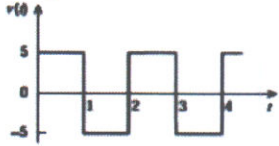
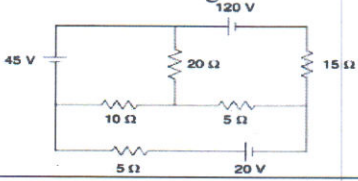
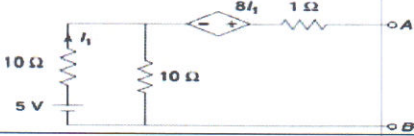
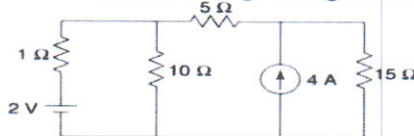
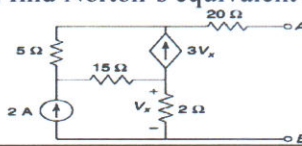
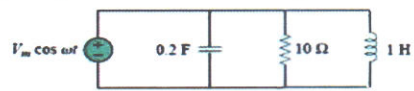
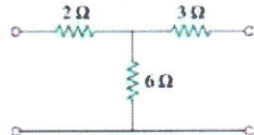
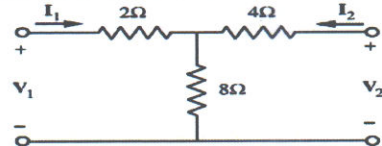
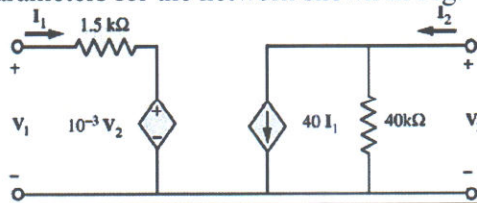


## Note:

- i. Question No. 1 shall contain 10 compulsory short answer questions (2 questions from each unit) for a total of 20 marks such that each question carries 2 marks.
- ii. In each of the questions from 2 to the last question, there shall be either/or type questions of 10 marks each.

Q. No.	Questions	BTL	CO	Marks
1.	a) What is principal of duality	K2	CO1	2M
	b) Give an example for star delta conversion	K2	CO1	2M
	c) State Superposition theorem?	K1	CO2	2M
	d) Define milliman's theorem.	K1	CO2	2M
	e) Draw a RC circuit with DC excitation	K2	CO3	2M
	f) Give the definition for time constants	K1	CO3	2M
	g) Define Q in resonance	K1	CO4	2M
	h) Explain self inductance	K2	CO4	2M
	i) Rewrite the Z parameters in terms of h parameters.	K2	CO5	2M
	j) Express Y parameters in terms of h parameters.	K2	CO5	2M
UNIT-I				
2.	a) Compare phasor relationships for R, L and C circuit components.	K2	CO1	5M
	b) Calculate the RMS value of the voltage waveform shown below.	K2	CO1	5M
				
OR				
3.	a) Analyze a series RLC excited by sinusoidal voltage to obtain the phase relation between applied voltage and current.	K3	CO1	5M
	b) Explain about Nodal analysis and write the steps for applying nodal analysis	K2	CO1	5M
UNIT-II				
4.	a) Find the current through the 20 $\Omega$ resistor in Fig	K3	CO2	5M
				
	b) Obtain the Thevenin's equivalent network for the given network between terminal A and B	K3	CO2	5M
				
OR				
5.	a) Find the current through the 10 $\Omega$ resistor in Fig. Using Norton's theorem.	K3	CO2	5M
				

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	b)	For the network shown in Fig., find Norton's equivalent network			
			K3	CO2	5M
<b>UNIT-III</b>					
6.	a)	What are initial conditions? Explain the initial conditions for Resistor, capacitor and inductor	K2	CO3	5M
	b)	Given an RC circuit with a known resistance ( R ) and capacitance ( C ), derive the expression for the voltage across the capacitor when the circuit is subject to a step input voltage.	K3	CO3	5M
<b>OR</b>					
7.	a)	Sketch the voltage response curve and indicate the time constant on the graph for step input voltage	K3	CO3	5M
	b)	What is a step response? Give an example	K2	CO3	5M
<b>UNIT-IV</b>					
8.	a)	Explain about parallel resonance with an example	K3	CO4	5M
	b)	Calculate the resonant frequency of the circuit in Figure below.			
			K3	CO4	5M
<b>OR</b>					
9.	a)	Compare series resonance and parallel resonance.	K3	CO4	5M
	b)	Obtain the expression for resonant frequency, bandwidth and Q-factor for series R-L-C circuit	K3	CO4	5M
<b>UNIT-V</b>					
10.	a)	Express h parameters in terms of ABCD parameters.	K3	CO5	5M
	b)	Find the ABCD parameters for the following circuit.			
			K3	CO5	5M
<b>OR</b>					
11.	a)	Find the hybrid parameters for the two-port network shown in Fig.			
			K3	CO5	5M
	b)	Find the transmission parameters for the network shown in Fig.			
			K3	CO5	5M