GOVERNMENT CO.ED POLYTECHNIC RAIPUR (C.G)

DEPARTMENT OF ELECTRICAL ENGINEERING

LESSON PLAN

Session: April-May

Session start as per university calendar: 21/01/25

Course Name: Electrical Power Generation, Transmission & Distribution

Name of Subject Teacher: Dr. Mamta Patel

Lecturer plan L+ T+P = 5

Course code: 2024474(024)

Discipline: EE		Semester: 4th			Class room Instruction Start Date:				
S.No.	**Chapter No.**	**Topics**	**Sub Topic to be covered under this unit**	**Total hours**	**No. of periods planned**	**Actual No of periods taken**	**Date of Class Conduction**	**Use of AV resources**	**Remarks if any**
1	1	**Hydroelectric Power Plant**	Various Sources of electrical power generation, Hydro, thermal, nuclear etc.	14	2	2	03/02/25, 04/2/25	NA	
			Hydro electric power station, energy conversion, process, plant layout		3	3	6/02/25, 7/2/25 (2)		
			Hydrograph and simple calculation of electrical power generation, choice of site and constituents of HPS		4	4	10/2/25, 14/2/25, 17/2/25 18/2/25		
			Classifiction of HPS based on – Head, storage & pondage, plant layout, turbine type, auxilliaries		3	1	20/2/25		
			Synchronous generators, in HPS, selection no. of poles, rotor speed, and diameter		2	2	20/2/25, 21/2/25		

2	2	**Thermal & Nuclear Power Station**	Thermal power station, energy conversion process, plant layout	14	2	2	24/2/25, 28/2/25	NA
			Major equipment and auxilliaries of TPS, boiler, steam turbine, turbo generator, super heater, Economizer.		3	2	3/3/25	
			NPS- Energy conversion process, Constituents, layout and selection		4	2	4/3/25, 5/3/25	
			Reactor main parts, types and its control		3	1	6/3/25	
			Nuclear fuels		2	1	8/3/25	
3		**Variable Loads on Generating Stations**	Structure of electrical power system	15	1	1	07/03/25	NA
			Connected load, max demand, average, demand, demand factor, diversity fator, plant capacity factor		3	1 1	11/03/25 17/03/25	
			load curve and load duration curve, base load and peak load on generating stations.		4	3	18/03/25 24/03/25 26/03/25	
			Relationship between units generated per year, max demand and load factor, cost of electrical eneergy.		5	3	27/03/25 28/03/25 29/03/25	
		Transmission line	transmission line parameters- resistance, inducatance, capacitance, skin effect, proximity effect.		4	3	3/04/25 4/04/25 7/04/25	
			Stranding and transposing of conductors, classification of short, medium and long transmission line.		4	3	8/04/25 9/04/25 11/04/25	NA

		and performance	Performance of lines, voltage regulation, efficiency, Equivalent circuits, T and Pi networks, ABCD constants		4	3	15/04/25, 16/04/25 17/04/25		
			Line insulators,requirements, types, failure of insulators, string efficiency		4	2	21/04/25 22/04/25		
5	5	Distribution System	Feeders, distributors and service mains, selection of conductors size	16	4	2	24/04/25 25/04/25	NA	
			Voltage drops in DC distributors, and AC distributors		4	2	28/04/25 29/04/25		
			Types of under ground cables,construction of power cables		3	1	1/05/25		
			selection of power cables for LT and HT connections, laying of underground power cables		4	3	2/05/25 5/05/25 8/05/25		15/05/25 Revisions
			Faults in power cables		1	1	14/05/25		Doubt class
			75 Hours						