UTKAL INSTITUTE OF ENGINEERING & TECHNOLOGY

DISCIPLINE: electrical engineering	**SEMESTER:** 4TH Sem	**NAME OF THE TEACHING FACULTY:** KALAKAR MOHANTY		
SUBJECT: Th4. GENERATION TRANSMISSION & DISTRIBUTION	**No of Days/Per week class allotted: 5** Class P/W(60)	**Semester From Date:16/01/2024 To Date:26/04/2024** **No. Of Weeks**: 12		
WEEK	**CLASS DAY**	**THEORY TOPICS** **PART-A (Generation of electricity)**	**REMARKS**	
1st	1st	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.	Date	Dean/Principal
	2nd	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.		
	3rd	Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station.		
	4th	Introduction to Solar Power Plant (Photovoltaic cells)		
	5th	Introduction to Solar Power Plant (Photovoltaic cells)		
2nd	1st	Layout diagram of generating stations.		
	2nd	Layout diagram of generating stations.		
	3rd	**PART B (TRANSMISSION OF ELECTRIC POWER) :** Layout of transmission and distribution scheme		
	4th	Voltage Regulation & efficiency of transmission		
	5th	Voltage Regulation & efficiency of transmission		
3rd	1st	State and explain Kelvin's law for economical size of conductor.		
	2nd	Corona and corona loss on transmission lines.		
	3rd	**PART C (OVER HEAD LINES) :** Types of supports, size and spacing of conductor.		
	4th	Types of conductor materials.		
	5th	Types of conductor materials.		
4th	1st	State types of insulator and cross arms.		
	2nd	Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)		
	3rd	Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)		
	4th	Simple problem on sag.		
	5th	**PART D (PERFORMANCE OF SHORT & MEDIUM LINES) :** PERFORMANCE OF SHORT & MEDIUM LINES		
5th	1st	PERFORMANCE OF SHORT & MEDIUM LINES		
	2nd	PERFORMANCE OF SHORT & MEDIUM LINES		

	3rd	PERFORMANCE OF SHORT & MEDIUM LINES		
	4th	PERFORMANCE OF SHORT & MEDIUM LINES		
	5th	PERFORMANCE OF SHORT & MEDIUM LINES		
6th	1st	PERFORMANCE OF SHORT & MEDIUM LINES		
	2nd	**PART E (EHV TRANSMISSION) :** EHV AC transmission.		
	3rd	Reasons for adoption of EHV AC transmission.		
	4th	Problems involved in EHV transmission.		
	5th	HV DC transmission.		
7th	1st	HV DC transmission.		
	2nd	HV DC transmission.		
	3rd	Advantages and Limitations of HVDC transmission system.		
	4th	**PART F :(DISTRIBUTION SYSTEMS) :** Introduction to Distribution System		
	5th	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)		
8th	1st	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)		
	2nd	DC distributions.		
	3rd	DC distributions.		
	4th	AC distribution system		
	5th	AC distribution system		
9th	1st	**PART G (UNDERGROUND CABLES) :** Cable insulation and classification of cables		
	2nd	Types of L. T. & H.T. cables with constructional features.		
	3rd	Types of L. T. & H.T. cables with constructional features.		
	4th	Methods of cable lying.		
	5th	Methods of cable lying.		
10th	1st	Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.		
	2nd	**PART H (ECONOMIC ASPECTS) :**		
	3rd	Factors affecting the economics of generation: (Define and explain)		
	4th	Factors affecting the economics of generation: (Define and explain)		
	5th	Factors affecting the economics of generation: (Define and explain)		
11th	1st	Factors affecting the economics of generation: (Define and explain)		
	2nd	Peak load and Base load on power station		

	3rd	**part I (TYPES OF TARIFF) :** Desirable characteristic of a tariff		
	4th	Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)		
	5th	Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)		
12th	1st	**part j (SUBSTATION) :** Layout of LT, HT and EHT substation		
	2nd	Layout of LT, HT and EHT substation		
	3rd	Earthing of Substation, transmission and distribution lines.		
	4th	Earthing of Substation, transmission and distribution lines.		
	5th	Earthing of Substation, transmission and distribution lines.		
HOD		**DEAN**	**PRINCIPAL**	