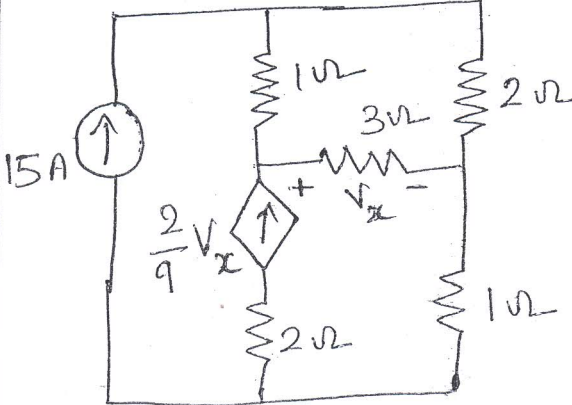
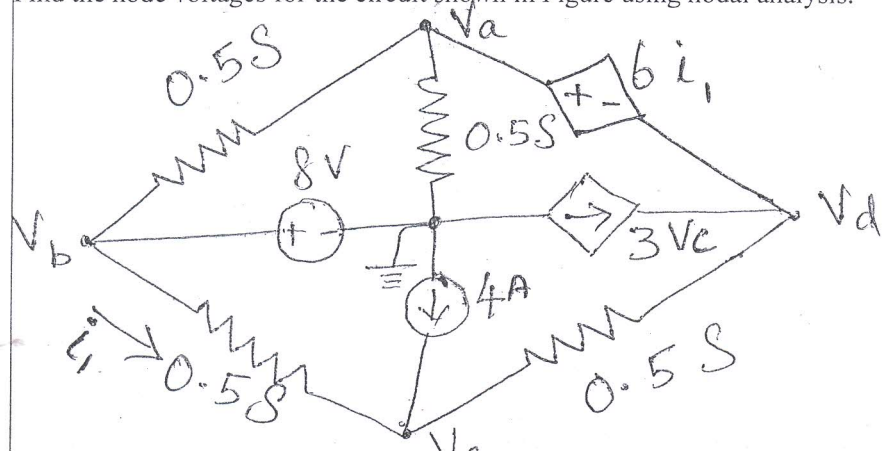
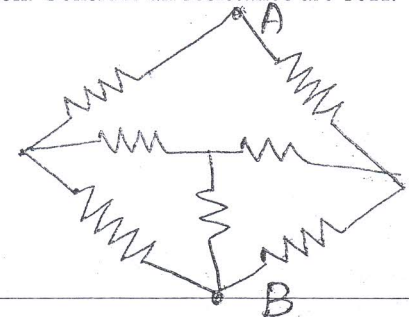
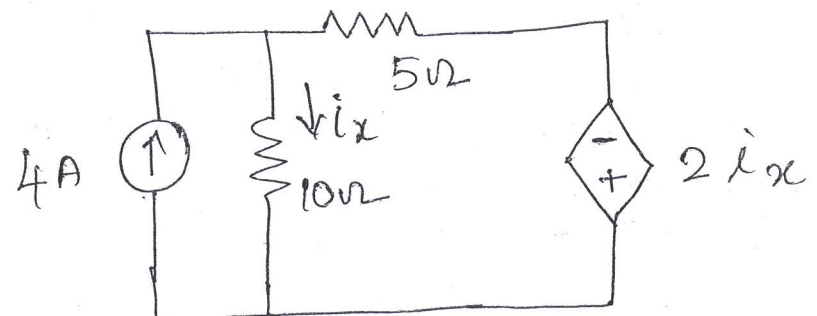
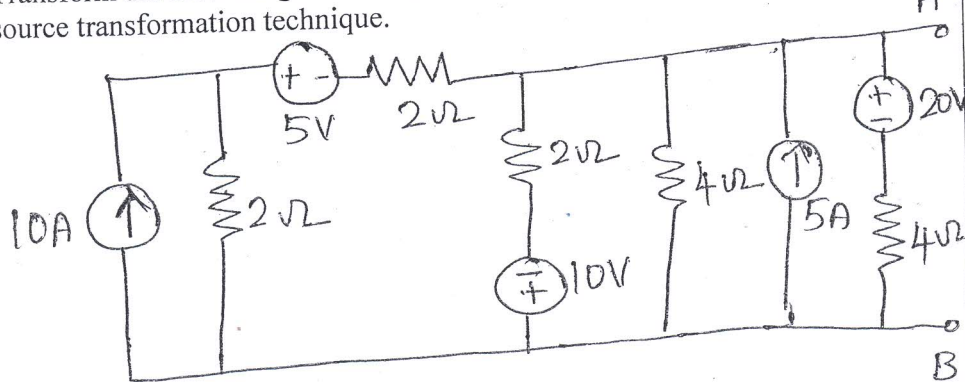
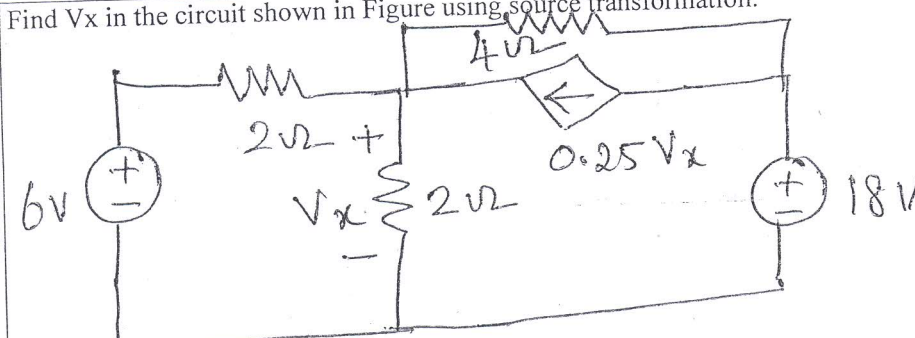
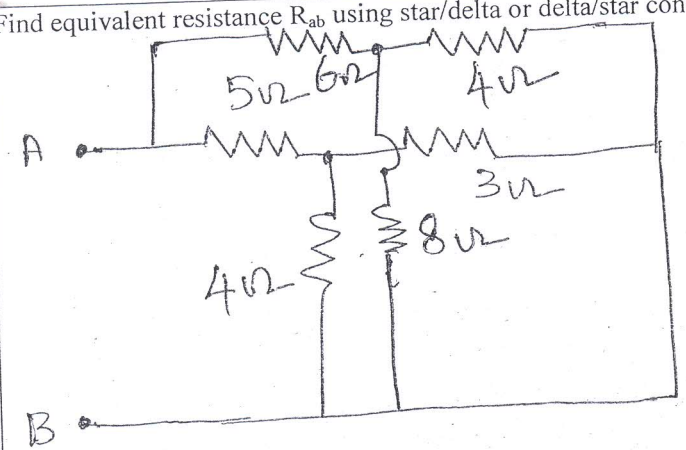


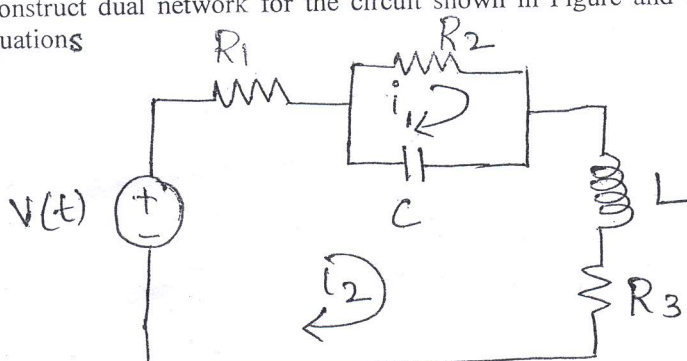
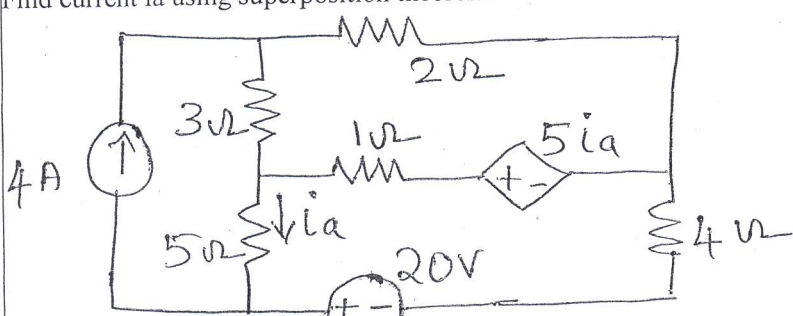
Internal Assessment Test - I

Sub:	Electric Circuit Analysis	Code:	18EE32
Date:	06/09/2019	Duration:	90 mins
		Max Marks:	50
		Sem:	3 - B
		Branch:	EEE

Answer Any FIVE FULL Questions

		Marks	OBE	
			CO	RBT
1a	Distinguish between (i) ideal and practical sources, (ii) active and passive elements.	[2]	CO1	L2
1b	Determine three unknown currents using Mesh Analysis.	[8]	CO1	L4
				
2	Find the node voltages for the circuit shown in Figure using nodal analysis.	[10]	CO1	L3
				
3a	Determine the equivalent resistance across the terminals ab using star-delta transformation. Consider all resistance are 10Ω.	[6]	CO2	L4
				

3b	<p>Using source transformation, determine the current <math>i_x</math>.</p> 	[4]	CO2	L4
4a	<p>Transform the network given in Figure into a single voltage source using source transformation technique.</p> 	[5]	CO2	L2
4b	<p>Find <math>V_x</math> in the circuit shown in Figure using source transformation.</p> 	[5]	CO2	L3
5.	<p>Find equivalent resistance <math>R_{ab}</math> using star/delta or delta/star conversion.</p> 	[10]	CO2	L3

6.	Construct dual network for the circuit shown in Figure and write the equilibrium equations 	[10]	CO2	L3
7.	Find current $i_a$ using superposition theorem. 	[10]	CO3	L3

Course Outcomes		Module	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03
C01	Understand the basic concepts, basic laws and methods of analysis of DC and AC networks.	1	3	2		1									2		1
C02	Reduce the complexity of network using source shifting, source transformation and network reduction using transformations.	1	3	2		1									2		1
C03	Solve complex electric circuits using network theorems.	2	2	3		1									2		1
C04	Discuss resonance in series and parallel circuits and transient analysis.	3	2	3		1									2		1
C05	Discuss the importance of initial conditions and their evaluation and synthesize typical waveforms using Laplace Transformation.	4	3	2		1									2		1
C06	Solve Unbalanced three phase systems and Evaluate the performance of two port networks	5	2	2		1	1								2		1

PO1 - Engineering knowledge; PO2 - Problem analysis; PO3 - Design/development of solutions;  
 PO4 - Conduct investigations of complex problems; PO5 - Modern tool usage; PO6 - The Engineer and society; PO7 - Environment and sustainability; PO8 - Ethics; PO9 - Individual and team work;  
 PO10 - Communication; PO11 - Project management and finance; PO12 - Life-long

Whit  
3/9/19.

P. J.  
3/9/19.

(RE)

(CCS)