SYNERGY SCHOOL OF ENGINEERING, DHENKANAL

Discipline: Electrical **Semester: 3rd**	**Name of the Faculty: Sunandita Sahoo** **Email ID: lizasunandita@gmail.com**
Subject: ELECTRICAL CIRCUIT No. of Days/week class Allotted: -3	**No. of weeks: -15** **Session 2025-2026 (Winter)** Starting date: 14.07.25 Closing date: 15.11.25

No. of week	No. of class	COURSE TO BE COVERED
1st	1st	**Single Phase A.C Series Circuits** 1.1 Generation of alternating voltage
	2nd	1.2Phasor representation of sinusoidal quantities
	3rd	1.4R-L, R-C, R-L-C combination of A.C series circuit
2nd	1st	1.4.1Impedance, reactance, impedance triangle
	2nd	1.4.2Power factor, active power, reactive power, apparent power
	3rd	1.4.3Power triangle and vector diagram 1.4.4Resonance, Bandwidth
3rd	1st	1.4.3Power triangle and vector diagram
	2nd	1.4.4Resonance, Bandwidth
	3rd	Assignment 1
4th	1st	**Single Phase A.C Parallel Circuits** 2.1R-L, R-C and R-L-C parallel combination of A.C. circuits
	2nd	2.1.2Power factor, active power, apparent power, reactive power, power triangle
	3rd	2.2Resonance in parallel R-L, R-C, R-L-C circuit
5th	1st	2.3Bandwidth, Quality factor and voltage magnification
	2nd	Assignment 2/Monthly Test
	3rd	**Three Phase Circuits** 3.1Phasor and complex representation of three phase supply
6th	1st	3.2Phase sequence and polarity
	2nd	3.3Types of three-phase connections
	3rd	3.4Phase and line quantities in three phase star and delta system
7th	1st	3.5Balanced and unbalanced load
	2nd	3.6Neutral shift in unbalanced load

	3rd	3.7Three phase power, active, reactive and apparent power in star and delta system Solve numerical problems
8th	1st	**Network Reduction and Principles of Circuit Analysis** 4.1Source transformation
	2nd	4.2Star/delta and delta/star transformation
	3rd	4.3Mesh Analysis
9th	1st	4.4Node Analysis
	2nd	Solve numerical problems/Assignment 3
	3rd	**Network Theorems** 5.1Superposition theorem
10th	1st	Solve numerical problems
	2nd	5.2 Thevenin's theorem
	3rd	Solve numerical problems
11th	1st	5.3 Norton's theorem
	2nd	Solve numerical problems
	3rd	5.4 Maximum power transfer theorem
12th	1st	Solve numerical problems
	2nd	5.5 Reciprocity Theorem
	3rd	5.5 Reciprocity Theorem
13th	1st	Solve numerical problems/Assignment 4
	2nd	**Two Port Network** 6.1 Open Circuit Impedance Parameters
	3rd	6.2 Short Circuit Admittance Parameters, Transmission Parameters, Hybrid Parameters
14th	1st	6.3 Interrelationship of Two Port Network
	2nd	6.4 Inter Connection of Two Port Network
	3rd	Doubt clear class
15th	1st	Doubt clear class
	2nd	Doubt clear class
	3rd	Quiz Test

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Sunanglita Sahoo.
10.07.2025
Subject Expert
Synergy School of Engineering
Dhenkanal

10.07.2025
HOD, Electrical
Synergy School of Engineering
DhenkanalDhenkanal

Academic CO-Ordinator
Synergy School of Engineering

HOD
ELECTRICAL ENGG DEPT.
SSE,Dhenkanal

PRINCIPAL
Synergy School of Engineering
Dhenkanal