LESSON PLAN

SUBJECT: Th-2 (CIRCUIT & NETWORK THEORY)

CHAPTER WISE DISTRIBUTION OF PERIODS

Sl.No.	Name of the chapter as per the Syllabus	No. of Periods as per the Syllabus	No. of periods actually needed
1	Magnetic Circuits	7	7
2	Coupled Circuits	5	7
3	Circuit Elements And Analysis	6	10
4	Network Theorems	8	11
5	Ac Circuit And Resonance	8	10
6	Poly-phase Circuit	6	6
7	Transients	6	6
8	Two-Port Network	8	11
9	Filters	6	7
	Total Period:	60	75

Discipline: ELECTRICAL ENGINEERING	Semester: 3rd	**Name of the Teaching Faculty:** Er. Soumyajit Rout
Week	**Class Day**	**Theory / Practical Topics**
1st	1st	MAGNETIC CIRCUITS 1 . 1 Introduction
	2nd	1 . 2 Magnetizing force, Intensity, MMF, flux and their relations
	3rd	1 . 3 Permeability, reluctance and permeance
	4th	1 . 4 Analogy between electric and Magnetic Circuits 1 . 5 B-H Curve
	5th	1 . 6 Series & parallel magnetic circuit. 1 . 7 Hysteresis loop
2nd	1st	TUTORIAL CLASS
	2nd	COUPLED CIRCUITS: 2 . 1 Self Inductance and Mutual Inductance
	3rd	2 . 2 Conductively coupled circuit and mutual impedance
	4th	2 . 3 Dot convention
	5th	2 . 4 Coefficient of coupling
3rd	1st	2 . 5 Series and parallel connection of coupled inductors.
	2nd	2 . 6 Solve numerical problems
	3rd	TUTORIAL CLASS
	4th	CIRCUIT ELEMENTS AND ANALYSIS: 3 . 1 Active, Passive, Unilateral & bilateral, Linear & Non linear elements

	5th	3 . 2 Mesh Analysis, Mesh Equations by inspection
4th	1st	3 . 3 Super mesh Analysis
	2nd	3 . 4 Nodal Analysis, Nodal Equations by inspection
	3rd	3 . 4 Nodal Analysis, Nodal Equations by inspection
	4th	3 . 5 Super node Analysis
	5th	3 . 6 Source Transformation Technique
5th	1st	3 . 7 Solve numerical problems (With Independent Sources Only)
	2nd	3 . 7 Solve numerical problems (With Independent Sources Only)
	3rd	TUTORIAL CLASS
	4th	NETWORK THEOREMS: 4.1 Star to delta and delta to star transformation
	5th	4.2 Super position Theorem
6th	1st	4.2 Super position Theorem
	2nd	4.3 Thevenin's Theorem
	3rd	4.3 Thevenin's Theorem
	4th	4.4 Norton's Theorem

	5th	4.5 Maximum power Transfer Theorem.
7th	**1**st	4.5 Maximum power Transfer Theorem.
	2nd	4.6 Solve numerical problems (With Independent Sources Only)
	3rd	4.6 Solve numerical problems (With Independent Sources Only)
	4th	TUTORIAL CLASS
	5th	AC CIRCUIT AND RESONANCE: 5.1 A.C. through R-L, R-C & R-L-C Circuit
8th	**1**st	5.2 Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method.
	2nd	5.2 Solution of problems of A.C. through R-L, R-C & R-L-C series Circuit by complex algebra method.
	3rd	5.3 Solution of problems of A.C. through R-L, R-C & R-L-C parallel & Composite Circuits
	4th	5.4 Power factor & power triangle.
	5th	5.5 Deduce expression for active, reactive, apparent power.
9th	**1**st	5.6 Derive the resonant frequency of series resonance and parallel resonance circuit
	2nd	5.7 Define Bandwidth, Selectivity & Q-factor in series circuit.
	3rd	5.8 Solve numerical problems
	4th	TUTORIAL CLASS

	5th	POLYPHASE CIRCUIT 6.1 Concept of poly-phase system and phase sequence
10th	1st	6.2 Relation between phase and line quantities in star & delta connectio
	2nd	6.3 Power equation in 3-phase balanced circuit.
	3rd	6.4 Solve numerical problems
	4th	6.5 Measurement of 3-phase power by two wattmeter method.
	5th	6.6 Solve numerical problems.
11th	1st	TUTORIAL CLASS
	2nd	TRANSIENTS: 7.1 Steady state & transient state response.
	3rd	7.2 Response to R-L, R-C & RLC circuit under DC condition.
	4th	7.2 Response to R-L, R-C & RLC circuit under DC condition.
	5th	7.3 Solve numerical problems
12th	1st	7.3 Solve numerical problems
	2nd	TUTORIAL CLASS
	3rd	TWO-PORT NETWORK: 8.1 Open circuit impedance (z) parameters
	4th	8.2 Short circuit admittance (y) parameters

	5th	8.3 Transmission (ABCD) parameters
13th		8.4 Hybrid (h) parameters.
		8.5 Inter relationships of different parameters.
		8.5 Inter relationships of different parameters.
		8.6 T and π representation
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14th		8.7 Solve numerical problems
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		TUTORIAL CLASS
		FILTERS: 9.1 Define filter 9.2 Classification of pass Band, stop Band and cut-off frequency.
		9.3 Classification of filters. 9.4 Constant – K low pass filter
15th		9.5 Constant – K high pass filter.
		9.6 Constant – K Band pass filter.
		9.7 Constant – K Band elimination filter.
		9.8 Solve Numerical problems

		TUTORIAL CLASS