

PNS SCHOOL OF ENGINEERING AND TECHNOLOGY

Branch: Electrical Engineering	Semester: 4 th	Name of the Lecturer: Chacha Amitav Tripathy
Subject: GTD	No of Classes Alloted in a Week: 6	Duration of Semester: 14.2.2023 - 23.5.2023
Week	Class Day	Theory / practical Topic
1st	1	GENERATION OF ELECTRICITY: Elementary idea on generation of electricity from Thermal Power station
	2	Elementary idea on generation of electricity from Hydro Power station
	3	Elementary idea on generation of electricity from Nuclear Power station
	4	Introduction to Solar Power Plant (Photovoltaic cells).
	5	Layout of generating station
	6	TRANSMISSION OF ELECTRIC POWER: Layout of transmission and Distribution scheme
2nd	1	Voltage Regulation
	2	Efficiency of transmission
	3	State and explain Kelvin's law for economical size of conductor
	4	Corona and corona loss on transmission lines
	5	OVERHEAD LINES: Types of supports, size and spacing of conductor
	6	Types of spacing of conductor
3rd	1	Types of conductor materials
	2	State types of insulator
	3	State types of cross arms
	4	Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)
	5	Simple problem on sag
	6	PERFORMANCE OF SHORT & MEDIUM LINES: Types of transmission line
4th	1	Calculation of regulation and efficiency of short transmission line
	2	Calculation of regulation and efficiency of medium transmission line (End condenser method)
	3	Calculation of regulation and efficiency of medium transmission line (Nominal T method)
	4	Calculation of regulation and efficiency of medium transmission line (Nominal π method)
	5	Solved Problems
	6	Solved Problems
5th	1	Class Test-I
	2	EHV transmission: EHV AC transmission
	3	Reasons for adoption of EHV AC transmission.
	4	Problems involved in EHV transmission
	5	HV DC transmission.
	6	Advantages of HVDC transmission system

6th	1	Limitations of HVDC transmission system
	2	DISTRIBUTION SYSTEMS: Introduction to Distribution System
	3	Connection Schemes of Distribution System: (Radial, Ring Main system)
	4	Connection Schemes of Distribution System: (Inter connected system)
	5	DC distributions, Distributor fed at one End,
	6	Distributor fed at both the ends, Ring distributors.
7th	1	AC distribution system, Method of solving AC distribution problem.
	2	Three phase four wire star connected system arrangement
	3	Internal Assesment Exam
	4	UNDERGROUND CABLES: Cable insulation and Classification of cables and
	5	Types of L. T. cables with constructional features
	6	Types of H.T. cables with constructional features
8th	1	Methods of cable lying
	2	Localization of cable faults: Murray loop test for short circuit fault/ Earth fault
	3	Localization of cable faults: Varley loop test for short circuit fault/ Earth fault
	4	ECONOMIC ASPECTS: Causes of low power factor and methods of improvement of power factor in power system
	5	Factors affecting the economics of generation: (Define and explain), Load curves., Demand factor
	6	Factors affecting the economics of generation: (Define and explain) Maximum demand, Load factor
9th	1	Factors affecting the economics of generation: (Define and explain) Diversity factor, Plant capacity factor
	2	Peak load and Base load on power station
	3	TYPES OF TARIFF: Desirable characteristic of a tariff
	4	Explain flat rate, block rate, two part and maximum demand tariff.
	5	Solve Problems of flat rate, block rate, two part and maximum demand tariff.
	6	SUBSTATION: Layout of LT , HT substation
10th	1	Layout of EHT substation
	2	Earthing of Substation lines, transmission lines and distribution lines
	3	Earthing of transmission lines
	4	Earthing of distribution lines
	5	Class Test- II
	6	Previous Semester Question Discussion

Signature of the
Lecturer

Signature of the
H.O.D.