



PNS SCHOOL OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL ENGINEERING

Branch: Electrical Engg.	Semester: 3 rd	Name of the Lecturer: Chacha Amitav Tripathy
Subject: EC	Classes Alloted in a Week: 4	Duration of Semester: 14.07.2025 - 15.11.2025
Week	Class Day	Theory / Practical Topic
1st	1	Single Phase A.C Series Circuits - Generation of alternating voltage
	2	Phasor representation of sinusoidal quantities
	3	R, L, C circuit elements its voltage and current response
	4	R-L combination of A.C series circuit -Impedance, reactance, impedance triangle, Power factor, active power, reactive power, apparent power, Power triangle ,vector diagram
2nd	1	R-C combination of A.C series circuit -Impedance, reactance, impedance triangle, Power factor, active power, reactive power, apparent power, Power triangle ,vector diagram
	2	R-L-C combination of A.C series circuit -Impedance, reactance, impedance triangle, Power factor, active power, reactive power, apparent power, Power triangle ,vector diagram
	3	Resonance, Bandwidth, Quality factor and voltage magnification in series R-L, R-C, R-L-C circuit
	4	Single Phase A.C Parallel Circuits -R-L, R-C and R-L-C parallel combination of A.C. circuits
3rd	1	Impedance, reactance, phasor diagram, impedance triangle
	2	Power factor, active power, apparent power, reactive power, power triangle
	3	Resonance in parallel R-L, R-C, R-L-C circuit -
	4	Bandwidth, Quality factor and voltage magnification
4th	1	Solve numerical problems
	2	Solve numerical problems
	3	Solve numerical problems
	4	Three Phase Circuits - Phasor and complex representation of three phase supply
5th	1	Phase sequence and polarity
	2	Types of three-phase connections
	3	Phase and line quantities in three phase star and delta system
	4	Balanced and unbalanced load
6th	1	Neutral shift in unbalanced load
	2	Three phase power, active, reactive and apparent power in star and delta system
	3	Solve numerical problems
	4	Network Reduction and Principles of Circuit Analysis - Source transformation
7th	1	Star/delta and delta/star transformation
	2	Solve numerical problems
	3	Mesh Analysis
	4	Solve numerical problems

8th	1	Node Analysis
	2	Solve numerical problems
	3	Network Theorems - Superposition theorem
	4	Solve numerical problems
9th	1	Thevenin's theorem
	2	Solve numerical problems
	3	Solve numerical problems
	4	Norton's theorem
10th	1	Solve numerical problems
	2	Maximum power Transfer Theorem, Solve numerical problems
	3	Reciprocity Theorem, Solve numerical problems
	4	Two Port Network - Open Circuit Impedance Parameters
11th	1	Solve numerical problems
	2	Short Circuit Admittance Parameters
	3	Solve numerical problems
	4	Transmission Parameters
12th	1	Hybrid Parameters
	2	Interrelationship of Two Port Network
	3	Inter Connection of Two Port Network
	4	Solve numerical problems


Signature of the
Lecturer


Signature of the
H.O.D.


Signature of the
Principal