Q.P. Code: 18EE0202 **R18**

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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech II Year I Semester Regular Examinations Nov/Dec 2019

ELECTRICAL CIRCUITS-II

(EEE)

Time: 3 hours Max. Marks: 60

PART-A

(Answer all the Questions **5 x 2 = 10** Marks)

1	**a**	Summarize the advantages of three-phase system.	**2M**
	b	Compare steady state and transient state.	**2M**
	c	What is graph of a network? Give different types of graphs.	**2M**
	d	Sketch two-port network and label its parameters.	**2M**
	e	State initial value theorem.	**2M**

PART-B

(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

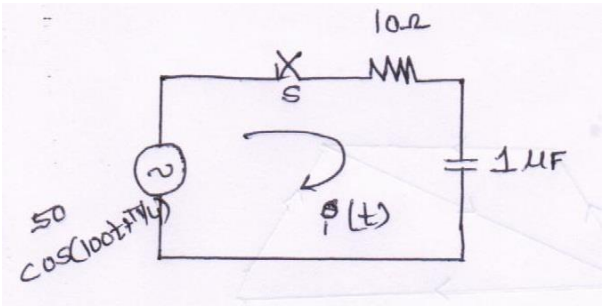
2	**a**	Derive the relationship between Phase & Line voltages, currents in delta-connected load.	**5M**
	b	Explain two-watt meter method for power measurement in three phase circuits.	**5M**

OR

3	**a**	A balanced star connected load of (4+ j3) Ω per phase is connected to a balanced 3Φ, 400v supply. Find a) active power b) reactive power c) Apparent power.	**5M**
	b	Explain reactive power measurement in balanced three phase load using single Wattmeter.	**5M**

UNIT-II

4		In the circuit shown in below figure Determine the complete solution for the current when switch is closed at t= 0, applied voltage is $V(t)=50\cos(10^2t+\pi/4)$, resistance R=10Ω and capacitance C =1μF.	**10M**

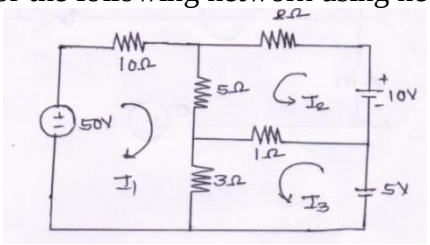


OR

5		Derive the transient response of an RLC circuit with DC excitation.	**10M**

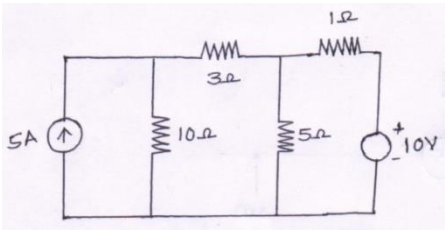
UNIT-III

6 Determine mesh currents for the following network using network topology. **10M**



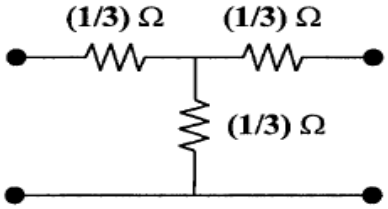
OR

7 Determine current in 10Ω resistor for the following network by using network topology. **10M**



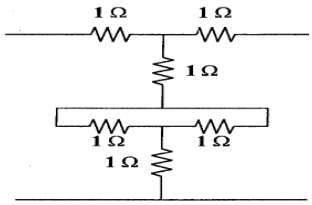
UNIT-IV

8 Determine Y parameters of the following network. **10M**



OR

9 Determine the Z parameters of the following two-port network. **10M**



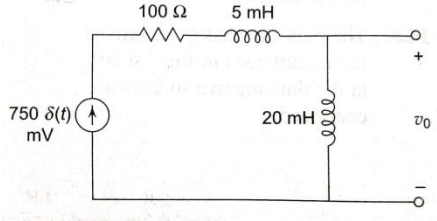
UNIT-V

10 **a** Find the inverse Laplace transform of F(S) = $\frac{1}{(S+2)^2}$ **5M**

OR

11 **a** Find the signal y(t), the Laplace transform of signal which is Y(S) = $\frac{S^3+7S^2+18S+20}{S^2+5X+6}$ **5M**

b There is no energy stored in the circuit shown in at the time the impulse voltage is applied. Find v_o (t) for t ≥ 0. **5M**



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