

DISCIPLINE: Electrical & Electronics Engg.	SEMESTER: 4 th Semester	NAME OF THE TEACHING FACULTY: Majji.Lalitha PTGF IN EEE
SUBJECT: Electric Power Transmission and Distribution	NO OF DAYS/PER WEEK CLASSES ALLOTTED: 3	SEMESTER FROM DATE: 22.12.2025 TO DATE: 18.04.2026 NO OF WEEKS: 15

Week	Class Day	Topics
		1. Basics of Transmission and Distribution
1 st	1st	Single line diagrams with components of the electric supply transmission and distribution systems.
	2nd	Classification of transmission lines.
	3rd	ASSIGNMENT
2 nd	1 st	Primary and secondary transmission, Standard voltage level used in India.
	2 ND	Classification of transmission lines: based on type of voltage, voltage level, length and others.
	3rd	CLASS TEST
3rd	1st	Characteristics of high voltage for power transmission.
	2nd	Method of construction of electric supply transmission system- 110 kV, 220 kV, 400 Kv.
	3rd	Method of construction of electric supply distribution systems- 220 V, 400V, 11 kV, 33 Kv.
4th	1st	ASSIGNMENT
		2.TransmissionLine Parameters and Performance.
	2nd	Line Parameters: Concepts of R, L and C of line parameters and types of lines.
	3rd	Performance ofshort line: Efficiency, regulation and its derivation, effect of power factor, vector diagram for different power factor.
5th	1st	ASSIGNMENT
	2nd	Performance of medium line: representation, nominal 'T', nominal 'π' and end condenser methods.
	3rd	REVISION
6th	1st	Transposition of conductors and its necessity
	2nd	CLASS TEST
	3rd	Skin effect and proximity effect
7th	1st	ASSIGNMENT
		3.Extra High Voltage Transmission
	2nd	Extra High Voltage AC (EHVAC) transmission line: Necessity, high voltage substation components such as transformers and other switchgears.
	3rd	Advantages, limitations and applications of EHVAC, EHVAC lines in India, Ferranti and Corona effect.
8th	1st	ASSIGNMENT
	2nd	High Voltage DC (HVDC) Transmission Line: Necessity components, advantages, limitations and applications.
	3rd	Layout of monopolar, bi-Polar and homo-polar transmission lines of HVDC.

9th	1st	HVDC Lines in India , Features of EHVAC and HVDC transmission line
	2nd	CLASS TEST
	3rd	Flexible AC Transmission line: Features, d types of FACTS controller.
10 th	1 st	Newtrends in wireless transmission of electrical power.
		4.A.C Distribution System
	2 ND	AC distribution: Components classification, requirements of an ideal distribution system, primary and secondary distribution system.
	3 RD	Feeder and distributor, factors to be considered in design of feeder and distributor.
11 th	1st	ASSIGNMENT
	2nd	Types of different distribution schemes: radial, ring, and grid, layout, advantages, disadvantages and applications.
	3rd	Voltage drop, sending end and receiving end voltage
12 th	1st	Distribution Sub-Station: Classification, site selection, advantages, disadvantages and applications.
	2nd	CLASS TEST
	3rd	Single Line diagram (layout) of 33/11KV Sub-Station, 11KV/400V sub-station.
13 th	1st	Symbols and functions of their components.
		5. Components of Transmission and Distribution Line.
	2nd	Overhead Conductors: Properties of material, types of conductor with trade names, significance of sag.
	3rd	Line supports: Requirements, types of line structures and their specifications, methods of erection.
14 th	1st	Line Insulators ,Properties of insulating material,Causes of insulator failure.
	2nd	Derivation of equation of string efficiency for string of three suspension insulator.
	3rd	ASSIGNMENT
15 th	1st	Methods of improving string efficiency
	2nd	Underground Cables: Requirements, classification, construction, comparison with overhead lines, cable laying and cable jointing.
	3rd	CLASS TEST.

A. Belthra
Lecturer 22.12.25

D. Bhatnagar
HOD 22.12.25

[Signature]
Principal