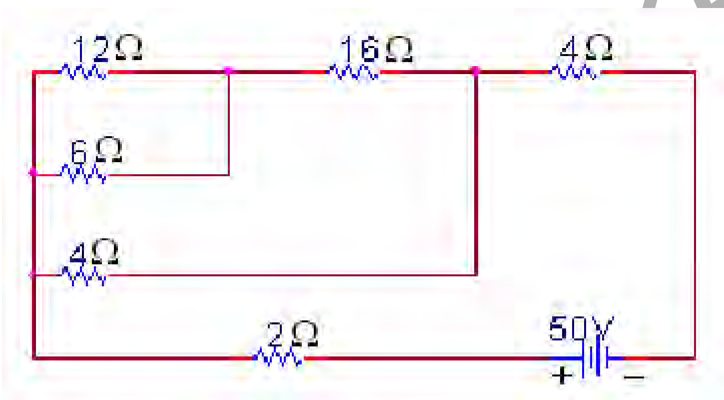


Figure 2:

3. (a) Define half power frequency. Draw a sketch and explain.
   (b) Derive the formula for half power frequencies. [6+10]

4. Define average value and obtain the same for a half wave rectified voltage wave. [16]

5. For the network shown in figure 5, draw the oriented graph, select a tree and obtain a tie-set matrix. Write down the KVL equations from the tie-set matrix. [16]

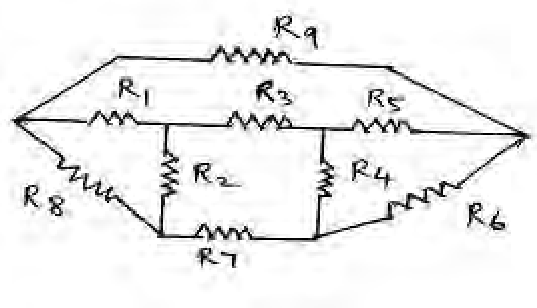


Figure 5

6. A prototype HPF has cut-off frequency 6 KHz and design impedance 300 Ohms. Calculate L & C? [16]

7. Determine the Z parameters of the network shown in figure 7. [16]

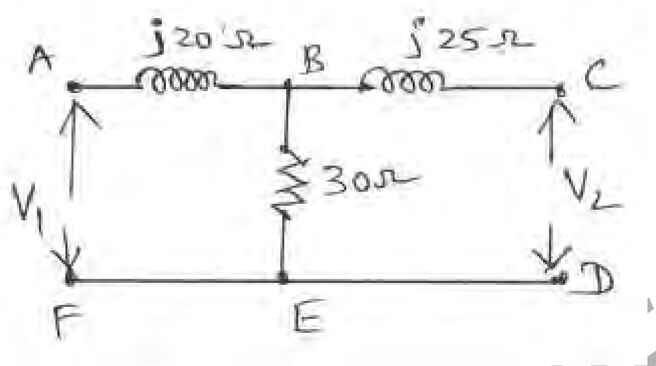


Figure 7

8. Derive the step voltage response equation for a series RLC circuit. [16]

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Code No: R07A1EC05 **R07** **Set No. 1**

I B.Tech Examinations,December 2010
NETWORK ANALYSIS
Common to BME, E.COMP.E, ETM, E.CONT.E, EIE, ECE

Time: 3 hours Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks
⋆ ⋆ ⋆ ⋆ ⋆

1. Define average value and obtain the same for a half wave rectified voltage wave. [16]

2. A prototype HPF has cut-off frequency 6 KHz and design impedance 300 Ohms. Calculate L & C? [16]

3. For the figure 3 shown, calculate the equivalent resistance of the following combination of resistors and also calculate the source current, total power dissipated. [16]

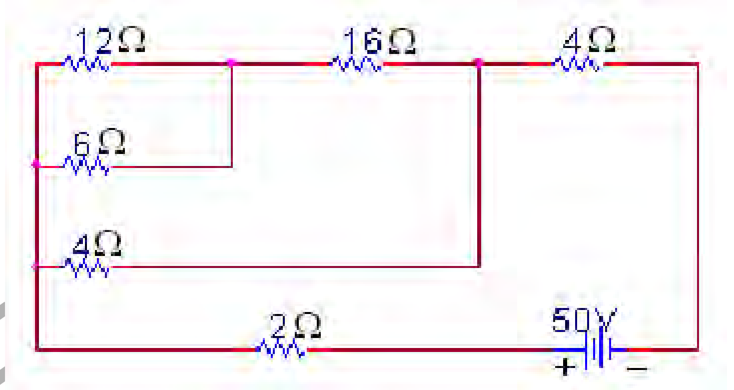


Figure 3:

4. Determine the Z parameters of the network shown in figure 4. [16]

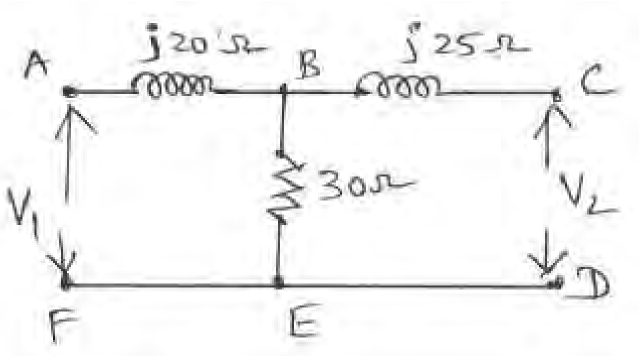


Figure 4

5. Derive the step voltage response equation for a series RLC circuit. [16]

6. (a) Define half power frequency. Draw a sketch and explain.

(b) Derive the formula for half power frequencies. [6+10]

7. For the network shown in figure 7, draw the oriented graph, select a tree and obtain a tie-set matrix. Write down the KVL equations from the tie-set matrix. [16]

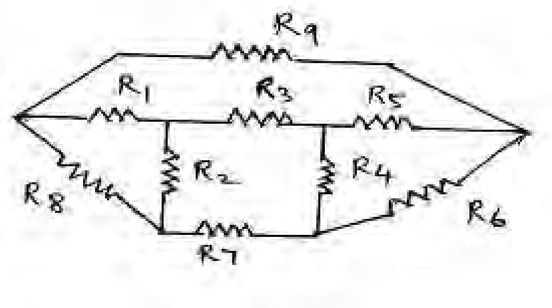


Figure 7

8. State and Explain with proof of Reciprocity Theorem. [16]

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Code No: R07A1EC05 **R07** **Set No. 3**

I B.Tech Examinations,December 2010

NETWORK ANALYSIS

Common to BME, E.COMP.E, ETM, E.CONT.E, EIE, ECE

Time: 3 hours Max Marks: 80

Answer any FIVE Questions

All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. Define average value and obtain the same for a half wave rectified voltage wave. [16]

2. State and Explain with proof of Reciprocity Theorem. [16]

3. For the figure 3 shown, calculate the equivalent resistance of the following combination of resistors and also calculate the source current, total power dissipated. [16]

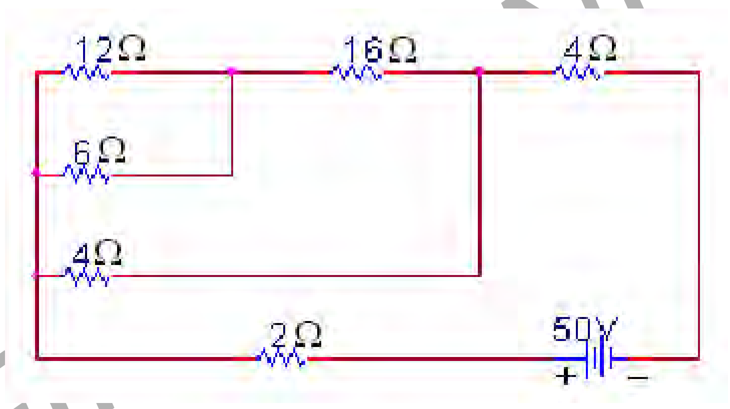


Figure 3:

4. A prototype HPF has cut-off frequency 6 KHz and design impedance 300 Ohms. Calculate L & C? [16]

5. For the network shown in figure 5, draw the oriented graph, select a tree and obtain a tie-set matrix. Write down the KVL equations from the tie-set matrix. [16]

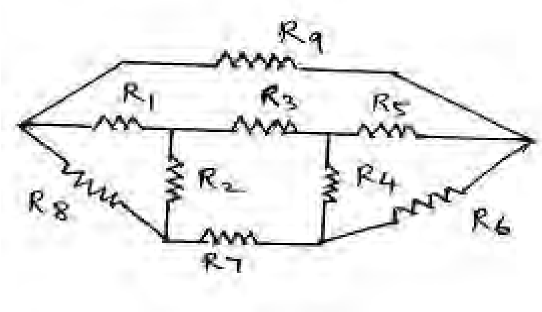


Figure 5

6. (a) Define half power frequency. Draw a sketch and explain.

(b) Derive the formula for half power frequencies. [6+10]

7. Derive the step voltage response equation for a series RLC circuit. [16]

8. Determine the Z parameters of the network shown in figure 8. [16]

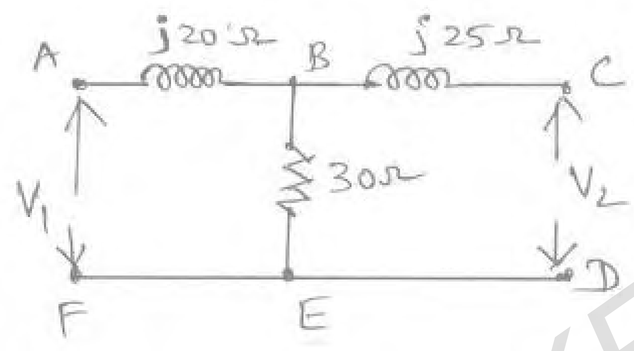


Figure 8

⋆⋆⋆⋆⋆