| Discipline :Electrical Engineering | Semester:-4th sem | Name of the teaching faculty:- MANMOHAN PANDA |
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| Subject:-Generation Transmission & Distribution | No. of Days/week class Allotted :-4 | No. of weeks:-15 |
| No. of week | No. of class | Topic to be Taught |
| 1st | 1st | Introduction class |
| | 2nd | **GENERATION OF ELECTRICITY** Elementary idea on generation of electricity from Thermal Power Station with layout diagram |
| | 3rd | Elementary idea on generation of electricity from Hydroelectric Power station with layout diagram |
| | 4th | Elementary idea on generation of electricity from Nuclear Power station with layout diagram |
| 2nd | 1st | Introduction to Solar Power Plant with layout diagram |
| | 2nd | **TRANSMISSION OF ELECTRIC POWER** Layout of transmission and distribution scheme |
| | 3rd | Voltage Regulation & efficiency of transmission |
| | 4th | State and explain Kelvin's law for economical size of conductor |
| 3rd | 1st | Corona and corona loss on transmission lines |
| | 2nd | **OVER HEAD LINES** Types of supports, size and spacing of conductor |
| | 3rd | Types of conductor materials |
| | 4th | State types of insulator and cross arms |
| 4th | 1st | Sag in overhead line with support at same level |
| | 2nd | Sag in overhead line with support different level |
| | 3rd | Approximate formula effect of wind, ice and temperature on sag |
| | 4th | Simple problem on sag |
| 5th | 1st | **PERFORMANCE OF SHORT LINES** Calculation of regulation and efficiency |
| | 2nd | **PERFORMANCE OF MEDIUM LINES** Calculation of regulation and efficiency |
| | 3rd | **EHV TRANSMISSION** EHV AC |

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| | | transmission |
| | 4th | Reasons for adoption of EHV AC transmission |
| 6th | 1st | Problems involved in EHV transmission |
| | 2nd | HV DC transmission |
| | 3rd | Advantages and Limitations of HVDC transmission system |
| | 4th | **DISTRIBUTION SYSTEMS** Introduction to Distribution System. |
| 7th | 1st | Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system) |
| | 2nd | DC distributions<br>Distributor fed at one End. |
| | 3rd | Distributor fed at both the ends |
| | 4th | Ring distributors |
| 8th | 1st | AC distribution system |
| | 2nd | Method of solving AC distribution problem |
| | 3rd | Three phase four wire star connected system arrangement |
| | 4th | **UNDERGROUND CABLES**<br>Cable insulation and classification of cables |
| 9th | 1st | Types of L. T cables with constructional features |
| | 2nd | Types of H.T. cables with constructional features |
| | 3rd | Methods of cable lying |
| | 4th | Localization of cable faults: Murray and Varley loop test for short circuit fault |
| 10th | 1st | Localization of cable faults: Murray and Varley loop test for Earth fault |
| | 2nd | **ECONOMIC ASPECTS**<br>Causes of low power factor |
| | 3rd | Methods of improvement of power factor in power system |
| | 4th | Factors affecting the economics of generation |
| | 1st | Load curves |

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| 11th | 2nd | Demand factor |
| | 3rd | Maximum demand |
| | 4th | Load factor |
| 12th | 1st | Diversity factor |
| | 2nd | Plant capacity factor |
| | 3rd | **Peak load and Base load on power station** |
| | 4th | **TYPES OF TARIFF**<br>Desirable characteristic of a tariff |
| | 5th | Explain flat rate, block rate tariff |
| 13th | 1st | Explain two part and maximum demand tariff |
| | 2nd | Problems related to Tariff |
| | 3rd | **SUBSTATION**<br>**Layout of LT substation** |
| | 4th | Layout of HT substation |
| 14th | 1st | Layout of EHT substation |
| | 2nd | Earthing of Substation |
| | 3rd | Earthing of transmission lines |
| | 4th | Earthing of distribution lines |
| 15th | 1st | Solving of Previous year Questions |
| | 2nd | Solving of Previous year Questions |
| | 3rd | Solving of Previous year Questions |
| | 4th | Solving of Previous year Questions |