

Discipline	Semester:-	Name of the Teaching Faculty:-
Electrical Engg.	4 th	AMIYA RANJAN DAS
Subject:- GENERATION TRANSMISSION & DISTRIBUTION	No of Days/per Week Class Allotted :- 4+ 1(Tutorial)	Semester From:16.01.2024 To:26.04.2024 No of Weeks:- 15
Week	Class Day	Theory/ Practical Topics
1 st	1 st	1.1.1 Give Elementary idea on generation of electricity from Thermal Power station.
	2 nd	1.1.1 Give Elementary idea on generation of electricity from Thermal Power station.
	3 rd	1.1.2 Give Elementary idea on generation of electricity from Hydel Power station.
	4 th	1.1.3 Give Elementary idea on generation of electricity from Nuclear Power station.
	5 th	Tutorial
2 nd	1 st	1.2.1 Draw layout of generating stations.
	2 nd	1.2.1 Draw layout of generating stations.
	3 rd	1.2.2 Draw layout of generating stations.
	4 th	Tutorial
	5 th	2.1 Draw layout of transmission and distribution scheme.
3 rd	1 st	2.2 Explain voltage Regulation & efficiency of transmission.
	2 nd	2.3 State and explain Kelvin's law for economical size of conductor.
	3 rd	Tutorial
	4 th	2.4 Explain corona and corona loss on transmission lines.
	5 th	2.4 Explain corona and corona loss on transmission lines.
4 th	1 st	OVER HEAD LINES 3.1.1 State types of supports of conductor.
	2 nd	3.1.2 State size and spacing of conductor.
	3 rd	3.2 Types of conductor materials.
	4 th	Tutorial
	5 th	3.3 State types of insulator and cross arms
5 th	1 st	3.4 Derive for sag in overhead line with support at same level and different level
	2 nd	Tutorial
	3 rd	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)
	4 th	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)
	5 th	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)
6 th	1 st	Tutorial
	2 nd	PERFORMANCE OF SHORT & MEDIUM LINES
	3 rd	4.1 Calculation of regulation and efficiency.
	4 th	4.1 Calculation of regulation and efficiency.
	5 th	4.1 Calculation of regulation and efficiency.
7 th	1 st	4.1 Calculation of regulation and efficiency.
	2 nd	4.1 Calculation of regulation and efficiency.
	3 rd	4.1 Calculation of regulation and efficiency.
	4 th	Tutorial
	5 st	5.1 Explain EHV AC transmission.
8 th	1 st	5.2 Explain Reasons for adoption of EHV AC transmission.
	2 nd	5.3 Problems involved in EHV transmission.
	3 rd	Tutorial
	4 th	5.4 Explain HV DC transmission.
	5 st	5.4 Explain HV DC transmission
9 th	1 st	5.5.1 State Advantages of HVDC transmission system.
	2 nd	5.5.2 State Limitations of HVDC transmission system.
	3 rd	6.1.2 Explain Connection Schemes of Distribution System – (Radial, Ring Main and Inter connected system)
	4 th	6.2 Explain DC distributions (a) Distributor fed at one End (b) Distributor fed at both the ends (c) Ring distributors.
	5 st	Tutorial
10 th	1 st	6.3.1 Explain AC distribution system.
	2 nd	6.3.2 Explain Method of solving AC distribution problem.
	3 rd	6.3.2 Explain Method of solving AC distribution problem.
	4 th	6.4 Explain three phase four wire star connected system arrangement.
	5 st	Tutorial
	1 st	7. UNDERGROUND CABLES 7.1.1 Explain cable insulation of cables.

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

