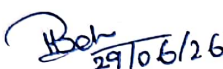
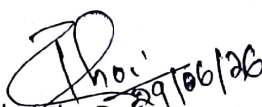


ACADEMIC SESSION : 2026-27

Discipline: Electrical Engineering	Semester: 3 RD	Name of the Teaching Faculty: Tilu Behera
Subject: Electrical Circuits	No. of days / week class allotted	Semester From date: 01/07/2026 to 05/11/2026 Nos. of Weeks per semester : 15
Week	Class Day	Theory/ Practical Topics
1 ST	1 st	Introduction to Electrical Circuits – Importance, Applications
	2 nd	Generation of Alternating Voltage, Frequency, Cycle
	3 rd	Phasor Representation of Sinusoidal Quantities
2 ND	1 st	R, L, C Circuit Elements: Voltage and Current Responses
	2 nd	R-L, R-C, R-L-C Series Circuits
	3 rd	Impedance, Reactance, Impedance Triangle
3 RD	1 st	Power Factor, Active, Reactive, Apparent Power
	2 nd	Power Triangle and Vector Diagram
	3 rd	Resonance in Series Circuits, Bandwidth
4 TH	1 st	Quality Factor, Voltage Magnification in R-L, R-C, R-L-C Circuits
	2 nd	R-L, R-C, R-L-C Parallel Circuits – Introduction
	3 rd	Impedance Triangle and Phasor Diagram in Parallel Circuits
5 TH	1 st	Power in Parallel Circuits: Active, Reactive, Apparent Power
	2 nd	Resonance in Parallel Circuits
	3 rd	Bandwidth and Quality Factor in Parallel Circuits
6 TH	1 st	Three Phase Supply: Phasor and Complex Representation
	2 nd	Phase Sequence and Polarity
	3 rd	Types of 3-Phase Connections (Star & Delta)
7 TH	1 st	Phase and Line Quantities in Star and Delta Systems
	2 nd	Balanced and Unbalanced Loads
	3 rd	Neutral Shift in Unbalanced Load
8 TH	1 st	Power in 3-Phase Systems (Active, Reactive, Apparent)
	2 nd	Class Test / Assessment – I
	3 rd	Revision of Units I to III
9 TH	1 st	Network Reduction Techniques: Source Transformation
	2 nd	Star-Delta and Delta-Star Transformation
	3 rd	Mesh Analysis – Introduction and Examples
10 TH	1 st	Node Analysis – Introduction and Examples
	2 nd	Superposition Theorem – Explanation and Solving Examples
	3 rd	Thevenin's Theorem – Explanation with Problems
11 TH	1 st	Norton's Theorem – Theory and Application
	2 nd	Maximum Power Transfer Theorem – Practical Relevance
	3 rd	Reciprocity Theorem – Application in Network Analysis
12 th	1 st	Summary and Numerical Solving of All Network Theorems
	2 nd	Two-Port Network – Open Circuit Impedance Parameters (Z)
	3 rd	Short Circuit Admittance Parameters (Y) and Examples

13 th	1 st	Transmission (ABCD) Parameters
	2 nd	Hybrid (h) Parameters and Interrelation of Two-Port Parameters
	3 rd	Interconnection of Two-Port Networks (Series, Parallel, Cascade)
14 th	1 st	Class Test / Assignment – II
	2 nd	Revision of Units IV to VI
	3 rd	Doubt Solving Session
15 th	1 st	Final Summary – Important Formulas & Concepts
	2 nd	Solving Previous Year Questions / Mock Test
	3 rd	Feedback & Wrap-up / Project or Viva if applicable


 Prepared By
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