



GOVERNMENT POLYTECHNIC DARLIPALI, SUNDARGARH
ସରକାରୀ ବହୁକୃତ ଅନୁଷ୍ଠାନ ଦଲିପାଲି, ସୁନ୍ଦରଗଡ଼
GOVERNMENT OF ODISHA | ଓଡ଼ିଶା ସରକାର

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LESSON PLAN(2025-26)

Discipline:		Semester: 4 th	Name of the Teaching faculty: Suchismita Sahoo
Subject: ELECTRIC POWER TRANSMISSION AND DISTRIBUTION Subject Code: EEPC204 TH:2		No of Days/Week class allotted: 3	Semester from Date: 22/12/2025 to 18/04/2025 No of weeks: 17 No. of Periods available: 51
Month/Week	No of periods available	Class Day	Theory topics to be covered
DECEMBER/ 1st	3P	1	Basics of Transmission 1.1 Single line diagrams with components of the electric supply transmission and distribution systems and Distribution
		2	1.2 Classification of transmission lines
		3	1.3 Primary and secondary transmission
JANUARY/ 2 ND	3P	1	1.4 Standard voltage level used in India
		2	1.5 Classification of transmission lines: based on type of voltage, voltage level, length and others
		3	1.5 Classification of transmission lines: based on type of voltage, voltage level, length and others
JANUARY/ 3 RD	3P	1	1.6 Characteristics of high voltage for power transmission
		2	1.7 Method of construction of electric supply transmission system- 110 kV, 220 kV, 400 kV
		3	1.7 Method of construction of electric supply transmission system- 110 kV, 220 kV, 400 kV
JANUAR/ 4 TH	3P	1	1.8 Method of construction of electric supply distribution systems- 220 V, 400V, 11 kV, 33 kV
		2	1.8 Method of construction of electric supply distribution systems- 220 V, 400V, 11 kV, 33 kV
		3	Transmission Line Parameters and Performance 2.1 Line Parameters: Concepts of R, L

			and C of line parameters and types of lines
JANUARY/ 5 TH	2P	1	Transmission Line Parameters and Performance 2.1 Line Parameters: Concepts of R, L and C of line parameters and types of lines
		2	2.2 Performance of short line: Efficiency, regulation and its derivation, effect of power factor, vector diagram for different power factor
JANUARY/ 6 TH	3P	1	2.3 Performance of medium line: representation, nominal 'T', nominal 'π' and end condenser methods
		2	2.4 Transposition of conductors and its necessity
		3	2.5 Skin effect and proximity effect
FEBRUARY/ 7 TH	3P	1	Extra High Voltage Transmission 3.1 Extra High Voltage AC (EHVAC) transmission line: Necessity, high voltage substation components such as transformers and other switchgears
		2	3.1.1 Advantages, limitations and applications of EHVAC
		3	3.1.2 EHVAC lines in India
FEBRUARY/ 8 TH	3P	1	3.2 Ferranti and Corona effect
		2	3.3 High Voltage DC (HVDC) Transmission Line: Necessity components, advantages, limitations and applications
		3	3.3 High Voltage DC (HVDC) Transmission Line: Necessity components, advantages, limitations and applications
FEBRUARY/ 9 TH	3P	1	3.3.1 Layout of monopolar, bi-Polar and homo-polar transmission lines of HVDC 3.3.2 HVDC Lines in India
		2	3.4 Features of EHVAC and HVDC transmission line
		3	3.5 Flexible AC Transmission line: Features, types of FACTS controller
FEBRUARY/ 10 TH	3P	1	3.6 New trends in wireless transmission of electrical power
		2	A.C Distribution System 4.1 AC distribution: Components classification, requirements of an ideal distribution system, primary and secondary distribution system
		3	4.2 Feeder and distributor, factors to be considered in design of feeder and distributor
MARCH/ 11 TH	3P	1	4.3 Types of different distribution schemes: radial, ring, and grid, layout, advantages, disadvantages and

			applications
		2	4.4 Voltage drop, sending end and receiving end voltage
		3	4.5 Distribution Sub-Station: Classification, site selection, advantages, disadvantages and applications
MARCH/ 12 TH	3P	1	4.6 Single Line diagram (layout) of 33/11KV Sub-Station, 11KV/400V sub-station
		2	4.6 Single Line diagram (layout) of 33/11KV Sub-Station, 11KV/400V sub-station
		3	4.7 Symbols and functions of their components
MARCH/ 13 TH	3P	1	Components of Transmission and Distribution Line 5.1 Overhead Conductors: Properties of material, types of conductor with trade names, significance of sag
		2	Components of Transmission and Distribution Line 5.1 Overhead Conductors: Properties of material, types of conductor with trade names, significance of sag
		3	5.2 Line supports: Requirements, types of line structures and their specifications, methods of erection
MARCH/ 14 TH	3P	1	5.2 Line supports: Requirements, types of line structures and their specifications, methods of erection
		2	5.3 Line Insulators 5.3.1 Properties of insulating material
		3	5.3.2 Selection of material
APRIL/15 TH	3P	1	5.3.3 Types of insulators and their applications
		2	5.3.4 Causes of insulator failure
		3	5.3.5 Derivation of equation of string efficiency for string of three suspension insulator
APRIL/16 TH	3P	1	5.3.6 Methods of improving string efficiency
		2	5.4 Underground Cables: Requirements, classification, construction, comparison with overhead lines, cable laying and cable jointing.
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APRIL/17 TH	3P	1	REVISION
		2	PREVIOUS YEAR QUESTION

			DISCUSSION
		3	DOUBT CLEARING CLASS

Prepared by

Suchismita Sahoo
22/12/25

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Lecturer (Stage-II) in Electrical

[Signature]
22/12/25
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