BHUBANANANDA ORISSA SCHOOL OF ENGINEERING, CUTTACK

ELECTRICAL ENGG.DEPARTMENT

LESSON PLAN

SEMESTER: 4TH (C)

SESSION – SUMMER (**2022-23**)

SUBJECT: GENERATION, TRANSMISSION & DISTRIBUTION

NAME OF FACULTY: Mrs. PRIYANKA SAHU

Discipline: **Electrical Engg.**	Semester:**4Th (C)**	Name of the teaching faculty: **Mrs. PRIYANKA SAHU**
Subject-**GENERATION TRANSMISSION & DISTRIBUTION**	No. of Days/per week class allotted: **04 PERIODS /WEEK (TUE -1, WED -1, THUR -1, SAT-1 PERIOD EACH)**	Semester: From Date: **14/02/2023** To Date: **23/05/2023** No. of weeks: **15 WEEKS**
Week	**Class Day**	**Theory/Practical Topics**
1st (14/02/2023-18/02/2023)	14/02/2023	**1. GENERATION OF ELECTRICITY** 1.1 Elementary idea on generation of electricity fromThermal Power station.
	15/02/2023	1.1 Elementary idea on generation of electricity fromHydel Power station
	16/02/2023	1.1 Elementary idea on generation of electricity fromNuclear Power station.
	18/02/2023	**MAHA SHIVARATRI…..**
2nd (20/02/2023-25/02/2023)	21/02/2023	1.2 Introduction to Solar Power Plant (Photovoltaic cells).
	22/02/2023	1.2 Introduction to Solar Power Plant (Photovoltaic cells).
	23/02/2023	1.3 Layout diagram of generating stations.
	25/02/2023	**2. TRANSMISSION OF ELECTRIC POWER** 2.1 Layout of transmission and distribution scheme.
3rd (27/02/2023-04/03/2023)	28/02/2023	2.2 Voltage Regulation & efficiency of transmission.
	01/03/2023	2.3 State and explain Kelvin's law for economical size ofconductor.
	02/03/2023	2.4 Corona and corona loss on transmission lines.
	04/03/2023	**3. OVER HEAD LINES** 3.1 Types of supports, size and spacing of conductor.
4th (06/03/2023-11/03/2023)	07/03/2023	**DOLA PURNIMA….**
	08/03/2023	**HOLI….**
	09/03/2023	3.2 Types of conductor materials. 3.3 State types of insulator and cross arms.

	11/03/2023	**CLASS TEST 1**
5TH (13/03/2023-18/03/2023)	14/03/2023	3.4 Sag in overhead line with support at same level anddifferent level. (approximate formula effect of wind, ice and temperature on sag)
	15/03/2023	3.5 Simple problem on sag.
	16/03/2023	**4. PERFORMANCE OF SHORT & MEDIUM LINES** 4.1. Calculation of regulation and efficiency.
	18/03/2023	4.1 Calculation of regulation and efficiency.
6TH (20/03/2023-25/03/2023)	21/03/2023	4.1 Calculation of regulation and efficiency.
	22/03/2023	4.1 Calculation of regulation and efficiency.
	23/03/2023	**5.EHV TRANSMISSION** 5.1 EHV AC transmission.
	25/03/2023	5.1..1. Reasons for adoption of EHV AC transmission.
7th (27/03/2023-01/04/2023)	28/03/2023	5.1..2. Problems involved in EHV transmission.
	29/03/2023	5.2 HV DC transmission.
	30/03/2023	**Ram Navami….**
	01/04/2023	**Utkal Dibas…..**
8th (03/04/2023-08/04/2023)	04/04/2023	5.2.1. Advantages and Limitations of HVDC transmission system. **6. DISTRIBUTION SYSTEMS** 6.1 Introduction to Distribution System.
	05/04/2023	6.2 Connection Schemes of Distribution System: (Radial,Ring Main and Inter connected system)
	06/04/2023	6.3 DC distributions. 6.3.1 Distributor fed at one End.
	08/04/2023	6.3.2 Distributor fed at both the ends.
9th (10/04/2023-15/04/2023)	11/04/2023	6.3.3 Ring distributors.
	12/04/2023	**CLASS TEST 2**
	13/04/2023	6.4 AC distribution system. 6.4.1Method of solving AC distribution problem. 6.4.2. Three phase four wire star connected system arrangement.
	15/04/2023	**7. UNDERGROUND CABLES** 7.1 Cable insulation and classification of cables.

10th (17/04/2023-22/04/2023)	18/04/2023	7.2 Types of L. T. & H.T. cables with constructional features.
	19/04/2023	7.3 Methods of cable lying.
	20/04/2023	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.
	22/04/2023	7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.
11th (24/04/2023-29/04/2023)	25/04/2023	**8. ECONOMIC ASPECTS** Causes of low power factor and methods of improvement of power factor in power system.
	26/04/2023	**INTERNAL ASSESSMENT**
	27/04/2023	**INTERNAL ASSESSMENT**
	29/04/2023	8.2 Factors affecting the economics of generation: (Define and explain)
12th (01/05/2023-06/05/2023)	02/05/2023	8.2.1 Load curves.
	03/05/2023	8.2.2 Demand factor. 8.2.3 Maximum demand.
	04/05/2023	8.2.4 Load factor. 8.2.5 Diversity factor.
	06/05/2023	8.2.6 Plant capacity factor.
13th (08/05/2023-13/05/2023)	09/05/2023	8.3 Peak load and Base load on power station.
	10/05/2023	**QUIZ TEST**
	11/05/2023	**9. TYPES OF TARIFF** 9.1 Desirable characteristic of a tariff.
	13/05/2023	9.2 Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)
14th (15/05/2023-20/05/2023)	16/05/2023	9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)
	17/05/2023	**10. SUBSTATION** 10.1 Layout of LT, HT and EHT substation.
	18/05/2023	10.1 Layout of LT, HT and EHT substation.
	20/05/2023	10.2 Earthing of Substation, transmission and distribution lines.
15th (15/05/2023-20/05/2023)	23/05/2023	**REVISION**