

Discipline: Electrical Engg.	Semester:- 4 th	Name of the Teaching Faculty:- AMIYA RANJAN DAS
Subject:- GENERATION TRANSMISSION & DISTRIBUTION	No of Days/per Week Class Allotted:- 4+ 1 (Tutorial)	Semester From:04.02.2025 To:17.05.2025 No of Weeks:- 15
Week	Class /Day	Theory Topics
1 st	1 st	1.GENERATION OF ELECTRICITY 1.1. Elementary idea on generation of electricity from Thermal Power station.
	2 nd	1.1. Elementary idea on generation of electricity from Thermal Power station.(contd...)
	3 rd	1.1.Elementary idea on generation of electricity from hydro Power station.
	4 th	1.1.Elementary idea on generation of electricity from nuclear Power station.
	5 th	1.2. Introduction to solar Power plant (photovoltaic cell).
2 nd	1 st	Tutorial.
	2 nd	1.3 Layout diagram of generating stations.
	3 rd	1.3.Layout diagram of generating stations.
	4 th	2.TRANSMISSION OF ELECTRIC POWER 2.1.Layout of transmission and distribution scheme
	5 th	2.1.Layout of transmission and distribution scheme.(contd....)
3 rd	1 st	2.2.voltage regulation & efficiency of transmission.
	2 nd	2.3.State and explain kelvins law for economical size of conductor.
	3 rd	Tutorial
	4 th	2.4.Corona.and.corona.loss.on.transmission.lines.
	5 th	2.4.Corona.and.corona.loss.on.transmission.lines..
4 th	1 st	3.OVERHEAD LINES 3.1.Types of supports,size and spacing of conductor.
	2 nd	3.1.Types of supports,size and spacing of conductor.(contd...)
	3 rd	3.2.Types of conductor materials.
	4 th	Tutorial
	5 th	3.3State types of insulator and cross arms.
5 th	1 st	3.4.Sag in over head line with support at same level and different level
	2 nd	Tutorial
	3 rd	3.4. Sag in over head line with support at same level(approximate formula effect of wind, ice and temperature on sag)simple problem.
	4 th	3.4. Sag in over head line with support at same level(approximate formula effect of wind, ice and temperature on sag)simple problem.(contd...)
	5 th	3.5.Simple problems on sag.
6 th	1 st	Tutorial
	2 nd	4.PERFORMANCE OF SHORT & MEDIUM LINES 4.1Calculation of regulation and efficiency.
	3 rd	4.1Calculation of regulation and efficiency.(contd...)
	4 th	4.1Calculation of regulation and efficiency.(contd..)
	5 th	4.1Calculation of regulation and efficiency.(contd...)
7 th	1 st	4.1Calculation of regulation and efficiency.(contd...)
	2 nd	4.1 Calculation of regulation and efficiency.(contd...)
	3 rd	Tutorial
	4 th	5.EHV TRANSMISSION 5.1 EHV AC transmission
	5 th	5.1 EHV AC transmission .(contd....)
8 th	1 st	5.1.1. Explain Reasons for adoption of EHV AC transmission.
	2 nd	5.1.1. Explain Reasons for adoption of EHV AC transmission.(contd...)
	3 rd	Tutorial
	4 th	5.2 .HVDC transmission.
	5 th	5.2.. HVDC transmission.(contd...)

9th	1 st	5.2.1. Advantages and limitations of HVDC transmission system.
	2 nd	6.DISTRIBUTION SYSTEMS 6.1.Introduction to Distribution System
	3 rd	6.1.Introduction to Distribution System.(contd...) 6.2.Connection schemes of distribution system (Radial, Ring Main and Inter connected system)
	4 th	6.3.DC distributions 6.3.1Distributor fed at one End 6.3.2.Distributor fed at both the ends 6.3.3. Ring distributors.
	5 st	Tutorial
10th	1 st	6.4.AC distribution system.
	2 nd	6.4.1.Method of solving AC distribution problem.
	3 rd	6.4.1.Method of solving AC distribution problem(contd...)
	4 th	6.4.2.Three phase four wire star connected system arrangement.
	5 st	7.UNDER GROUND CABLE 7.1.Cable insulation and classification of cables
	1 st	7.1.Cable insulation and classification of cables.(contd...)
11th	2 nd	7.1.Cable insulation and classification of cables
	3 rd	7.2.Types of L.T.& H.T.cables with constructional features.
	4 th	7.2.Types of L.T.& H.T.cables with constructional features.(contd...)
	5 st	Tutorial
12th	1 st	7.3.Methods of cable laying.
	2 nd	7.4. Localisation of cable faults–Murray and Varley loop test for short circuit fault/Earth fault
	3 rd	8.ECONOMIC ASPECTS 8.1.Causes of low power factor& methods of improvement of power factor in power system.
	4 th	8.2.Factors affecting the economics of generation(Define and explain).
	5 st	Tutorial
13th	1 st	8.2.1.Load curves
	2 nd	8.2.2 Demand factor. 8.2.3. Maximum demand.
	3 rd	8.2.4Load factor. 8.2.5Diversity factor.
	4 th	8.2.6.Plant capacity factor. 8.3Peak load and Base load on power station
	5 th	Tutorial
14th	1 st	9. TYPES OF TARIFF 9.1 Describe characteristic of a tariff .
	2 nd	9.2.Explain two part tariff,block rate ,flat rate and maximum demand tariff with problems.
	3 rd	9.2.Explain two part tariff,block rate, flat rate and maximum demand tariff with problems.(contd...)
	4 th	Tutorial
	5 th	10. SUBSTATION 10.1.Layout of LT.HT and EHT substation.
15th	1 st	10.1 Layout of LT.HT and EHT substation.(contd...)
	2 nd	10.2.Earthing of Substation,transmission & distribution lines.
	3 rd	10.2.Earthing of Substation,transmission & distribution lines.(contd...)
	4 th	10.2.Earthing of Substation ,transmission & distribution lines.(contd...)
	5 th	Tutorial

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