

LESSON PLAN(SUMMER-2026)

VENUS GROUP OF EDUCATIONAL & RESEARCH INSTITUTES,BAHANAGA,BALASORE-756042

Discipline:Electrical Engineering		Semester:4 th	Name of the teaching faculty: Pritiranjana Lenka
Subject: Electric Power Transmission And Distribution		No of days per week class allotted:4	Semester from date:22/12/2025 to date:18/04/2026, No of weeks: 15
1	1st	1st	Single line diagrams with components of the electric supply transmission and distribution systems
2		2nd	Classification of transmission lines
3		3rd	Primary and secondary transmission
4		4th	Standard voltage level used in India
5	2nd	1st	Classification of transmission lines: based on type of voltage, voltage level, length and others
6		2nd	Characteristics of high voltage for power transmission
7		3rd	Method of construction of electric supply transmission system- 110 kV, 220 kV, 400 kV
8		4th	Method of construction of electric supply distribution systems- 220 V, 400V, 11 kV, 33 kV
9	3rd	1st	Line Parameters: Concepts of R, L and C of line parameters and types of lines
10		2nd	Performance of short line: Efficiency, regulation and its derivation, effect of power factor, vector diagram for different power factor
11		3rd	Performance of medium line: representation, nominal 'T', nominal 'π' and end condenser methods
12		4th	Transposition of conductors and its necessity
13	4th	1st	Skin effect and proximity effect
14		2nd	Extra High Voltage Transmission
15		3rd	Extra High Voltage AC (EHVAC) transmission line
16		4th	Necessity, high voltage substation components such as transformers and other switchgears
17	5th	1st	Advantages, limitations and applications of EHVAC
18		2nd	EHVAC lines in India

19	5th	3rd	Ferranti and Corona effect
20		4th	High Voltage DC (HVDC) Transmission Line
21	6th	1st	Necessity components, advantages, limitations and applications
22		2nd	Layout of monopolar, bi-Polar and homo-polar
23		3rd	Layout of monopolar, bi-Polar and homo-polar transmission lines of HVDC
24		4th	HVDC Lines in India
25	7th	1st	Features of EHVAC and HVDC transmission line
26		2nd	Flexible AC Transmission line
27		3rd	Flexible AC Transmission line: Features, types of FACTS controller
28		4th	New trends in wireless transmission of electrical power
29	8th	1st	A.C Distribution System
30		2nd	AC distribution: Components classification
31		3rd	AC distribution: Components classification, requirements of an ideal distribution system
32		4th	primary and secondary distribution system
33	9th	1st	Feeder and distributor
34		2nd	factors to be considered in design of feeder and distributor
35		3rd	Types of different distribution schemes
36		4th	radial, ring, and grid, layout, advantages,
37	10th	1st	radial, ring, and grid, layout disadvantages and applications
38		2nd	Voltage drop, sending end and receiving end voltage
39		3rd	Distribution Sub-Station:
40		4th	Distribution Sub-Station: Classification

41	11th	1st	Distribution Sub-Station ,site selection
42		2nd	Distribution Sub-Station: advantages, disadvantages and applications
43		3rd	Single Line diagram (layout) of 33/11KV
44		4th	sub-Station, 11KV/400V sub-station
45	12th	1st	Symbols and functions of their components
46		2nd	Components of Transmission and Distribution Line
47		3rd	Components of Transmission
48		4th	Components of Distribution Line
49	13th	1st	Overhead Conductors
50		2nd	Overhead Conductors: Properties of material
51		3rd	types of conductor with trade names
52		4th	Overhead Conductors: significance of sag
53	14th	1st	Line supports: Requirements, types of line structures and their specifications, methods of erection
54		2nd	Line Insulators Properties of insulating material
55		3rd	Selection of material
56		4th	Types of insulators and their applications
57	15th	1st	Causes of insulator failure,Derivation of equation of string efficiency for string of three suspension insulator
58		2nd	Methods of improving string efficiency
59		3rd	Underground Cables: Requirements, classification, construction,
60		4th	Underground Cables:comparison with overhead lines, cable laying and cable jointing.