Academic lesson plan for summer semester - 2024

Name of the teaching faculty: **Debadatta Nayak**
Semester: **4th**
No. of periods per week: **4**
Semester Exam: **80**
Total Marks: **100**

Discipline / Dept.: **EE**
Subject (Theory): **GTD**
Total Periods**: 60**
Class Test:**20**

Week	Period	Unit/Chapter	Topic to be covered
1st	1st	GENERATION OF ELECTRICITY	Elementary idea on generation of electricity from Thermal, Power station
	2nd	GENERATION OF ELECTRICITY	Elementary idea on generation of electricity from Hydel Power station
	3rd	GENERATION OF ELECTRICITY	Elementary idea on generation of electricity from Hydel Power station
	4th	GENERATION OF ELECTRICITY	Elementary idea on generation of electricity from Nuclear Power station
2nd	1st	GENERATION OF ELECTRICITY	Elementary idea on generation of electricity from Nuclear Power station
	2nd	GENERATION OF ELECTRICITY	Introduction to Solar Power Plant
	3rd	GENERATION OF ELECTRICITY	Layout diagram of generating stations
	4th	GENERATION OF ELECTRICITY	Layout diagram of generating stations
3rd	1st	TRANSMISSION OF ELECTRIC POWER	Layout of transmission and distribution scheme
	2nd	TRANSMISSION OF ELECTRIC POWER	Layout of transmission and distribution scheme
	3rd	TRANSMISSION OF ELECTRIC POWER	Voltage Regulation & efficiency of transmission.
	4th	TRANSMISSION OF ELECTRIC POWER	Voltage Regulation & efficiency of transmission.
4th	1st	TRANSMISSION OF ELECTRIC POWER	State and explain Kelvin's law for economical size of conductor
	2nd	TRANSMISSION OF ELECTRIC POWER	Corona and corona loss on transmission lines.
	3rd	TRANSMISSION OF ELECTRIC POWER	Corona and corona loss on transmission lines.
	4th	OVER HEAD LINES	Types of supports
5th	1st	OVER HEAD LINES	size and spacing of conductor.
	2nd	OVER HEAD LINES	Types of conductor materials.
	3rd	OVER HEAD LINES	State types of insulator and cross arms.
	4th	OVER HEAD LINES	State types of insulator and cross arms.
6th	1st	OVER HEAD LINES	Sag in overhead line
	2nd	OVER HEAD LINES	support at same level and different level.
	3rd	OVER HEAD LINES	support at same level and different level.
	4th	PERFORMANCE OF SHORT & MEDIUM LINES	Calculation of regulation.
7th	1st	PERFORMANCE OF SHORT & MEDIUM LINES	Calculation of regulation.
	2nd	PERFORMANCE OF SHORT & MEDIUM LINES	Calculation of regulation.
	3rd	PERFORMANCE OF SHORT & MEDIUM LINES	Calculation of efficiency.
	4th	PERFORMANCE OF SHORT & MEDIUM LINES	Calculation of efficiency.
8th	1st	PERFORMANCE OF SHORT & MEDIUM LINES	Problems on regulation and efficiency.
	2nd	PERFORMANCE OF SHORT & MEDIUM LINES	Problems on regulation and efficiency.
	3rd	EHV TRANSMISSION	EHV AC transmission
	4th	EHV TRANSMISSION	EHV AC transmission
9th	1st	EHV TRANSMISSION	Reasons for adoption of EHV AC transmission
	2nd	EHV TRANSMISSION	Problems involved in EHV transmission.
	3rd	EHV TRANSMISSION	HV DC transmission.
	4th	EHV TRANSMISSION	Advantages and Limitations of HVDC transmission
10th	1st	DISTRIBUTION SYSTEMS	Introduction to Distribution System.
	2nd	DISTRIBUTION SYSTEMS	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)
	3rd	DISTRIBUTION SYSTEMS	Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system)

	4th	DISTRIBUTION SYSTEMS	DC distributions - Distributor fed at one End.
11th	1st	DISTRIBUTION SYSTEMS	DC distributions - Distributor fed at both the ends.
	2nd	DISTRIBUTION SYSTEMS	DC distributions - Ring distributors.
	3rd	DISTRIBUTION SYSTEMS	AC distribution system- Method of solving AC distribution problem.
	4th	DISTRIBUTION SYSTEMS	AC distribution system- Three phase four wire star connected system arrangement
12th	1st	UNDERGROUND CABLES	Cable insulation and classification of cables
	2nd	UNDERGROUND CABLES	Types of L. T. & H.T. cables with constructional features.
	3rd	UNDERGROUND CABLES	Methods of cable lying.
	4th	UNDERGROUND CABLES	Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.
13th	1st	ECONOMIC ASPECTS	Causes of low power factor and methods of improvement of power factor in power system.
	2nd	ECONOMIC ASPECTS	Causes of low power factor and methods of improvement of power factor in power system.
	3rd	ECONOMIC ASPECTS	Factors affecting the economics of generation: Load curves, Demand factor, Maximum demand
	4th	ECONOMIC ASPECTS	Factors affecting the economics of generation: Load factor, Diversity factor and Plant capacity factor.
14th	1st	ECONOMIC ASPECTS	Peak load and Base load on power station.
	2nd	TYPES OF TARIFF	Desirable characteristic of a tariff.
	3rd	TYPES OF TARIFF	Flat rate, block rate, two part and maximum demand tariff.
	4th	TYPES OF TARIFF	Solving problems on Tariff.
15th	1st	TYPES OF TARIFF	Solving problems on Tariff.
	2nd	SUBSTATION	Layout of LT, HT and EHT substation
	3rd	SUBSTATION	Earthing of Substation, transmission and distribution lines.
	4th	SUBSTATION	Earthing of Substation, transmission and distribution lines.

The lesson plan prepared by the concerned faculty.

Debadatta Nayak

Lecturer, ELECTRICAL DEPARTMENT