**LESSON PLAN**

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| **Discipline:**  Elect. Engg. | **Semester:**  Fourth(4th) | **Name of the Faculty:** Er R Chindra |
| **Subject:**  Generation Transmission & Distribution(Th-4) | **No. of days per Week class allotted:**  **S**ix (6) | **Semester from Date:16.04.24** **to Date: 26.04.24**  **No. of Weeks:** 15 |
| **WEEK** | **CLASS DAY** | **THEORY TOPICS** |
| 1st | 1st | **CHAPTER NO- 1 (GENERATION OF ELECTRICITY):** Introduction, |
| 2nd | Elementary idea on generation of electricity from Thermal power plant |
| 3rd | Continue ……. |
| 4th | Hydroelectric power station |
| 5th | Continue.... |
| 6th | Nuclear power station |
| 2nd | 1st | Continue… |
| 2nd | Introduction to solar power plant.  (Photo voltaic cell). |
| 3rd | Draw Layout diagram of generating stations. |
| 4th | **Possible question answer discussion** |
| 5th | **CHAPTER NO-03 (OVER HEAD LINES)**  State types of supports, size and spacing of conductor. |
| 6th | Types of conductor materials. |
| 3rd | 1st | State types of insulator and cross arms. |
| 2nd | Derive for sag in overhead line with support at same level |
| 3rd | Derive for sag in overhead line with support at different level |
| 4th | Simple problem on sag |
| 5th | **Possible question answer discussion** |
| 6th | **CHAPTER NO -02TRANSMISSION OF ELECTRIC POWER)**  Draw layout of transmission and distribution scheme |
| 4th | 1st | Explain voltage Regulation & efficiency of transmission. |
| 2nd | Kelvin’s law for economical size of the conductor |
| 3rd | Corona and corona loss on transmission lines. |
| 4th | **Monthly Test-01** |
|  | 5th | **Possible question answer discussion** |
| 6th | **CHAPTER NO -04 (PERFORMANCE OF SHORT & MEDIUM LINES):**  Calculation of regulation and efficiency |
| 5th | 1st | Numerical problem….. |
| 2nd | Numerical problem..... |
| 3rd | Numerical problem........... |
| 4th | Numerical problem........... |
| 5th | Numerical problem........... |
| 6th | Numerical problem........... |
| 6th | 1st | **Possible question answer discussion** |
| 2nd | **CHAPTER NO -05 (EHV TRANSMISSION):**  Explain EHV AC transmission.  Explain Reasons for adoption of EHV AC transmission |
| 3rd | Problems involved in EHV AC transmission. |
| 4th | HV DC transmission.  Advantages and Limitations of HV DC transmission |
| 5th | **Possible question answer discussion** |
| 6th | **CHAPTER-06 (DISTRIBUTION SYSTEMS):**  Introduction of Distribution System. |
| 7th | 1st | Connection Schemes of Distribution System (Radial) |
| 2nd | Introduction of Distribution System.  Connection Schemes of Distribution System (Ring main & Inter connected) |
| 3rd | Explain DC distributions  Distributor fed at one End  Distributor fed at both the ends |
| 4th | **Monthly test-02** |
| 5th | Numerical problem |
| 6th | Numerical problem |
| 8th | 1st | Ring distributors |
| 2nd | Numerical problem |
| 3rd | AC distribution system.  Method of solving AC distribution problem |
| 4th | Three phase four wire star connected system arrangement |
| 5th | **Possible question answer discussion** |
| 6th | **CHAPTER NO-07 (UNDER GROUND CABLES):**  Explain cable insulation and classification of cables. |
| 9th | 1st | Types of L. T. cables with construction features |
| 2nd | Types of H.T. cables with construction features |
| 3rd | Methods of cable laying. |
| 4th | Localization of cable faults – Murray loop test for short circuit fault/Earth fault. |
| 5th | Localization of cable faults Varley loop test for short circuit fault/Earth fault. |
| 6th | **Monthly test-03** |
| 10th | 1st | Simple problems |
| 2nd | **Possible question answer discussion** |
| 3rd | **CHAPTER-08(ECONOMIC ASPECTS):**  Causes of low power factor. |
| 4th | Methods of Improvement of power factor in power system. |
| 5th | Cont.… |
| 6th | Factors affecting the economics of generation  Define & explain Load curves.  Define & explain Demand factor  Define & explain Maximum demand.  Define & explain Load factor. |
| 11th | 1st | Define & explain Diversity factor.  Define & explain Plant capacity factor.  Define & explain peak load and Base load on power station. |
| 2nd | **Possible question answer discussion** |
| 3rd | **CHAPTER NO-09 (TYPES OF TARIFF) :**  Desirable characteristics of a tariff |
| 4th | Explain flat rate, block rate, two part and |
| 5th | maximum demand tariffs |
| 6th | **Monthly test-04** |
| 12th | 1st | Simple problems |
| 2nd | **Possible question answer discussion** |
| 3rd | **CHAPTER NO -10 (SUBSTATION**):  Layout of LT. HT Substation. |
| 4th | Layout of EHT substation. |
| 5th | Earthing of Substation, transmission, distribution lines |
| 6th | Earthing of distribution lines |
| 13th | 1st | **Possible question answer discussion** |
| 2nd | Revision |
| 3rd | Revision |
| 4th | Revision |
| 5th | Revision |
| 6th | Revision |
| 14th | 1st | Revision |
| 2nd | Revision |
| 3rd | Revision |
| 4th | Revision |
| 5th | Revision |
| 6th | Revision |
| 15th | 1st | Revision |
| 2nd | Revision |
| 3rd | Revision |
| 4th | Revision |
| 5th | Revision |
| 6th | Revision |

Syllabus Coverage up to Internal assessment- Ch-1,2,3,4&5.