

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZIANAGARAM

II B. Tech I Semester Supplementary Examinations, November – 2024

Electrical Circuit Analysis-II

(EEE)

Time: 3 hours

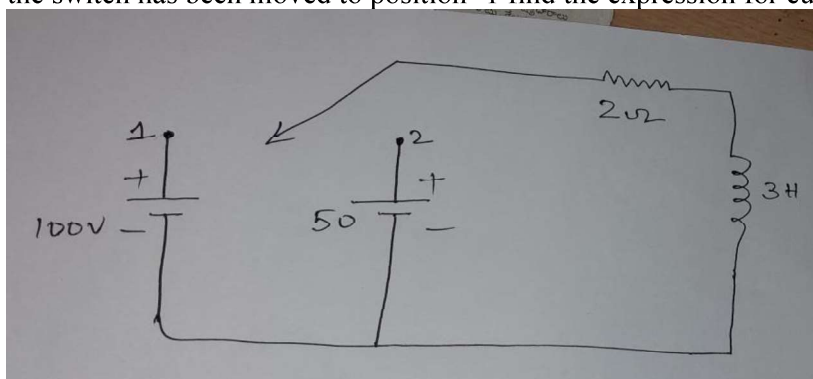
Max. Marks: 70

*Answer any FIVE Questions**ONE Question from Each unit**All Questions Carry Equal Marks*

- 1
 - a) Derive the relation between line voltage and phase voltage in Y-connection [7]
 - b) A balanced star connected load of $(4+j3) \Omega$ per phase is connected to a balanced 3-phase 400V supply. The phase current is 12A. Find total active power (ii) reactive power and (iii) total apparent power [7]

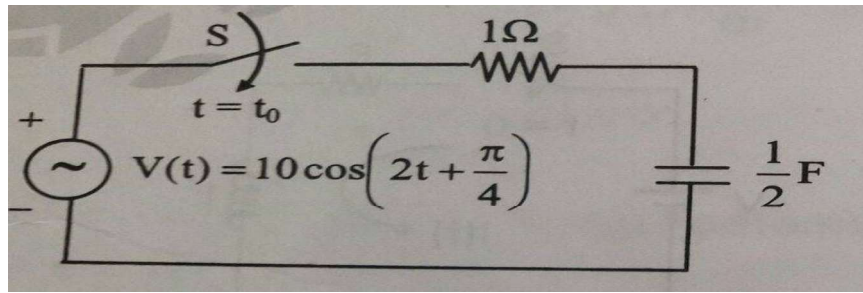
(OR)
- 2
 - a) The two-wattmeter method is used to measure power in a three-phase load. The wattmeter readings are 400W and -35W. Calculate (i) total active power (ii) power factor and (iii) Reactive power [7]
 - b) Explain briefly about two-wattmeter method for the measurement of three phase power. [7]
- 3
 - a) Derive the time constant of series RL circuit when it is excited by DC source [7]
 - b) Derive the time constant of series RC circuit when it is excited by DC source []

(OR)
- 4
 - a) What are initial conditions why do we need them [7]
 - b) For the Circuit Shown below initially the switch is at position-2 Suddenly at $t=0$ the switch has been moved to position -1 find the expression for current at $t>0$ [7]



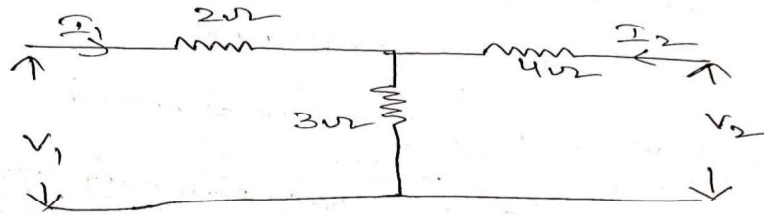
- 5
 - a) Derive the time constant of series RL circuit when it is excited by AC source [7]
 - b) Derive the time constant of series RC circuit when it is excited by AC source [8]

(OR)
- 6
 - a) For the network shown in the figure determine the value of t_0 which results in a transient free response [7]



- b) Determine the transient response of series RLC circuit using Laplace transform [8]

- 7 a) [7]

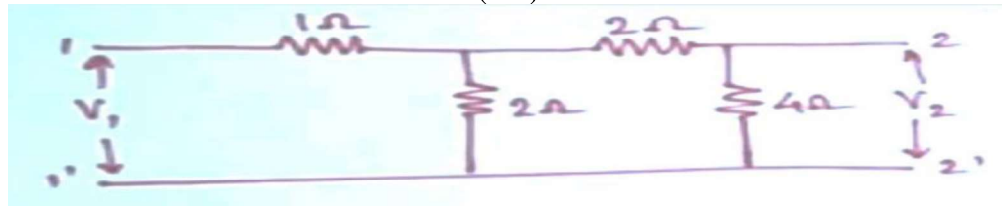


Find Z & Y Parameters for the above network

- b) Convert Z parameters in terms of h-parameters and Y-parameters in terms of ABCD-parameters [8]

(OR)

- 8 a) [7]



Find Z & Y Parameters for the above network

- b) Convert Z parameters in terms of Y-parameters and Y-parameters in terms of Z-parameters [8]

- 9 a) Explain briefly about Low pass filter [7]

- b) Explain briefly about High pass filter [8]

(OR)

- 10 a) Briefly explain about m-derived filter [7]

- b) Explain briefly about band stop or band elimination filter in detail [8]
