MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

MLRS

II B.Tech I Sem Supplementary Examination, February-2022
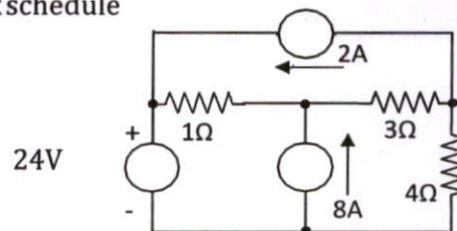## Network Analysis and Transmission Lines
(ECE)

Time: 3 Hours.   Max. Marks: 70

Note: 1. Answer any FIVE questions.
      2. Each question carries 14 marks and may have a, b as sub questions.

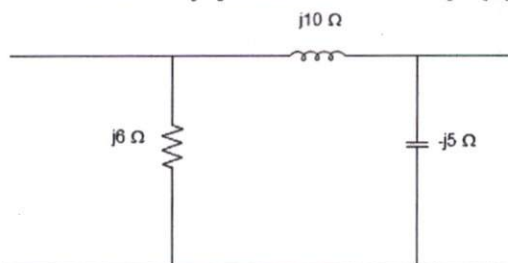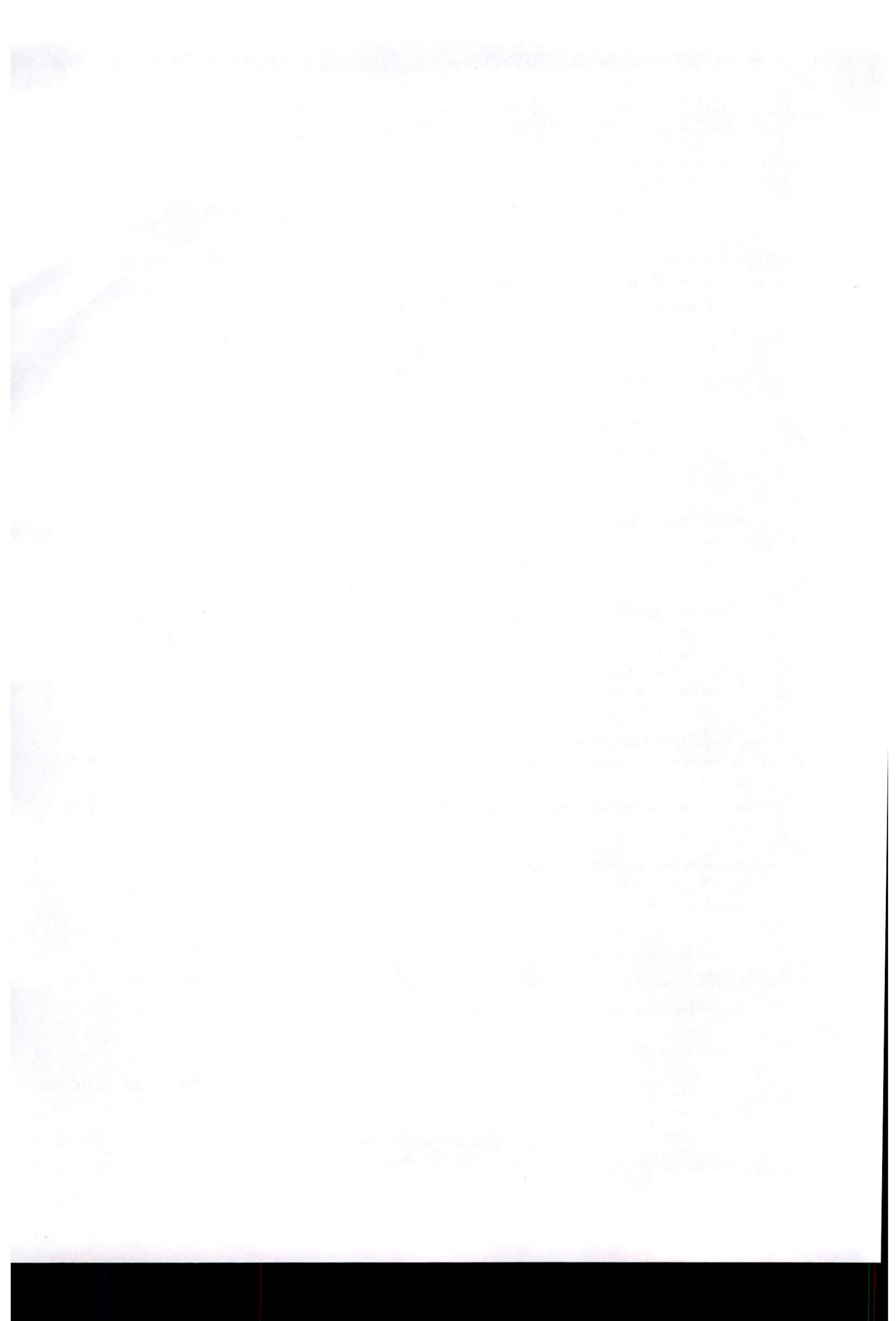|					
1	a)	Design and solve the **tie test** matrix schedule	7M	CO1	BL6
	b)	Two identical coils with L=0.02H have a coefficient of coupling of 0.8. Determine the mutual inductance and the two equivalent inductances with the two coils connected in series aiding and series opposing	7M	CO1	BL5
2		Define and explain the following with an example: a) Oriented Graph b) Tree of a Graph c) Tie set and a basic Tie set d) Cut set and a basic Cut set.	14M	CO1	BL1
3	a)	A Series Resonant Circuit has a B.W of 100Hz & it contains a 20mh inductance ,20uf capacitance. Using the above Data Determine the fo,Q,Zin(at resonance) ?	7M	CO2	BL5
	b)	Derive and design the response of a series RLC circuit for step input.	7M	CO2	BL5
4		Illustrate the expression for total impedance of the circuit having (i) R-L parameters (ii) R-C parameters (iii) R-L-C parameters. with neat sketches of diagrams	14M	CO2	BL3
5	a)	Evaluate the relationship between Z parameters and Y parameters	7M	CO3	BL5
	b)	Determine the y-parameters of the pi (π) network shown in Figure	7M	CO3	BL5

6		Explain clearly the terms: a) Characteristic Impedance and b) Image Transfer Constant	14M	CO3	BL2
7	a)	Explain about waveform distortion and distortion less line condition?	7M	CO4	BL2
	b)	Evaluate the equation of attenuation constant and phase constant of TL in terms of R,L, C, G?	7M	CO4	BL5
8		Explain the single stub matching ,mention its types. Determine the expressions for length and location of stub to achieve impedance matching	14M	CO5	BL5

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