

GOVT. POLYTECHNIC MAYURBHANJ LESSON PLAN- 2023/24 (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 : 16.01.2024	To Date : 26.04.2024
MONTH	Week	Day	Unit	Topics	
JANUARY	3rd		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	
		6th		Elementary idea on generation of electricity from Nuclear Power plant with Layout diagram of generating stations	
	4TH	1st	UNIT-2	Introduction to Solar Power Plant (Photovoltaic cells).	
		2nd		NETAJI SUBAS BOSE JAYANTI	
				TRANSMISSION OF ELECTRIC POWER	
		4th		Layout of transmission and distribution scheme.	
	5th	6th		Voltage Regulation & efficiency of transmission.	
		1st		State and explain Kelvin's law for economical size of conductor.	
		2nd		Problem related to explain Kelvin's law	
		4th		Corona and corona loss on transmission lines.	
FEBRUARY	1ST	6th		Question Discussion	
			UNIT-3	OVER HEAD LINES	
	2nd	1st		Types of supports, size and spacing of conductor.	
		2nd		Types of conductor materials.	
		4th		State types of insulator and cross arms.	
		6th		Sag in overhead line with support at same level and different level.	
	3rd	1st		Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	
		2nd		Simple problem on sag.	
			UNIT-4	PERFORMANCE OF SHORT & MEDIUM LINES	
		4th		Performance of Short Transmission Line Calculation with regulation and efficiency.	
		6th		Problem related to Short Transmission Line.	
		1st		Performance of Medium Transmission Line (End Condenser method)	

MARCH	4th	2nd	UNIT-4	FIRST MONTHLY TEST
		4th		Performance of Medium Transmission Line (Nominal π & Nominal T method)
		6th		Problem related to Medium Transmission Line.
	5th	1st	UNIT-5	Question Discussion
				EHV TRANSMISSION
		2nd		EHV AC transmission.
	1st	4th		Reasons for adoption of EHV AC transmission.
		6th		Problems involved in EHV transmission.
		1st		Advantages and Limitations of HVDC transmission system.
	2nd	2nd	UNIT-6	PANCHAYATRAJ DIWAS
		4th		Question Discussion
				DISTRIBUTION SYSTEMS
APRIL	3rd	6th	UNIT-7	Introduction to Distribution System.
		1st		Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)
		2nd		DC distributions & Distributor fed at one End
	4th	4th	UNIT-8	Distributor fed at both the ends & Ring distributors.
		6th		AC distribution system & Method of solving AC distribution problem.
		1st		Three phase four wire star connected system arrangement.
	5th	2nd		Question Discussion
				UNDERGROUND CABLES
		4th		Cable insulation and classification of cables.
	1st	6th		Types of L. T. & H.T. cables with constructional features.
		1st	UNIT-9	DOLA PURNIMA
		2nd		HOLI
		4th		Methods of cable lying.
	2nd	6th	UNIT-10	Localization of cable faults: Murray loop test for short circuit fault / Earth fault.
		1st		UTKAL DIWAS
		2nd		Localization of cable faults: Varley loop test for short circuit fault / Earth fault.
	3rd	4th	UNIT-11	ECONOMIC ASPECTS
		6th		INTERNAL ASSESSMENT
		1st		Causes of low power factor
	4th	2nd	UNIT-12	Methods of improvement of power factor in power system
		4th		Factors affecting the economics of generation: (Define and explain) & Load curves, Demand factor, Maximum demand, Load factor & Diversity factor
		6th		ID-UL-FITRE
	5th		UNIT-13	Plant capacity factor & Peak load and Base load on power station, Problem Solved

AP	3rd		UNIT-9	TYPES OF TARIFF
		1st		Desirable characteristic of a tariff., Explain flat rate, block rate, two part and maximum demand tariff.
		2nd		Problem Solved
			UNIT-10	SUBSTATION
		4th		Layout of LT substation, Layout of HT substation.
		6th		Layout of EHT substation.
	4th	1st		Earthing of Substation, transmission lines., Earthing of Substation distribution lines.
		2nd		Semester Question Discussion
		4th		SECOND MONTHLY TEST