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| Discipline **Electrical Engg.** | Semester:-**4th**  | Name of the Teaching Faculty:-**New-2** |
| Subject:-**GENERATION TRANSMISSION & DISTRIBUTION** | No of Days/per Week Class Allotted :-**4+ 1{Tutorial)** | Semester From:- **2nd Jan, 2019** To:- **15th Apr, 2019**No of Weeks:- **15** |
| **Week** | **Class Day** | **Theory/ Practical Topics** |
| 1st | 1st | 1.1.1 Give Elementary idea on generation of electricity from Thermal Power station. |
| 2nd | 1.1.1 Give Elementary idea on generation of electricity from Thermal Power station. |
| 3rd | 1.1.2 Give Elementary idea on generation of electricity from Hydel Power station. |
| 4th | 1.1.3 Give Elementary idea on generation of electricity from Nuclear Power station. |
| 5th | Tutorial |
| 2nd | 1st | 1.2.1 Draw layout of generating stations. |
| 2nd | 1.2.1 Draw layout of generating stations. |
| 3rd | 1.2.2 Draw layout of generating stations. |
| 4th | Tutorial |
| 5th | 2.1 Draw layout of transmission and distribution scheme. |
|  3rd | 1st | 2.2 Explain voltage Regulation & efficiency of transmission. |
| 2nd | 2.3 State and explain Kelvin’s law for economical size of conductor. |
| 3rd | Tutorial |
| 4th | 2.4 Explain corona and corona loss on transmission lines. |
| 5th | 2.4 Explain corona and corona loss on transmission lines. |
| 4th | 1st | OVER HEAD LINES3.1.1 State types of supports of conductor. |
| 2nd | 3.1.2 State size and spacing of conductor. |
| 3rd | 3.2 Types of conductor materials. |
| 4th | Tutorial |
| 5th | 3.3 State types of insulator and cross arms |
| 5th | 1st | 3.4 Derive for sag in overhead line with support at same level and different level  |
| 2nd | Tutorial |
| 3rd | 3.4.1 Derive for sag in overhead line with support at same level (approximate formula effect of wind, ice and temperature on sag simple problem) |
| 4th | 3.4.2 Derive for sag in overhead line with support at different level (approximate formula effect of wind, ice and temperature on sag simple problem) |
| 5th | 3.4.2 Derive for sag in overhead line with support at different level (approximate formula effect of wind, ice and temperature on sag simple problem) |
| 6th | 1st | Tutorial |
| 2nd | PERFORMANCE OF SHORT & MEDIUM LINES |
| 3rd | 4.1 Calculation of regulation and efficiency. |
| 4th | 4.1 Calculation of regulation and efficiency. |
| 5th | 4.1 Calculation of regulation and efficiency. |
| 7th | 1st | 4.1 Calculation of regulation and efficiency. |
| 2nd | 4.1 Calculation of regulation and efficiency. |
| 3rd | 4.1 Calculation of regulation and efficiency. |
| 4th | Tutorial |
| 5st | 5.1 Explain EHV AC transmission. |
| 8th | 1st | 5.2 Explain Reasons for adoption of EHV AC transmission. |
| 2nd | 5.3 Problems involved in EHV transmission. |
| 3rd | Tutorial |
| 4th | 5.4 Explain HV DC transmission. |
| 5st | 5.4 Explain HV DC transmission |
| 9th | 1st | 5.5.1 State Advantages of HVDC transmission system. |
| 2nd | 5.5.2 State Limitations of HVDC transmission system. |
| 3rd | 6.1.2 Explain Connection Schemes of Distribution System –(Radial, Ring Main and Inter connected system) |
| 4th | 6.2 Explain DC distributions (a) Distributor fed at one End (b) Distributor fed at both the ends (c) Ring distributors. |
| 5st | Tutorial |
| 10th | 1st | 6.3.1 Explain AC distribution system. |
| 2nd | 6.3.2 Explain Method of solving AC distribution problem. |
| 3rd | 6.3.2 Explain Method of solving AC distribution problem. |
| 4th | 6.4 Explain three phase four wire star connected system arrangement. |
| 5st | Tutorial |
| 11th | 1st | 7. UNDERGROUND CABLES7.1.1 Explain cable insulation of cables. |
| 2nd | 7.1.2 Explain classification of cables. |
| 3rd | 7.2.1 State Types of L. T. & H.T. cables with constructional features. |
| 4th | 7.2.2 State Types of L. T. & H.T. cables with constructional features. |
| 5st | Tutorial |
| 12th | 1st | 7.3 State and Explain Methods of cable lying. |
| 2nd | 7.4 State methods of Localisation of cable faults – Murray and Varley loop test for short circuit fault/Earth fault |
| 3rd | 8.1 State and explain causes of low power factor. |
| 4th | 8.2 Explain methods of improvement of power factor. |
| 5st | Tutorial |
|   13th | 1st | 8.3 Define & explain Load curves |
| 2nd | 8.4 Define & explain Demand factor.8.5 Define & explain Maximum demand. |
| 3rd | 8.6 Define & explain Load factor.8.7 Define & explain Diversity factor. |
| 4th | 8.8 Define & explain Plant capacity factor.8.9 Define & explain peak load and Base load on power station |
| 5th | Tutorial |
|    14th | 1st | 9. TYPES OF TARIFF9.1 Explain flat rate tariff with problems |
| 2nd | 9.1 Explain two part tariff and block rate tariff with problems |
| 3rd | 9.1 Explain block rate tariff with problems |
| 4th | Tutorial |
| 5th | 10. SUBSTATION10.1.1 Draw and explain layout of LT. HT and EHT substation. |
| 15th | 1st | 10.1.2 Draw and explain layout of LT. HT and EHT substation. |
| 2nd | 10.2.1 Draw and Explain Earthing of Substation |
| 3rd | 10.2.2 Draw and Explain Earthing of transmission lines. |
| 4th | 10.2.3 Draw and Explain Earthing of distribution lines. |
| 5th | Tutorial |