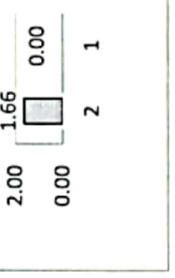


COURSE TITLE	Network Analysis and Transmission Lines		COURSE CODE	A1409
ACADEMIC YEAR	2023-24		SECTION	A
NAME & DESIGNATION	M. Bhavana (Assistant Professor)		SECTION	B
DEPARTMENT	ECE		REGULATION	R22
BATCH	2022-26		YEAR & SEMESTER	II - I
ACADEMIC YEAR	2023-24			
CODE	COURSE OUTCOMES			
C202.1	Gains the knowledge on basic network elements			
C202.2	Learns and analyze the RLC circuits behavior in detail			
C202.3	Learns and gain the knowledge in characteristics of two port network parameters (Z, Y, ABCD, h & g)			
C202.4	Learns the concept of attenuators and impedance matching			
C202.5	Gains the knowledge on different type of transmission lines and their characteristics			
C202.6	Learns smith chart and its applications			

COURSE TITLE	LECTURE	TUTORIAL	PRACTICE	HOURS	CREDITS	CO1-T	CO2-T	CO3-T	CO4-T	CO5-T	CO6-T	CO1-A	CO2-A	CO3-A	CO4-A	CO5-A	CO6-A
Network Analysis and	3	0	0	69	3	2.6	2.6	2.6	2.6	2.6	2.6	2.49	2.49	2.47	2.45	2.48	2.49

CO PO MAPPING	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C202.1	X	X	X	X	-	-	-	-	-	-	-	-	X	-
C202.2	X	X	X	X	X	-	-	-	-	-	-	-	-	-
C202.3	X	X	X	X	-	-	-	-	-	-	-	-	-	-
C202.4	X	X	X	X	X	-	-	-	-	-	-	-	X	-
C202.5	X	X	X	X	-	-	-	-	-	-	-	-	-	-
C202.6	X	X	X	X	X	-	-	-	-	-	-	-	X	X
C215_CO PO MAP	X	X	X	X	X	-	-	-	-	-	-	-	X	X

C_PO ATTAINMENT	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	CO_ATT
C202.1	3	3	2	3	-	-	-	-	-	-	-	-	2	-	2.49
C202.2	3	3	2	3	1	-	-	-	-	-	-	-	-	-	2.49
C202.3	3	3	2	3	-	-	-	-	-	-	-	-	-	-	2.47
C202.4	3	3	2	3	1	-	-	-	-	-	-	-	1	-	2.45
C202.5	3	3	2	3	2	-	-	-	-	-	-	-	-	-	2.48
C202.6	3	3	2	3	2	-	-	-	-	-	-	-	3	1	2.49
C215_PO MAP (L)	3	3	2	3	2	0	0	0	0	0	0	0	2	1	2.48
C215_PO ATTAINMENT	2.48	2.48	1.65	2.48	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66	0.00	




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Verified
Purush

PRE REQUISITES	GAPS IF ANY	ACTION TAKEN	DATE	RESOURCE PERSON	%ST ATTENDED	RELEVANCE TO Pos	RELEVANCE TO PSOs
BEE							

	CO1	CO2	CO3	CO4	CO5	CO6
Domain lead Feedback	2	2	2	2	2	2
Student Feedback	3.00	3.00	3.00	3.00	3.00	3.00
University Results	2	2	2	2	2	2
Average	2.33	2.33	2.33	2.33	2.33	2.33
Enhancement %						
10	2.6	2.6	2.6	2.6	2.6	2.6


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KEY WORDS	CO1			CO2			CO3			CO4			CO5			CO6			
	Basic RLC	Topology	Magnetic Circuit	Initial conditions	Transient state	Resonance	Network Parameters	Image Parameters	Characteristic Impedance	Network Functions	Transformed Variables	Attenuators	Loss Less Line	Distortion and types	Loading and Types	Reflection and VSWR	Impedance matching	Smith Chart	M
PO1	Mathematical Expression/Application	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
	Scientific Knowledge	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
	Engineering Fundamentals And Specialization	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
PO2	Problem Identification & Analysis	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1.00
	Research Literature	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
	Applying Sciences & Engineering Principles	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
PO3	Design Solutions	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1.00
	Design System Components	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1.00
	Processes to meet specified needs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
PO4	Use of Research Based Knowledge & Methods	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
	Design & Analysis Of Data	0	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1.00
	Synthesis of Information	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.00
PO5	Application of Modern Techniques & Resources	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1.00
	Use of Engineering Tools & Techniques	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.33
	Modeling complex engineering activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.33
PO6	Apply reasoning to assess societal issues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Apply reasoning to assess Health & Safety Issues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Apply reasoning to assess Legal & Cultural Issues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
PO7	Demonstration Of Knowledge towards Societal & Environmental Contexts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Impact Of Engg.Solutions towards Societal & Environmental Contexts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Sustainable Development in concern with Societal & Environmental Contexts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
PO8	Ethical Principles in Engineering Practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Professional Ethics & Responsibilities in the Engineering Practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Commit to Norms of Engg. Practice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Individual Efficiency as a member in team	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
	Efficiency as a leader in diverse teams	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00

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CO PO MAPPING	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	CO_A
C202.1	3	3	2	3	0	0	0	0	0	0	0	0	2	0	2.49
C202.2	3	3	2	3	1	0	0	0	0	0	0	0	0	0	2.49
C202.3	3	3	2	3	0	0	0	0	0	0	0	0	0	0	2.47
C202.4	3	3	2	3	1	0	0	0	0	0	0	0	1	0	2.45
C202.5	3	2	1	2	0	0	0	0	0	0	0	0	0	0	2.48
C202.6	3	3	2	3	2	0	0	0	0	0	0	0	3	1	2.49
SUM	18	17	11	17	4	0	0	0	0	0	0	0	6	1	2.48
CO_PO MAP (L)	3	3	2	3	2	0	0	0	0	0	0	0	2	1	
C_PO ATT	2.48	2.48	1.65	2.48	1.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00

SUM RANGE	CO_PO(L)
0	0
1-3	1
4-6	2
7-9	3

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UNIT	CO	L NO:	TOPIC	COURSE OBJECTIVES	COURSE OUTCOMES	KEY NO	KEY WORD
UNIT - 1	CO - 1	UNIT- I - TOPOLOGY AND MAGNETIC CIRCUITS					
		1	Network Topology, Terminology	To Understand the basic concepts on RLC circuits	Gains the knowledge on basic network elements	1	Basic RLC
		2	Basic cutest and tie set matrices for planar networks			2	Topology
		3	Magnetic Circuits, Self and Mutual inductances			3	Magnetic Circuit
		4	Dot convention				
		5	Impedance, reactance concept, Impedance transformation				
		6	Coupled circuits				
		7	Equivalent T for Magnetically coupled circuits				
8	Ideal Transformer						
UNIT - 2	CO - 2	UNIT- II - STEADY AND TRANSIENT ANALYSIS					
		1	Steady state and transient analysis of RC, RL and RLC Circuits	To know the behavior of the steady states and transients states in RLC circuits	Learns and analyze the RLC circuits behavior in detail	1	Initial conditions
		2	Circuits with switches			2	Transient state
		3	Step response, 2nd order series and parallel RLC Circuits			3	Resonance
		4	Root locus				
		5	Damping factor				
		6	Quality factor and bandwidth				
7	Resonance, resonance curves						
UNIT - 3	CO - 3	UNIT- III : TWO PORT NETWORKS , NETWORK FUNCTIONS AND ATTENUATORS					
		1	Two port network parameters	To understand the two port network parameters	Learns and gain the knowledge in characteristics of two port network parameters(Z, Y, ABCD, h & g)	1	Network Parameters
		2	Z, Y, ABCD, parameters			2	Image Parameters
		3	h and g parameters			3	Characteristic impedance
		4	Characteristic impedance, image and iterative impedance				
	5	Image transfer constant					
	CO - 4	NETWORK FUNCTION					
		1	Network function	To understand the concept of attenuators and impedance matching.	Learns the concept of attenuators and impedance matching	1	Network Functions
		2	Transformed (S) variables			2	Transformed Variables
		3	Attenuators			3	Attenuators
4		Poles and Zeros					
UNIT - 4	CO - 5	UNIT-IV: TRANSMISSION LINES-I					
		1	Types of Transmission Lines	To understand different type of transmission lines and their characteristics	Gains the knowledge on different type of transmission lines and their characteristics	1	Loss Less Line
		2	Primary and Secondary Constants			2	Distortion and types
3	Loss Less Transmission Lines		3	Loading and Types			

UNIT - 5	CO - 6	4	Phase and Group Velocity	To understand different type of transmission lines and their characteristics	Learns smith chart and its applications.	1	Reflection and VSWR		
		5	Distortion and Types						
		6	Minimum Attenuation						
		7	Loading and Types						
		8	Infinite Line						
		UNIT-V TRANSMISSION LINES-II							
		1	Input Impedance Relations					2	Impedance matching
		2	OC and SC Lines						
3	Reflection Coefficient								
4	VSWR								
5	Impedance Transformation								
6	Smith chart Configuration								
7	Applications of Smith Chart								
8	Single Stub matching								

35	II-ECE-A	22VE1A0436	NAKKERA SOWMYA	5	5	3.5				5	4.5	5	5	5	4.5	19.5	8	33	5	35	30	B+
36	II-ECE-A	22VE1A0438	NALLAVOLU PUJITHA			4.5	3.5	5	4.5	5	4.5	4.5	5	4.5	3.5	17.5	7	30	5	35	0	F
37	II-ECE-A	22VE1A0439	NAMA RAHUL			2	2.5	5	5	5	2.5	5	5	5	2.5	14.5	7	27	5	35	30	B+
38	II-ECE-A	22VE1A0440	NANDHIKONDA SANDEEP REDDY		0.5	2.5				5	0.5	5	5	2.5	0.5	8.5	5.5	19	5	22	0	F
39	II-ECE-A	22VE1A0442	NUNE NAGA SHREYA	3.5	0	1.5				4.5	3.5	4.5	3.5	3.5	1.5	13	4.5	23	5	28	0	F
40	II-ECE-A	22VE1A0443	O MANIVARDHAN													0		5	5	19	0	F
41	II-ECE-A	22VE1A0444	PALVAI SWETHA	3.5	0	1.5				4.5	3.5	4.5	3.5	3.5	1.5	13	7.5	26	5	31	24	B
42	II-ECE-A	22VE1A0445	PARSHI SAI NITHIN	4	4	3	4.5			2.5	4.5	4	4	4	3	15.5	5	26	5	32	23	B
43	II-ECE-A	22VE1A0446	PATHLAVATH RAHUL	3	3	1.5				5					1.5	12.5	9.5	27	5	28	0	F
44	II-ECE-A	22VE1A0447	PENTI GANESH	5	5		5			4.5					4.5	19.5	9	34	5	35	40	A
45	II-ECE-A	22VE1A0448	POSANI DIVYA TEJ	5	3					5					3	13	3.5	22	5	29	0	F
46	II-ECE-A	22VE1A0449	RACHKONDA YASHASVI	5	5	4.5				5	3.5	5	5	5	4.5	19.5	9	34	5	38	47	A+
47	II-ECE-A	22VE1A0450	RAMAGIRI VASISTHA	5	5	1				5					5	16	7.5	29	5	31	0	F
48	II-ECE-A	22VE1A0451	SAMALA SRI SSANVI	5	5	5	2.5	5		5	5	5	5	5	5	20	10	35	5	40	45	A+
49	II-ECE-A	22VE1A0452	SANAPALA SESHIA PREETHIKA	0	0	0.5	0.5	3.5	1.5	3.5	1.5	3.5	1.5	1.5	0.5	5.5	4	15	5	20	0	F
50	II-ECE-A	22VE1A0453	SHAGANTI VAMSHI KUMAR	3	3	1				5					3	12	6.5	24	5	26	0	F
51	II-ECE-A	22VE1A0454	SHAIK ABRAR ALI	1.5		3.5	4			2.5	4	3.5	2.5	1.5	11.5	9.5	26	5	31	34	B+	
52	II-ECE-A	22VE1A0455	SHAIK ALISHA	5	5	5				5					5	20	9	34	5	33	37	A
53	II-ECE-A	22VE1A0456	SILVERIAKSHARA	5	5	4.5	2.5	5	5	5	5	5	5	5	5	20	9.5	35	5	40	35	A
54	II-ECE-A	22VE1A0457	SUMAN BISWAS	2		1.5				4	4	2	1.5		7.5	6.5	19	5	23	0	F	
55	II-ECE-A	22VE1A0458	SUNCHU JYOSHNA		5		1.5	4.5							5	11	9	25	5	30	25	B
56	II-ECE-A	22VE1A0459	SURABHI RONDE	5	5		4	5	5	5	5	5	5	5	5	20	10	35	5	40	45	A+
57	II-ECE-A	22VE1A0460	T L V VAISHNAV	5	5	4.5	4.5			5	5	5	5	5	4.5	19	5	29	5	35	40	A
58	II-ECE-A	22VE1A0461	TELOGU RENUKA	5		5				5	5	5	5	5	3.5	18.5	10	34	5	35	20	B
59	II-ECE-A	22VE1A0463	VAISHNAVI THAKUR	5	5	5	3.5	4.5	5	5	5	5	5	5	5	20	10	35	5	40	35	A
60	II-ECE-A	22VE1A0464	VANNADA NAVIEN GOUD	5	5	5				5					5	20	9	34	5	33	27	B+
61	II-ECE-A	22VE1A0465	VEMULA VAISHNAVI	5	4.5	5	2.5	3		5	5	5	5	5	4.5	17.5	9	32	5	38	27	B+
62	II-ECE-A	23VESAD001	CHENCHALA BHARGAVA NARASIMHULU	4	4.5	5				5	2.5	5	5	5	4	18.5	9	33	5	38	27	B+
63	II-ECE-A	23VESAD002	KANDURI SRUJAN		4.5	1.5	2.5	3	3.5	4.5	3.5	3.5	3.5	3	2.5	13.5	6.5	25	5	28	27	B
64	II-ECE-A	23VESAD003	KETHAVATH SURESH		3	4.5	5	3	0.5	5	4.5	3	3	3	3	15.5	4	25	5	26	29	B
65	II-ECE-A	23VESAD004	MAILABAM SHRAVYA	5	5	4.5	5			5	5	5	5	5	4.5	19.5	8.5	33	5	38	0	F
66	II-ECE-A	23VESAD005	MANCHALA TRISHIKA	4	5	4				5					4	18	9	32	5	37	28	B+
67	II-ECE-A	23VESAD006	NEERUTI CHANDANA			2.5	2.5			2.5	2.5	2.5	2.5	2.5		7.5	9.5	22	5	29	36	B+
68	II-ECE-A	23VESAD007	THOTA RAKESH	1.5	3	4.5				4.5	3	3	3	3	1.5	12	7.5	25	5	32	0	F
1	II-ECE-B	22VE1A0466	A V I VAISHNAVI	4.5	4.5	4	3			4.5	4.5	4	4	4	3	16	9.5	31	5	35	49	A+
2	II-ECE-B	22VE1A0467	ADDELA SHIVA SRI	2	3	2.5				0.5	2	3	2.5	2	2	9.5	9	24	5	30	55	A+
3	II-ECE-B	22VE1A0468	ALOK PASWAN		3.5	2.5	0	3.5		3.5	3.5	3.5	3.5	2.5	0	9.5	7	22	5	28	37	B+
F-B		22VE1A0469	ANDE GUHA SEKHAR	2.5	3	1				3.5	2.5	3.5	3	2.5	2.5	11.5	7.5	24	5	25	50	A
F-B		22VE1A0470	APPULA ALEKHYA	4.5	4.5		4	2	3	4.5	4.5	4	4	4	3	16	9	30	5	34	31	B+
F-B		22VE1A0471	BANAPURAM VIJAY	4.5	4	5				5	4.5	4	4	4		13.5	9.5	28	5	32	43	A

	Q1	Q2	Q3	Q4	Q5	Q6	20M	10M	5M	35M	5M	40M				
MID 1-INTERNAL THRESHOLD	50	2.5	2.5	2.5	2.5	2.5	10	5	2.5	17.5	2.5	20				
MID 2-INTERNAL THRESHOLD	50	2.5	2.5	2.5	2.5	2.5	10	5	2.5	17.5	2.5	20				
EXTERNAL THRESHOLD	50	30														
CO ATTAINMENT	DES	OBI	ASN	SEM/PPT	DES	OBI	ASN	SEM/PP T	INT	EXT	DIRECT	INDIRECT	CO_ATT	INT %	40	TARGET
CO1	81.7	93.5	100.0	100.0	3	3	3	3	3.00	2	2.40	2.83	2.49	EXT %	60	2.6
CO2	74.0	93.5	100.0	100.0	3	3	3	3	3.00	2	2.40	2.83	2.49			2.6
CO3	70.4	93.5	100.0	100.0	3	3	3	3	3.00	2	2.40	2.77	2.47	DIRECT %	80	2.6
CO4	80.6	96.4	100.0	100.0	3	3	3	3	3.00	2	2.40	2.64	2.45	INDIRECT %	20	2.6
CO5	71.9	96.4	100.0	100.0	3	3	3	3	3.00	2	2.40	2.78	2.48			2.6
CO6	84.8	96.4	100.0	100.0	3	3	3	3	3.00	2	2.40	2.86	2.49			2.6
COURSE OVERALL CO ATTAINMENT (AVERAGE)													2.48			2.6

% RANGE	LOWER LIM	LEVEL
<50%	-	0
50%-60%	50	1
60%-70%	60	2
>70%	70	3

S.No	Hall Ticket No.	CO1	CO2	CO3	CO4	CO5	CO6
1	22VE1A0401	3	3	3	3	3	3
2	22VE1A0402	3	3	3	3	3	3
3	22VE1A0403	3	3	3	3	3	3
4	22VE1A0404	3	3	3	3	3	3
5	22VE1A0405	2	3	2	3	3	3
6	22VE1A0406	2	3	2	3	3	2
7	22VE1A0407	2	3	2	3	3	1
8	22VE1A0408	2	3	2	3	3	3
9	22VE1A0409	3	3	2	3	3	3
10	22VE1A0410	3	3	3	3	3	3
11	22VE1A0411	3	3	3	3	3	3
12	22VE1A0412	3	3	3	3	3	3
13	22VE1A0413	3	3	3	3	3	3
14	22VE1A0414	3	3	3	2	3	3
15	22VE1A0415	3	3	3	1	3	3
16	22VE1A0417	2	3	3	1	3	3
17	22VE1A0418	2	3	3	1	3	3
18	22VE1A0419	2	3	3	2	3	3
19	22VE1A0420	3	3	3	3	3	3
20	22VE1A0421	3	3	3	2	3	3
21	22VE1A0422	3	3	3	2	3	3
22	22VE1A0423	3	3	3	2	3	3
23	22VE1A0424	3	3	3	2	3	3
24	22VE1A0425	3	3	3	2	3	2
25	22VE1A0426	3	3	3	3	2	1
26	22VE1A0427	3	3	3	3	2	3
27	22VE1A0428	3	3	3	3	2	3
28	22VE1A0429	3	3	3	3	3	3
29	22VE1A0430	3	3	3	3	3	3
30	22VE1A0431	3	3	3	3	3	3
31	22VE1A0432	3	3	3	3	3	3
32	22VE1A0433	3	3	3	3	3	3
33	22VE1A0434	3	3	3	3	3	3
34	22VE1A0435	3	3	3	2	3	3
35	22VE1A0436	3	3	3	2	3	3
36	22VE1A0438	3	3	3	2	3	3
37	22VE1A0439	3	3	3	3	3	3
38	22VE1A0440	3	3	3	3	3	3
39	22VE1A0442	3	3	3	3	3	3
40	22VE1A0443	3	3	3	3	3	3
41	22VE1A0444	3	3	3	1	3	3
42	22VE1A0445	3	1	3	2	3	3
43	22VE1A0446	3	2	3	3	3	3
44	22VE1A0447	3	3	3	1	3	3
45	22VE1A0448	3	1	3	1	3	3
46	22VE1A0449	3	1	3	2	3	3
47	22VE1A0450	3	2	3	3	3	3

48	22VE1A0451	3	3	3	2	3	3
49	22VE1A0452	3	2	3	1	3	3
50	22VE1A0453	3	1	3	3	3	3
51	22VE1A0454	3	3	3	3	2	3
52	22VE1A0455	3	3	3	3	2	3
53	22VE1A0456	3	3	3	3	2	3
54	22VE1A0457	3	3	3	3	3	2
55	22VE1A0458	3	3	2	3	3	2
56	22VE1A0459	3	3	2	3	3	3
57	22VE1A0460	3	3	1	3	3	3
58	22VE1A0461	2	3	2	3	3	2
59	22VE1A0463	2	3	3	3	3	1
60	22VE1A0464	1	3	1	3	3	3
61	22VE1A0465	2	3	3	3	3	3
62	23VE5A0401	3	3	3	3	3	3
63	23VE5A0402	1	3	3	3	3	2
64	23VE5A0403	1	3	3	3	2	1
65	23VE5A0404	2	3	3	3	2	2
66	23VE5A0405	3	3	3	3	2	2
67	23VE5A0406	2	3	3	3	3	3
68	23VE5A0407	1	3	3	3	3	3
1	22VE1A0466	3	3	3	3	3	3
2	22VE1A0467	3	3	3	3	3	3
3	22VE1A0468	3	3	3	3	3	3
4	22VE1A0469	3	3	3	3	3	3
5	22VE1A0470	3	3	3	3	1	3
6	22VE1A0471	3	3	3	3	2	3
7	22VE1A0472	3	3	3	3	3	3
8	22VE1A0473	3	3	3	3	1	3
9	22VE1A0474	3	3	3	3	1	3
10	22VE1A0475	3	3	3	3	2	3
11	22VE1A0476	3	3	3	3	3	3
12	22VE1A0477	3	3	3	3	2	3
13	22VE1A0478	3	3	3	3	1	3
14	22VE1A0479	3	3	3	3	3	3
15	22VE1A0480	3	3	3	3	3	3
16	22VE1A0481	3	3	3	3	3	3
17	22VE1A0482	3	3	2	3	3	3
18	22VE1A0483	3	3	1	3	3	3
19	22VE1A0484	3	3	3	3	3	3
20	22VE1A0485	3	2	3	3	3	3
21	22VE1A0486	3	1	3	3	3	3
22	22VE1A0487	3	3	3	3	3	3
23	22VE1A0488	3	3	2	3	3	3
24	22VE1A0489	3	3	1	3	3	3
25	22VE1A0490	3	3	3	3	3	3
26	22VE1A0491	3	2	3	3	3	3
27	22VE1A0492	3	1	3	3	3	3

28	22VE1A0493	3	3	3	3	3	3
29	22VE1A0494	3	3	3	3	3	3
30	22VE1A0496	3	3	3	3	3	3
31	22VE1A0497	3	3	3	3	3	3
32	22VE1A0498	3	3	3	3	3	3
33	22VE1A0499	3	3	1	3	3	3
34	22VE1A04A0	3	3	2	1	3	2
35	22VE1A04A1	3	3	3	2	3	1
36	22VE1A04A2	3	3	1	3	3	3
37	22VE1A04A3	3	3	1	1	3	3
38	22VE1A04A4	3	2	2	1	3	3
39	22VE1A04A5	3	1	3	2	3	3
40	22VE1A04A6	3	3	2	3	3	3
41	22VE1A04A7	3	3	1	2	3	3
42	22VE1A04A8	3	3	3	1	3	3
43	22VE1A04A9	3	3	3	3	3	3
44	22VE1A04B0	3	3	3	3	3	3
45	22VE1A04B1	3	3	3	3	3	3
46	22VE1A04B2	3	3	3	3	3	3
47	22VE1A04B3	3	3	3	3	3	3
48	22VE1A04B4	3	3	3	3	3	3
49	22VE1A04B5	3	3	3	3	3	3
50	22VE1A04B6	3	3	3	3	3	3
51	22VE1A04B7	3	3	3	1	3	3
52	22VE1A04B8	3	3	2	2	3	3
53	22VE1A04B9	3	3	1	3	3	3
54	22VE1A04C0	3	3	3	1	3	3
55	22VE1A04C1	3	3	3	1	3	3
56	22VE1A04C2	3	2	3	2	3	3
57	22VE1A04C3	3	1	3	3	3	3
58	22VE1A04C4	3	3	3	2	1	3
59	22VE1A04C5	3	3	3	1	2	3
60	22VE1A04C6	3	3	3	3	3	3
61	22VE1A04C7	3	3	3	3	1	3
62	22VE1A04C8	3	3	3	3	1	3
63	22VE1A04C9	3	3	3	3	2	3
64	23VE5A0408	3	3	3	3	3	3
65	23VE5A0409	3	3	3	3	2	3
66	23VE5A0410	3	3	3	3	1	3
67	23VE5A0411	2	3	3	3	3	3
68	23VE5A0412	1	3	3	3	3	3
69	23VE5A0413	3	3	3	3	3	3
70	23VE5A0414	3	3	3	3	3	3
	0	2.83	2.83	2.77	2.64	2.78	2.86

DATE: 21-11-2023	CIE-I Descriptive	Marks	CO	Cognitive Process Dimension
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Answer any four of the following:

1	(a) Find the reduced incidence matrix and fundamental cut-set matrix for the circuit given below. (b) Explain briefly about ideal transformers.	5	1	4,2
2	(a) Define coefficient of coupling. Also derive its expression for two magnetically coupled coils. (b) Find the equivalent inductance of the following circuit.	5	1	4,4
3	Derive the expression for transient response of R-L series circuit for DC excitation.	5	2	4,4
4	(a) Prove that the resonant frequency of series RLC circuit is geometric mean of half power frequencies. (b) In a parallel RLC circuit, find resonant frequency, bandwidth, quality factor and upper half power frequency if $R=100\Omega$, $L=5mH$, $C=10\mu F$ and supply voltage is $230V$.	5	2	4,4
5	(a) Find the Y parameters for the following circuit (b) I-press hybrid parameters in terms of impedance parameters.	5	3	4,2
6	(a) Find the inverse hybrid parameters for the following circuit. (b) The number of turns in two magnetically coupled coils is 250 and 750 respectively. When 2.5 A current flows through coil-1, the total flux in this coil is $0.3mWb$ and the flux linking with the second coil is $0.15mWb$. Determine L ₁ , L ₂ , M and K.	5	3	4,4

DATE: 27-01-2024	CIE-II Descriptive	Marks	CO	Cognitive Process Dimension
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Answer any four of the following:

1	(a) What is a High pass filter? Also derive the expressions for cutoff frequency, attenuation and phase shift of a constant-K high pass filter. (b) Design a prototype HPF has cutoff frequency of 10KHz and design impedance of 600Ω . Also find the attenuation and phase shift at a frequency of 5KHz.	5	5	4,5
2	(a) Derive the necessary equation for a m-derived T-section LFF from a proto type filter. (b) A prototype LFF has cutoff frequency of 5KHz and has a matched impedance of 600Ω . Calculate the values of the filter. Find the attenuation and phase shift at a frequency of 5KHz.	5	5	4,4
3	(a) What is phase velocity and group velocity? Establish the relation between them. (b) The attenuation constant on a 50 ohm distortionless transmission line is 0.01 dB/m. The line has a capacitance of 0.1 nF/m. Find the resistance, inductance and conductance per meter of the line.	5	6	4,4
4	(a) Derive the condition for distortion less line. (b) The values of primary constants of an open-wire line per km are $R=10\Omega$, $L=3.5mH$, $C=0.008\mu F$ and $G=0.7\mu S$. For a signal frequency of 1000 Hz, calculate the characteristic impedance, attenuation constant, phase constant, wavelength and phase velocity.	5	6	4,4
5	(a) Derive the impedance equation of image impedance of a symmetrical-T network. (b) Explain about each driving point functions using Laplace transform.	5	5	4,2
6	(a) What is loading? Explain the different types of loading? (b) Find the driving point impedance and admittance of the given network.	5	4,6	2,4

Bloom's Taxonomy

