



United International University (UIU)
 Dept. of Computer Science & Engineering (CSE)

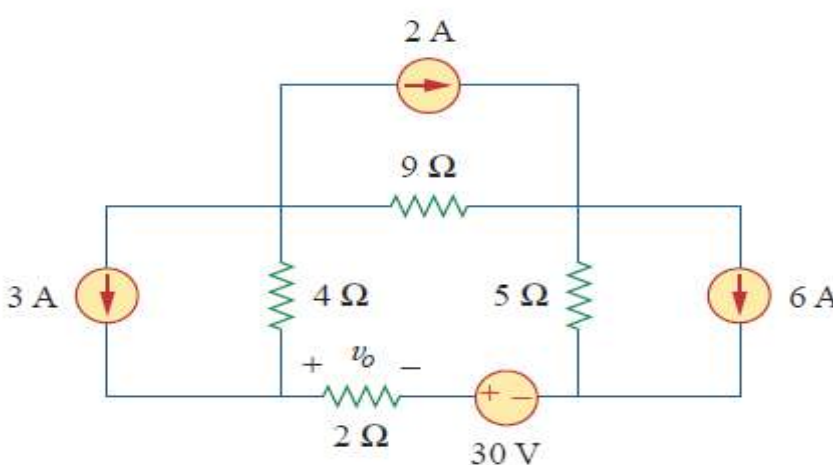
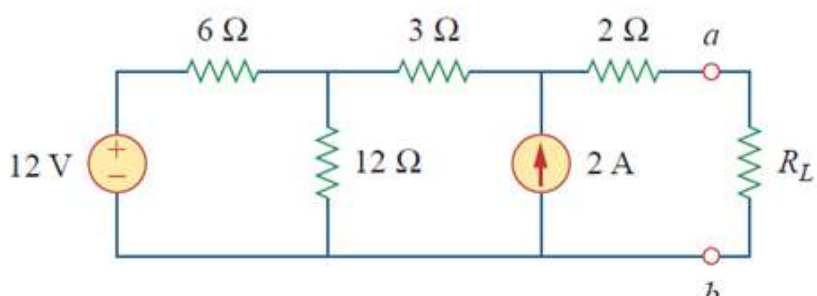
Final Exam : : Trimester: Fall - 2017

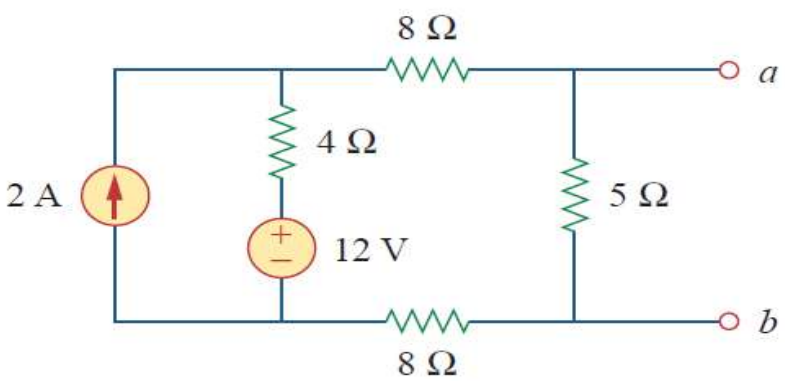
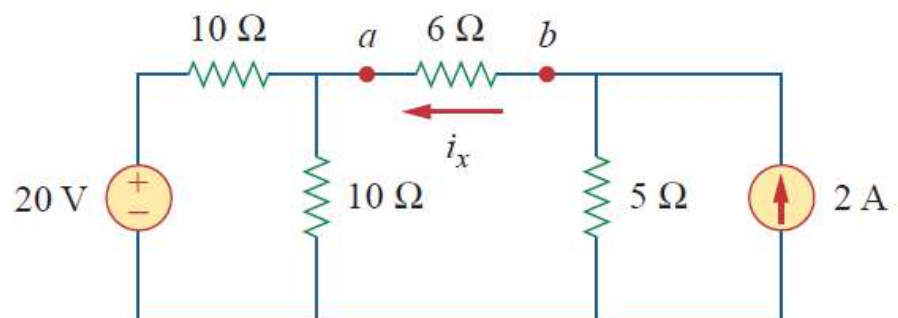
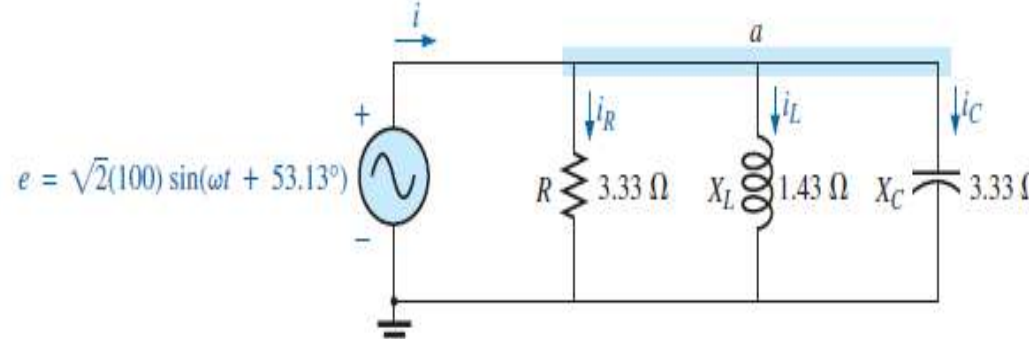
Course: CSE 113 Electrical Circuits,

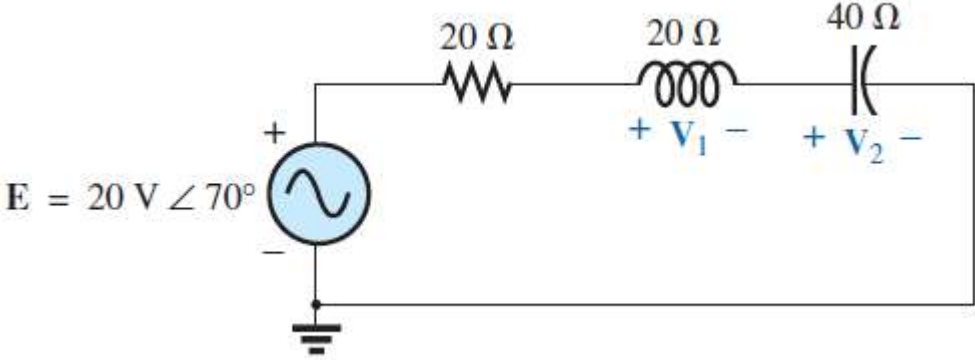
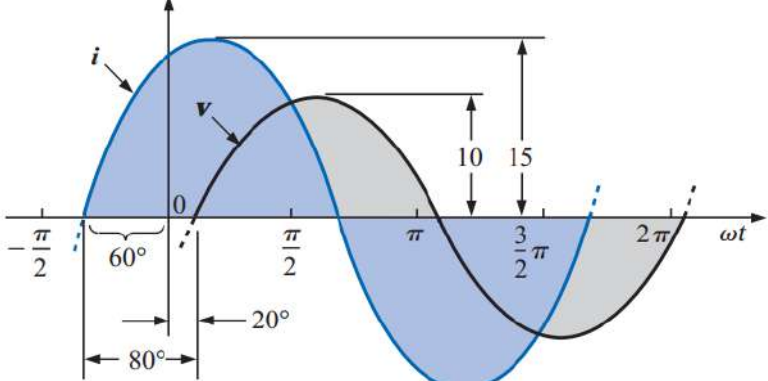
Marks: 40, Time: 2 hour

Figures in the right-hand margin indicate full marks.

Answer Any Four out of the Five Question Sets

1.	a)	<p>For the following circuit, use source transformation to find v_o.</p> 	4
	b)	<p>Find the value of R_L for maximum power transfer in the following circuit and determine that maximum power.</p> 	6

2.	a)	<p>Use Thevenin theorem to find V_{Th} and R_{Th} for the following circuit. Also draw the Thevenin equivalent circuit.</p> 	2+2+2
	b)	<p>Using Norton theorem find out i_x in the following circuit.</p> 	4
3.		<p>Consider the following circuit:</p> 	
	a)	Find the total impedance (Z_T).	4
	b)	Determine the average power delivered to the circuit.	1
	c)	Find the power factor and mention if it is lagging or leading.	1
	d)	Draw the phasor diagram for E , I , I_R , I_L and I_C .	4

4.	Consider the following circuit:	
		
	a) Calculate total admittance (Y_T).	3
	b) Draw the impedance diagram.	1
	c) Calculate V_1 and V_2	2
	d) Plot the waveforms for e , v_1 and v_2	4
5.	<p>a) What will be the analytical expressions for the following v and i curves? Find instantaneous value of voltage and current at $t = 3.5\text{sec}$. What is the phase relation between the two curves? [Given, frequency, $f = 150\text{Hz}$]</p> 	2+2+1
	b) Calculate I_{avg} and I_{rms} for the following curve.	2+3

