

Lesson Plan

| Lesson Plan | | | |
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| | Discipline:Electrical Engineering | Semester-4th SUMMER 2024 | Name of the Teachng Faculty: RAJESH KUMAR SAHOO |
| Sl. No. | Subject-Generation, Transmission and Distribution | No. Of Days/Week class allotted:04 | Semester From date: 16.01.2024 to date: 26.04.2024. No of weeks: 15 |
| | Weeks/Months | Class Day | Topic |
| 1 | 1st Week | 1st(16/1/24) | Elementary idea on generation of electricity from Thermal power plant. |
| | | 2nd(16/1/24) | Elementary idea on generation of electricity from HydroPower station. |
| | | 3rd(17/1/24) | Elementary idea on generation of electricity from Nuclear Power station. |
| | | 4th(18/1/24) | Introduction to Solar Power Plant (Photovoltaic cells). |
| 2 | 2nd Week | 1st(24/1/24) | Layout diagram of generating stations Thermal. |
| | | 2nd(25/1/24) | Layout diagram of generating stations Hydro. |
| 3 | 3rd Week | 1st(30/1/24) | Layout diagram of generating stations Nuclear. |
| | | 2nd(30/1/24) | Voltage Regulation & efficiency of transmission. |
| | | 3rd(31/1/24) | State and explain Kelvin's law for economical size of conductor. |
| | | 4th(1/2/24) | Corona and corona loss on transmission lines. |
| 4 | 4th Week | 1st(6/2/24) | Corona and corona loss on transmission lines. |
| | | 2nd(6/2/24) | Types of supports, size and spacing of conductor. Types of conductor materials. |
| | | 3rd(7/2/24) | State types of insulator and cross arms. |
| | | 4th(8/2/24) | Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag) |
| 5 | 5th Week | 1st(13/2/24) | Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag) |
| | | 2nd(13/2/24) | Simple problem on sag. |
| | | 3rd(15/2/24) | Calculation of regulation and efficiency. |
| 6 | 6th Week | 1st(20/2/24) | Calculation of regulation and efficiency. |
| | | 2nd(20/2/24) | Calculation of regulation and efficiency. |
| | | 3rd(21/2/24) | Calculation of regulation and efficiency. |
| | | 4th(22/2/24) | Calculation of regulation and efficiency. |
| 7 | 7th Week | 1st(27/2/24) | Calculation of regulation and efficiency. |
| | | 2nd(27/2/24) | EHV AC transmission |
| | | 3rd(28/2/24) | EHV AC transmission |
| | | 4th(29/2/24) | Reasons for adoption of EHV AC transmission. |
| 8 | 8th Week | 1st(6/3/24) | Problems involved in EHV transmission. |
| | | 2nd(7/3/24) | HV DC transmission |
| 9 | 9th Week | 1st(11/3/24) | HV DC transmission |
| | | 2nd(11/3/24) | Advantages and Limitations of HVDC transmission system. |
| | | 3rd(12/3/24) | Introduction to Distribution System. |
| | | 4th(13/3/24) | Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system) |
| 10 | 10th Week | 1st(19/3/24) | DC distributions. Distributor fed at one End. |
| | | 2nd(19/3/24) | Distributor fed at both the ends. |
| | | 3rd(20/3/24) | Ring distributors |
| | | 4th(21/3/24) | AC distribution system. Method of solving AC distribution problem. |

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| 11 | 11th Week | 1st(27/3/24) | Three phase four wire star connected system arrangement |
| | | 2nd(28/3/24) | Cable insulation and classification of cables. |
| 12 | 12th Week | 1st(2/4/24) | Types of L. T. & H.T. cables with constructional features. |
| | | 2nd(2/4/24) | Methods of cable lying. |
| | | 3rd(3/4/24) | Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault. |
| | | 4th(4/4/24) | Causes of low power factor and methods of improvement of power factor in power system. |
| 13 | 13th Week | 1st(9/4/24) | Causes of low power factor and methods of improvement of power factor in power system. |
| | | 2nd(9/4/24) | Factors affecting the economics of generation: (Define and explain) |
| | | 3rd(10/4/24) | Load curves. Demand factor. Maximum demand. Load factor. Diversity factor. |
| 14 | 14th Week | 1st(16/4/24) | Plant capacity factor. Peak load and Base load on power station |
| | | 2nd(16/4/24) | Desirable characteristic of a tariff |
| | | 3rd(18/4/24) | Explain flat rate, block rate, two part and maximum demand tariff. |
| 15 | 15th Week | 1st(23/4/24) | Explain flat rate, block rate, two part and maximum demand tariff. Layout of LT, HT and EHT substation |
| | | 2nd(23/4/24) | Earthing of Substation. |
| | | 3rd(24/4/24) | Earthing of transmission and distribution lines. |
| | | 4th(25/4/24) | Earthing of transmission and distribution lines. |



Explain flat rate, block rate, two part and maximum demand tariff.