

GOVT. POLYTECHNIC KANDHAMAL
LESSON PLAN

Discipline : Electrical Engg.		Semester: 4th		Name of the Teaching Faculty : MISS LIPSHARANI SAHOO		
Subject :		ELECTRIC POWER TRANSMISSION AND DISTRIBUTION				
No. of Days / per week class allotted : 03				Semester From date : 22.12.2025 To Date : 18.04.2026		
MONTH	Week	Day	UNIT	TOPICS		
DECEMBER	Week 4	2nd	I	Single line diagrams with components of the electric supply transmission and distribution systems		
	Week 4	6th	I	1.2 Classification of transmission lines		
	Week 4	7th	I	1.3 Primary and secondary transmission		
	Week 4	7th	I	1.4 Standard voltage level used in India		
	week 5	2nd	I	1.5 Classification of transmission lines: based on type of voltage, voltage level, length and others		
JANUARY	Week 1	6th	I	1.6 Characteristics of high voltage for power transmission		
	Week 1	7th	I	1.7 Method of construction of electric supply transmission system- 110 kV, 220 kV, 400 kV		
	Week 1	7th	I	1.8 Method of construction of electric supply distribution systems- 220 V, 400V, 11 kV, 33 kV		
	Week 2	2nd	II	2.1 Line Parameters: Concepts of R, L and C of line parameters and types of lines		
	Week 2	6th	II	2.2 Performance of short line: Efficiency, regulation and its derivation,		
	Week 3	2nd	II	effect of power factor, vector diagram for different power factor		
	Week 3	6th	II	2.3 Performance of medium line: representation, nominal 'T' end condenser methods		
	Week 3	7th	II	2.3 Performance of medium line: representation, , nominal 'π' end condenser methods		
	Week 3	7th	II	2.4 Transposition of conductors and its necessity		
	Week 4	2nd	II	2.5 Skin effect and proximity effect		
	Week 5	6th		REVISION		
	Week 5	7th		CLASS TEST - 1		
		Week 5	7th	III	3.1 Extra High Voltage AC (EHVAC) transmission line: Necessity, high voltage substation components such as transformers and other switchgears	
	FEBRUARY	Week 1	2nd	III	3.1.1 Advantages, limitations and applications of EHVAC EHVAC lines in India	
		Week 1	6th	III	3.2 Ferranti and Corona effect	
Week 1		7th	III	3.3 High Voltage DC (HVDC) Transmission Line: Necessity components, advantages, limitations and applications		
Week 1		7th	III	3.3.1 Layout of monopolar, bi-Polar and homo-polar transmission lines of HVDC		
Week 2		2nd	III	3.3.2 HVDC Lines in India		
Week 2		6th	III	3.4 Features of EHVAC and HVDC transmission line		
Week 3		2nd	III	3.5 Flexible AC Transmission line: Features, types of FACTS controller		
Week 3		6th	III	3.6 New trends in wireless transmission of electrical power		
Week 3		7th	IV	4.1 AC distribution: Components classification, requirements of an ideal distribution system		
Week 3		7th	IV	primary and secondary distribution system		
Week 4		2nd	IV	4.2 Feeder and distributor, factors to be considered in design of feeder and distributor		
Week 4		6th		CLASS TEST - 2		
MARCH	Week 1	2nd	IV	4.3 Types of different distribution schemes: radial, ring,		
	Week 1	6th	IV	4.3 Types of different distribution schemes: grid, layout, advantages, dsadvantages and applications		
	Week1	7th	IV	4.4 Voltage drop, sending end and receiving end voltage		
	Week 1	7th	IV	4.5 Distribution Sub-Station: Classification, site selection, advantages, disadvantages and applications		
	Week 2	2nd	IV	4.6 Single Line diagram (layout) of 33/11KV Sub-Station, 11KV/400V sub-station		
	Week 2	6th	IV	4.7 Symbols and functions of their components		
	Week 3	2nd	V	5.1 Overhead Conductors: Properties of material, types of conductor with trade names, significance of sag		
	Week 3	6th	V	5.2 Line supports: Requirements, types of line structures and their specifications, methods of erection		
	Week 4	2nd	V	5.3 Line Insulators		
	Week 4	6th	V	5.3.1 Properties of insulating material		
	Week 5	2nd	V	5.3.2 Selection of material		
	APRIL	Week 1	7th	V	5.3.3 Types of insulators and their applications	
Week 1		7th	V	5.3.4 Causes of insulator failure		
Week 2		2nd	V	5.3.5 Derivation of equation of string efficiency for string of three suspension insulator		
Week 2		6th	V	5.3.6 Methods of improving string efficiency		
Week 3		2nd	V	5.4 Underground Cables: Requirements, classification, construction		
Week 3		6th	V	5.4 Underground Cables: comparison with overhead lines, cable laying and cable jointing.		
Week 3		7th		REVISION		
Week 3		7th		CLASS TEST - 3		

Lipsha
22.12.2025

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