

| Discipline<br>Electrical Engg                            | Semester<br>4th               | Name of the teaching<br>Faculty: K. Panda         |   |
|--|-------------------------------|---|---|
| Sub.: GTD<br>Generation<br>Transmission<br>Distribution. | No. of days<br>per week<br>04 | Semester from date: 10/03/22<br>To date: 10.06.22 |   |
| Month  | Weeks                         | Class Day   | Theory Topics   |
|  | 2nd                           | 1st   | Generation of Electricity<br>from Thermal Power<br>Plant.   |
| Mar.   |                               | 2nd   | Generation of Electricity<br>from Hydel power Plant.  |
|  |                               | 3rd   | Generation of Electricity<br>from Nuclear power<br>Station.   |
|  | 3rd                           | 1st   | Introduction to Solar power<br>Plant, Photovoltaic cells,<br>Layout diagram of<br>generating Station. |
|  |                               | 2nd   | Layout of Transmission<br>Scheme & distribution<br>Scheme   |
|  |                               | 3rd   | Voltage Regulation &<br>Efficiency of transmission.   |

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|       |     | 4th | State and explain Kelvin's Law for economic size of conductor.     |  | 2nd | Calculation of Regulation and efficiency    |  |
|       |     | 5th | Define Corona, Corona loss in transmission line                    |  | 2nd | 3rd   | EHV AC transmission.                     |
|       | 4th | 9th | Types of Support and sizes of the conductor.                       |  | 2nd | Reason for adoption of EHV AC transmission. |  |
|       |     | 2nd | Spacing of conductor and types of conductor materials.             |  | 3rd | HVDC transmission.                          |  |
|       |     | 3rd | Types of insulator and cross arm.                                  |  | 4th | Advantages of HVDC transmission.            |  |
|       |     | 4th | Sag in overhead lines with support at same level & different level |  | 3rd | 9th   | Limitations of HVDC transmission system. |
|       | 5th | 9th | Numericals in sag & simple problems in sag                         |  | 2nd | Introduction to Distribution System.        |  |
|       |     | 2nd | Approximate formula effect of wind,                                |  | 3rd | Connection Scheme of Distribution System.   |  |
|       |     | 3rd | Approximate formula effect of ice and temp. in sag.                |  | 4th | Radial Connected System.                    |  |
|       |     |     |  |  | 4th | 9th   | Ringmesh Connected System.               |
|       |     |     |  |  | 2nd | Interconnected distribution system.         |  |
| April | 1st | 1st | Performance of short & Medium Lines.                               |  | 3rd | DC distribution fed at one end.             |  |
|       |     |     |  |  | 4th | DC distribution fed at both end.            |  |

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|     | <del>5th</del> | 9th | Three phase four wire Ring distributors, Ac distribution system. |
|     |                | 2nd | Methods of Solving Ac distribution problem.                      |
|     |                | 3rd | Simple problems on Ring distribution.                            |
| May | 9th            | 9th | Three phase four wire Star Connected System arrangement          |
|     |                | 2nd | Underground Cables.  |
|     |                | 3rd | Cable Insulation.  |
|     |                | 4th | Classification of Cables.  |
|     | 2nd            | 9th | Types of LT cable with Constructional feature                    |
|     |                | 2nd | Types of HT cables with Constructional features.                 |
|     |                | 3rd | Different Methods of Cable Laying                                |
|     |                | 4th | Localization of cable faults.                                    |
|     | 3rd            | 9th | Murray Loop test for short circuit fault                         |

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|      |     | 2nd | Vorley Loop test for short circuit fault                 |
|      |     | 3rd | Murray Loop test for Earth fault                         |
|      |     | 4th | Vorley Loop test for Earth fault.                        |
|      | 4th | 9th | Economic aspects on Transmission line                    |
|      |     | 2nd | Causes of Low Power factor                               |
|      |     | 3rd | Methods of improvement of Power factor in Power System.  |
|      |     | 4th | Factors affecting the economic of generation.            |
|      | 5th | 9th | Define and explain economic of generation                |
| June | 9th | 1st | Load curves, Demand Factor, Maximum demand, Load Factor. |
|      |     | 2nd | Demand Factor, Maximum demand, Diversity Factor.         |
|      |     | 3rd | Plant Capacity Factor.                                   |

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| 2nd | 1st | Peak Load & Base Load<br>on Power Station,   |
|     | 2nd | Types of Tariff Desirable<br>Characteristics of a tariff<br>Explaining flat rate Tariff<br>Block rate Tariff |
|     | 3rd | Two part Tariff, Maximum<br>demand Tariff, Solve<br>problems on Tariff                                       |
|     | 4th | Substation, Layout of LT<br>S/c, <del>HT</del> HT S/c,<br>EHT S/c.   |
|     | 5th | Earthing of Substation,<br>Earthing of transmission<br>and distribution lines.                               |