

Lesson Plan

Subject:-**GT & D**

(Code) **TH-4**

Name of faculty: -**Sujata Samal**

Semester:-**4th Summer 2025** Class allotted:-**4p/w**

Branch :- **Electrical Engg.**

Discipline	Semester:-4th	From date:-04/02/25 To date:17/05/25	Teaching Aid
Subject:GT &D	No. of days/ per week 4p/w	Theory/ Practical –Topics/Lesson	
Week	Date/Period		

1	04/02/25 to 08/02/25	1.GENERATION OF ELECTRICITY 1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Power station. 1.2 Introduction to Solar Power Plant (Photovoltaic cells). 1.3 Layout diagram of generating stations.	White board & marker
2	10/02/25 to 15/02/25	2. TRANSMISSION OF ELECTRIC POWER 2.1 Layout of transmission and distribution scheme. 2.2 Voltage Regulation & efficiency of transmission. 2.3 State and explain Kelvin's law for economical size of conductor. 2.4 Corona and corona loss on transmission lines.	White board & marker
3	17/02/25 to 22/02/25	2. ELECTRICAL HEATING: 2.1. Advantages of electrical heating. 2.2. Mode of heat transfer and Stephen's Law. 2.3. Principle of Resistance heating. (Direct resistance and indirect resistance heating.) 2.4. Discuss working principle of direct arc furnace and indirect arc furnace. 2.5. Principle of Induction heating.	White board & marker
4	24/02/25 to 01/03/25	3. OVER HEADLINES 3.1 Types of supports, size and spacing of conductor. 3.2 Types of conductor materials. 3.3 State types of insulator and cross arms. 3.4 Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)	White board & marker
5	03/03/25 to 08/03/25	4. PERFORMANCE OF SHORT & MEDIUM LINES 4.1. Calculation of regulation and efficiency.	White board & marker
6	10/03/25 to 13/03/25	5. EHV TRANSMISSION 5.1 EHV AC transmission. 5.1..1. Reasons for adoption of EHV AC transmission.	White board & marker
7	17/03/25 to 21/03/25	5.1..2. Problems involved in EHV transmission. 5.2 HV DC transmission. 5.2..1. Advantages and Limitations of HVDC transmission system.	White board & marker

	24/03/25 to 29/03/25	6. DISTRIBUTION SYSTEMS 6.1 Introduction to Distribution System. 6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system) 6.3 DC distributions. 6.3.1 Distributor fed at one End. 6.3.2 Distributor fed at both the ends. 6.3.3 Ring distributors.	White board & marker
9	02/04/25 to 05/04/25	6.4 AC distribution system. 6.4.1. Method of solving AC distribution problem. 6.4.2. Three phase four wire star connected system arrangement.	White board & marker
10	07/04/25 to 12/04/25	7. UNDERGROUND CABLES 7.1 Cable insulation and classification of cables. 7.2 Types of L. T. & H.T. cables with constructional features. 7.3 Methods of cable lying. 7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.	White board & marker
11	15/04/25 to 19/04/25	8. ECONOMIC ASPECTS 8.1 Causes of low power factor and methods of improvement of power factor in power system. 8.2 Factors affecting the economics of generation: (Define and explain) 8.2.1 Load curves. 8.2.2 Demand factor. 8.2.3 Maximum demand. 8.2.4 Load factor. 8.2.5 Diversity factor. 8.2.6 Plant capacity factor. 8.3 Peak load and Base load on power station.	White board & marker
12	21/04/25 to 26/04/25	9. TYPES OF TARIFF 9.1. Desirable characteristic of a tariff. 9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)	White board & marker & smart board
13	28/04/25 to 03/05/25	10. SUBSTATION 10.1 Layout of LT, HT and EHT substation. 10.2 Earthing of Substation, transmission and distribution lines.	White board & marker
14	05/05/25 to 10/05/25	Revision	White board & marker
15	13/05/25 to 17/05/25	Revision	White board & marker & smart board

Sujata Samal
Signature of faculty

Bikram Keshari Parida
Signature of HOD