Discipline Electrical Engg.	Semester:- 4th	Name of the Teaching Faculty:- AMIYA RANJAN DAS
Subject:- GENERATION TRANSMISSION & DISTRIBUTION	No of Days/per Week Class Allotted :- 4+ 1{Tutorial)	Semester From:13.02.2023 To:23.05.2023 No of Weeks:- 15
Week	**Class Day**	**Theory/ Practical Topics**
1st	1st	1.1.1 Give Elementary idea on generation of electricity from Thermal Power station.
	2nd	1.1.1 Give Elementary idea on generation of electricity from Thermal Power station.
	3rd	1.1.2 Give Elementary idea on generation of electricity from Hydel Power station.
	4th	1.1.3 Give Elementary idea on generation of electricity from Nuclear Power station.
	5th	Tutorial
2nd	1st	1.2.1 Draw layout of generating stations.
	2nd	1.2.1 Draw layout of generating stations.
	3rd	1.2.2 Draw layout of generating stations.
	4th	Tutorial
	5th	2.1 Draw layout of transmission and distribution scheme.
3rd	1st	2.2 Explain voltage Regulation & efficiency of transmission.
	2nd	2.3 State and explain Kelvin's law for economical size of conductor.
	3rd	Tutorial
	4th	2.4 Explain corona and corona loss on transmission lines.
	5th	2.4 Explain corona and corona loss on transmission lines.
4th	1st	OVER HEAD LINES 3.1.1 State types of supports of conductor.
	2nd	3.1.2 State size and spacing of conductor.
	3rd	3.2 Types of conductor materials.
	4th	Tutorial
	5th	3.3 State types of insulator and cross arms
5th	1st	3.4 Derive for sag in overhead line with support at same level and different level
	2nd	Tutorial
	3rd	3.4.1 Derive for sag in overhead line with support at same level (approximate formula effect of wind, ice and temperature on sag simple problem)
	4th	3.4.2 Derive for sag in overhead line with support at different level (approximate formula effect of wind, ice and temperature on sag simple problem)
	5th	3.4.2 Derive for sag in overhead line with support at different level (approximate formula effect of wind, ice and temperature on sag simple problem)
6th	1st	Tutorial
	2nd	PERFORMANCE OF SHORT & MEDIUM LINES
	3rd	4.1 Calculation of regulation and efficiency.
	4th	4.1 Calculation of regulation and efficiency.
	5th	4.1 Calculation of regulation and efficiency.
7th	1st	4.1 Calculation of regulation and efficiency.
	2nd	4.1 Calculation of regulation and efficiency.
	3rd	4.1 Calculation of regulation and efficiency.
	4th	Tutorial
	5st	5.1 Explain EHV AC transmission.
8th	1st	5.2 Explain Reasons for adoption of EHV AC transmission.
	2nd	5.3 Problems involved in EHV transmission.
	3rd	Tutorial
	4th	5.4 Explain HV DC transmission.
	5st	5.4 Explain HV DC transmission
9th	1st	5.5.1 State Advantages of HVDC transmission system.
	2nd	5.5.2 State Limitations of HVDC transmission system.
	3rd	6.1.2 Explain Connection Schemes of Distribution System – (Radial, Ring Main and Inter connected system)
	4th	6.2 Explain DC distributions (a) Distributor fed at one End (b) Distributor fed at both the ends (c) Ring distributors.
	5st	Tutorial
10th	1st	6.3.1 Explain AC distribution system.
	2nd	6.3.2 Explain Method of solving AC distribution problem.
	3rd	6.3.2 Explain Method of solving AC distribution problem.
	4th	6.4 Explain three phase four wire star connected system arrangement.
	5st	Tutorial
	1st	7. UNDERGROUND CABLES 7.1.1 Explain cable insulation of cables.

11th	2nd	7.1.2 Explain classification of cables.
	3rd	7.2.1 State Types of L. T. & H.T. cables with constructional features.
	4th	7.2.2 State Types of L. T. & H.T. cables with constructional features.
	5st	Tutorial
12th	1st	7.3 State and Explain Methods of cable lying.
	2nd	7.4 State methods of Localisation of cable faults – Murray and Varley loop test for short circuit fault/Earth fault
	3rd	8.1 State and explain causes of low power factor.
	4th	8.2 Explain methods of improvement of power factor.
	5st	Tutorial
13th	1st	8.3 Define & explain Load curves
	2nd	8.4 Define & explain Demand factor. 8.5 Define & explain Maximum demand.
	3rd	8.6 Define & explain Load factor. 8.7 Define & explain Diversity factor.
	4th	8.8 Define & explain Plant capacity factor. 8.9 Define & explain peak load and Base load on power station
	5th	Tutorial
14th	1st	9. TYPES OF TARIFF 9.1 Explain flat rate tariff with problems
	2nd	9.1 Explain two part tariff and block rate tariff with problems
	3rd	9.1 Explain block rate tariff with problems
	4th	Tutorial
	5th	10. SUBSTATION 10.1.1 Draw and explain layout of LT. HT and EHT substation.
15th	1st	10.1.2 Draw and explain layout of LT. HT and EHT substation.
	2nd	10.2.1 Draw and Explain Earthing of Substation
	3rd	10.2.2 Draw and Explain Earthing of transmission lines.
	4th	10.2.3 Draw and Explain Earthing of distribution lines.
	5th	Tutorial