Q.P. Code: 16EE205

R16

Reg. No. | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations Dec 2019

NETWORK ANALYSIS

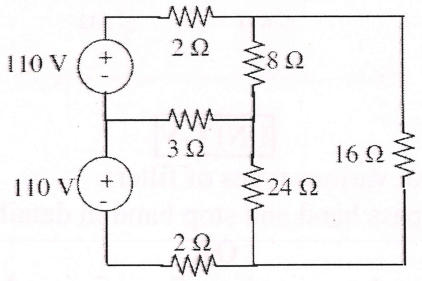
(Electronics & Communication Engineering)

Time: 3 hours Max. Marks:60

(Answer all Five Units 5 X 12 = 60 Marks)

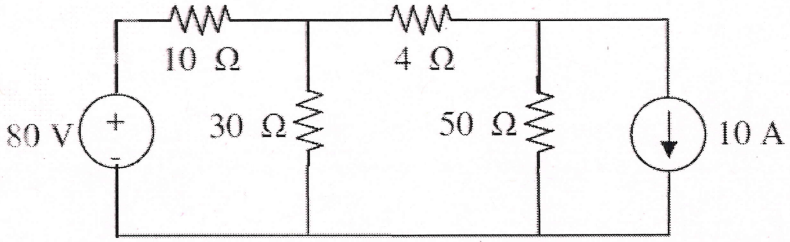
UNIT-I

1	a	State and explain Kirchhoff's laws?		4M
	b	Using nodal analysis find all branch currents for the following circuit		8M



OR

2	a	What is the condition for maximum power transfer to the load?		4M
	b	Verify Superposition theorem for 4Ω resistor for the following circuit.		8M



UNIT-II

3	a	Explain the phasor relation for parallel RLC circuit.		6M
	b	A parallel RLC circuit is supplied with a voltage source of 230 V, 50Hz. Determine circuit current and power factor if R=40Ω, L=0.2H and C=50μF.		6M

OR

4	a	Explain the characteristics of sinusoids.		4M
	b	The impedances of parallel circuit are Z1= (4+j6) ohms and Z2 = (12-j8) ohms. If the applied voltage is 220V, find (i) current and power factor of each branch (ii) overall current (iii) power consumed by each impedance. Draw the phasor diagram.		8M

UNIT-III

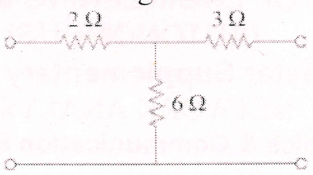
5		Obtain the expression for resonant frequency, bandwidth and Q-factor for Series R-L-C circuit.		12M

OR

6	a	Explain about dot convention in mutually coupled circuits.		6M
	b	Define and explain self and mutual inductance.		6M

UNIT-IV

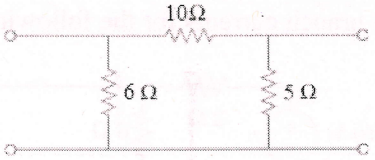
7 **a** Find the ABCD parameters for the following circuit. **6M**



b Express Y parameters in terms of h parameters. **6M**

OR

8 Find the ABCD and h - parameters for the following circuit. **12M**



UNIT-V

9 **a** What is a filter? Explain about various types of filters. **4M**

b Explain the classification of pass band and stop band in detail. **8M**

OR

10 What is high pass filter? Explain the general configuration and parameters of a constant-K high pass filter. **12M**

***** END *****