

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2024/25 (SUMMER)

Discipline : ELECTRICAL ENGG.		Semester: 4th Sem		Name of the Teaching Faculty :LAXMIDHAR SAHU	
Subject : GTD		No. of Days / per week class allotted : 04		Semester From date : 04.02.2025 To Date : 17.05.2025	
MONTH	Week	Day	Unit	Topics	
FEBRUARY	2nd		UNIT-1	GENERATION OF ELECTRICITY	
		2nd		Elementary idea on generation of electricity from Hydel Power plant with Layout diagram of generating stations	
		4TH		Elementary idea on generation of electricity from Thermal Power plant with Layout diagram of generating stations	
		5th		Elementary idea on generation of electricity from Nuclear Power plant with Layout diagram of generating stations	
	3rd	1st	Introduction to Solar Power Plant (Photovoltaic cells).		
		TRANSMISSION OF ELECTRIC POWER			
		2nd	Layout of transmission and distribution scheme.		
		4th	Voltage Regulation & efficiency of transmission.		
		5th	State and explain Kelvin's law for economical size of conductor.		
	4th	1st	Problem related to explain Kelvin's law		
		2nd	Corona and corona loss on transmission lines.		
		4th	Question Discussion		
		OVER HEAD LINES			
		5th	Types of supports, size and spacing of conductor.		
	5th	1st	UNIT-3	Types of conductor materials.	
		2nd		State types of insulator and cross arms.	
		4th		Sag in overhead line with support at same level and different level.	

	5TH	5th		Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	
MARCH	2nd	1st	UNIT-3	Simple problem on sag.	
		2nd		Question Discussion	
				PERFORMANCE OF SHORT & MEDIUM LINES	
		4th		Performance of Short Transmission Line Calculation with regulation and efficiency.	
		5th		Problem related to Short Transmission Line.	
	3rd	1st		UNIT-4	FIRST MONTHLY TEST
		2nd			FIRST MONTHLY TEST
		4th			Performance of Medium Transmission Line (End Condenser method)
		5th			DOLO PURNIMA
		1st			Performance of Medium Transmission Line (Nominal π & Nominal T method)
	4th	2nd			Problem related to Medium Transmission Line.
		4th			Question Discussion
					EHV TRANSMISSION
		5th			EHV AC transmission.
		1st		UNIT-5	Reasons for adoption of EHV AC transmission.
	5th	2nd			Problems involved in EHV transmission.
		4th			Advantages and Limitations of HVDC transmission system.
					DISTRIBUTION SYSTEMS
		5th			Introduction to Distribution System.
		1st			ID-UL-FITRE
APRIL	1st	2nd		UTKAL DIWAS	
		4th	UNIT-6	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)	
		5th		DC distributions & Distributor fed at one End	
	2nd	1st			Distributor fed at both the ends & Ring distributors.
		2nd			AC distribution system & Method of solving AC distribution problem.
		4th			Three phase four wire star connected system arrangement.
		5th			Question Discussion
		3rd		UNIT-7	UNDERGROUND CABLES

APRIL		1st		B.R. AMBEDKAR JAYANTI
		2nd		Cable insulation and classification of cables.
		4th		INTERNAL ASSESSMENT
		5th		GOOD FRIDAY
	4th	1st		Types of L. T. & H.T. cables with constructional features.
		2nd		Methods of cable lying.
		4th		Localization of cable faults: Murray loop test for short circuit fault / Earth fault.
		5th		Localization of cable faults: Varley loop test for short circuit fault / Earth fault.
5th			ECONOMIC ASPECTS	
	1st	UNIT-8	Causes of low power factor ,Methods of improvement of power factor in power system	
2nd	Factors affecting the economics of generation: (Define and explain) &Load curves, Demand factor, Maximum demand,Load factor & Diversity factor			
MAY	1st	4th		Plant capacity factor & Peak load and Base load on power station,Problem Solved
				TYPES OF TARIFF
	5th	UNIT-9	Desirable characteristic of a tariff.,Explain flat rate, block rate, two part and maximum demand tariff.	
	1st		Problem Solved related to tariff.	
	2nd			SUBSTATION
		2nd	UNIT-10	Layout of LT substation,Layout of HT substation.
		4th		Layout of EHT substation.
		5th		Earthing of Substation, transmission lines., Earthing of Substation distribution lines.
				BUDHA PURNIMA
	3rd	1st		Semester Question Discussion
2nd			Semester Question Discussion	
4th			Semester Question Discussion	
5th			SECOND MONTHLY TEST	