NILASAILA INSTITUTE OF SCIENCE & TECHNOLOGY
SERGARH-756060, BALASORE (ODISHA)
(Approved by AICTE& affiliated to SCTE&VT, Odisha)

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& ELECTRONICS ENGINEERING	**Semester:** 3rd	**Name of the Teaching Faculty: Er.DHARMAPADA OJHA**
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	**1st**	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	**1st**	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	**1st**	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	**1st**	8.4 Hybrid (h) parameters.
	2nd	8.5 Inter relationships of different parameters.
	3rd	8.5 Inter relationships of different parameters.
	4th	8.6 T and π representation
	5th	8.6 T and π representation
14th	**1st**	8.7 Solve numerical problems
	2nd	8.7 Solve numerical problems
	3rd	TUTORIAL CLASS
	4th	FILTERS: 9.1 Define filter 9.2 Classification of pass Band, stop Band and cut-off frequency.
	5th	9.3 Classification of filters. 9.4 Constant – K low pass filter
15th	**1st**	9.5 Constant – K high pass filter.
	2nd	9.6 Constant – K Band pass filter.
	3rd	9.7 Constant – K Band elimination filter.

	4th	9.8 Solve Numerical problems
	5th	TUTORIAL CLASS