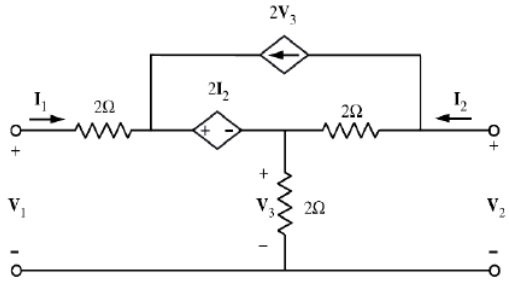
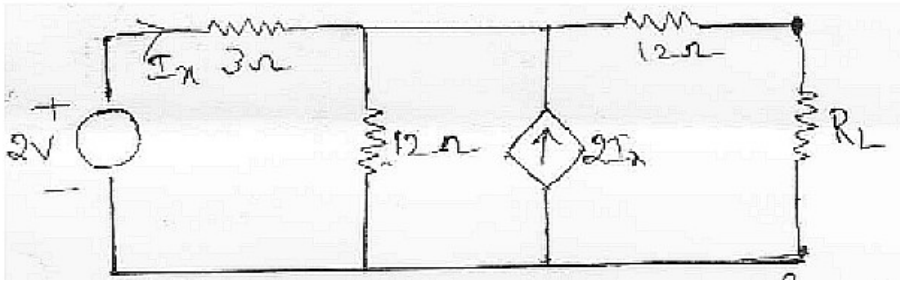
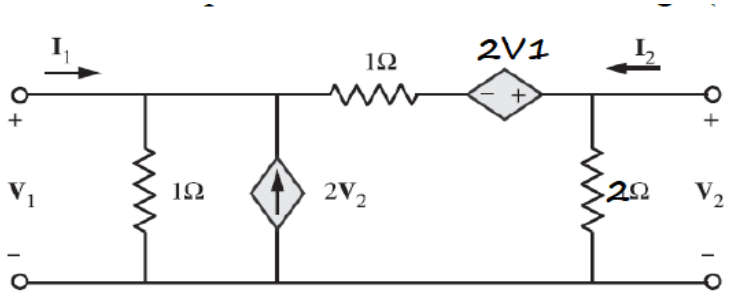
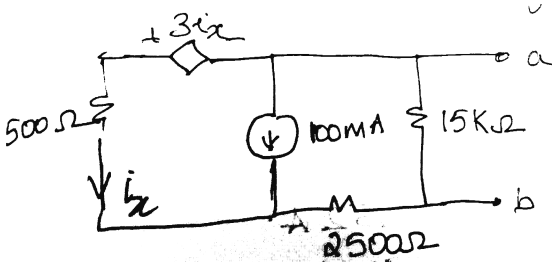
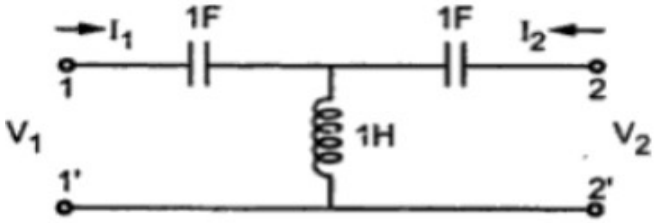
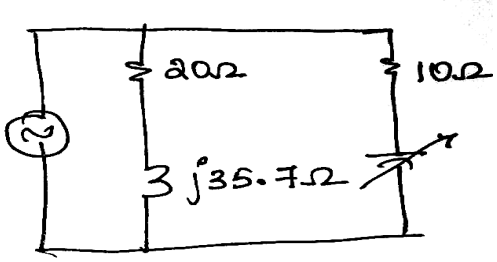
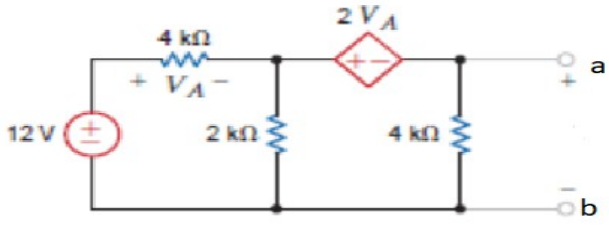
Vivekananda College of Engineering & Technology,Puttur [A Unit of Vivekananda Vidyavardhaka Sangha Puttur ®] Affiliated to VTU, Belagavi & Approved by AICTE New Delhi			
CRM08	Rev 1.9	EC	01/12/20

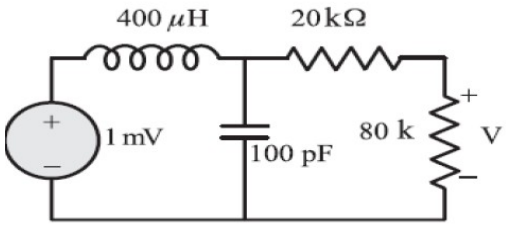
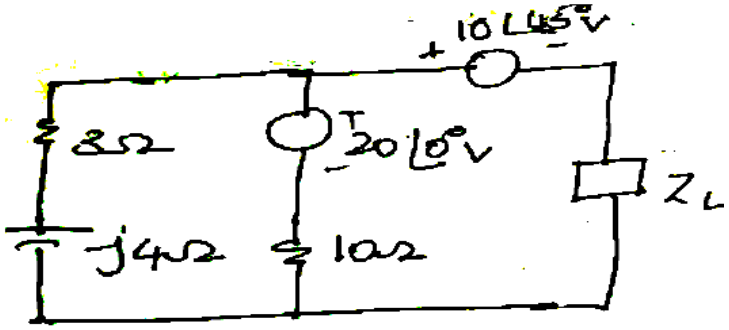
CONTINOUS INTERNAL EVALUATION – 2

Dept:EC	Sem / Div:3 A&B	Sub: Network Theory	S Code:18EC32
Date:1/12/20	Time: 2:30-4:00PM	Max Marks: 50	Elective: N

Note: Answer any 2 full questions, choosing one full question from each part.

QN		Questions	Marks	RBT	CO's
		PART A			
1	a	Find the Z parameters and h parameters for the circuit shown in fig 1(a)  fig 1(a)	9	L3	CO4
	b	Derive the expression for bandwidth of a series resonant circuit.	8	L2	CO4
	c	Find the value of RL for maximum power transfer and value of maximum power that is transferred to the load in the circuit 1.c  Fig 1.c	8	L3	CO2
		OR			
2	a	Find the y parameters and z parameters for the circuit in fig 2(a).  fig 2(a)	10	L3	CO4
	b	A series circuit with R= 10Ω, L=0.3H and C= 100μF is connected across a 230V ac variable frequency supply. Find the i) resonant frequency, ii) half power frequencies, iii) bandwidth, iv) Quality factor, v) Current at	6	L2	CO4

		resonance, vi) Current at half power frequencies and voltage across inductance at resonance			
	c	Find the value of Rl to be connected across a-b for maximum power transfer  Fig 2.c	9	L2	CO2
		PART B			
3	a	Determine the y parameters for the network in fig 3(a)  fig 3.a	10	L3	CO4
	b	For the circuit shown find the value of C for the circuit to resonate when the input supplied to the circuit is 125V at 50Hz.  Fig 3.b	5	L2	CO4
	c	Find the value of R_L to be connected across a-b for maximum power transfer  Fig 3.c	10	L3	CO2
		OR			
4	a	Define ABCD parameters and express ABCD parameters in terms of Z and h parameters	10	L2	CO4
	b	For the circuit shown in fig 4.b find ωr, Q, BW, half power frequencies and output voltage V at ωr.	10	L4	CO4

		 Fig 4. b			
	c	Find the value of ZL for which maximum power is transferred to the circuit.  Fig 4.c	5	L3	CO2