



GANDHI SCHOOL OF ENGINEERING

BHABANDHA, BERHAMPUR

BRANCH:- ELECTRICAL ENGINEERING

SEMESTER:- 4th

SUBJECT:- GTD

GROUP- I&II

Name of the Faculty- AMARESH CHOUDHURY & S. MAHARANA

| | | Topic to be taken | | | | Actual topic taken | | |
|--------|--------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------|
| Sl. No | Topic/Module | No. of period | Details of the topics | Date | Topic No. | Topic Name | Date | Remarks |
| 1 | GENERATION OF ELECTRICITY | 07 | 1.1 Elementary idea on generation of electricity from Thermal, Hydel, Nuclear, Powerstation. 1.2 Introduction to Solar Power Plant (Photovoltaic cells). Layout diagram of generating stations. | 18.01.2024 To 31.01.2024 | 1.1 1.2 | Thermal, Hydel, Nuclear, Powerstation Solar Power Plant(Photovoltaic cells). Layout diagram of generating stations. | 18.01.2024 19.01.2024 20.01.2024 22.01.2024 24.01.2024 25.01.2024 31.01.2024 | |
| 2 | TRANSMISSION OF ELECTRIC POWER | 05 | 2.1 Layout of transmission and distribution scheme. 2.2 Voltage Regulation & efficiency of transmission. 2.3 State and explain Kelvin's law for economical size of conductor. 2.4 Corona and corona loss on transmission lines. | 01.02.2024 To 06.02.2024 | 2.1 2.2 2.3 2.4 | Layout of transmission and distribution scheme Voltage Regulation & efficiency of transmission Explain Kelvin's law for economical size of conductor Corona and corona loss on transmission lines. | 01.02.2024 02.02.2024 03.02.2024 05.02.2024 06.02.2024 | |

| | | | | | | | | |
|---|------------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| 3 | OVER HEAD LINES | 07 | <p>3.1 Types of supports, size and spacing of conductor.</p> <p>3.2 Types of conductor materials.</p> <p>3.3 State types of insulator and cross arms.</p> <p>3.4 Sag in overhead line with support at same level and different level. (approximate formula effect of wind, ice and temperature on sag)</p> <p>3.5 Simple problem on sag.</p> | 07.02.2024 To 15.02.2024 | <p>3.1</p> <p>3.2</p> <p>3.3</p> <p>3.4</p> <p>3.5</p> | <p>Types of supports,size and spacing of conductor.</p> <p>Types of conductor materials.</p> <p>State types of insulator and cross arms.</p> <p>Sag in overhead line with support at same level and different level.</p> <p>Simple problem on sag</p> | <p>07.02.2024</p> <p>08.02.2024</p> <p>09.02.2024</p> <p>10.02.2024</p> <p>12.02.2024</p> <p>13.02.2024</p> <p>15.02.2024</p> | |
| 4 | PERFORMANCE OF SHORT & MEDIUM LINES | 07 | 4.1. Calculation of regulation and efficiency. | 16.02.2024 To 23.02.2024 | 4.1 | <p>Calculation of regulation and efficiency.</p> <p>Short transmission line.</p> <p>, medium transmission line</p> | <p>16.02.2024</p> <p>17.02.2024</p> <p>19.02.2024</p> <p>20.02.2024</p> <p>21.02.2024</p> <p>22.02.2024</p> <p>23.02.2024</p> | |
| 5 | EHV TRANSMISSION | 07 | <p>5.1 EHV AC transmission.</p> <p>5.1..1. Reasons for adoption of EHV AC transmission.</p> <p>5.1.2. Problems involved in EHV transmission.</p> <p>5.2 HV DC transmission.</p> <p>5.2.1. Advantages and Limitations of HVDC transmission system.</p> | 24.02.2024 To 02.03.2024 | <p>5.1</p> <p>5.1.1</p> <p>5.1.2</p> <p>5.2</p> <p>5.2.1</p> | <p>EHV AC transmission.</p> <p>Reasons for adoption of EHV AC transmission</p> <p>Problems involved in EHV transmission.</p> <p>HV DC transmission.</p> <p>Advantages and Limitations of HVDC transmission system</p> | <p>24.02.2024</p> <p>26.02.2024</p> <p>27.02.2024</p> <p>28.02.2024</p> <p>29.02.2024</p> <p>01.03.2024</p> <p>02.03.2024</p> | |

| | | | | | | | | |
|---|-----------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|--|
| | | | | | | | | |
| 6 | DISTRIBUTION SYSTEMS | 07 | 6.1 Introduction to Distribution System. 6.2 Connection Schemes of Distribution System: (Radial, Ring Main and Inter connected system) 6.3 DC distributions. 6.3.1 Distributor fed at one End. 6.3.2 Distributor fed at both the ends. 6.3.3 Ring distributors. 6.4 AC distribution system. 6.4.1. Method of solving AC distribution problem. 6.4.2. Three phase four wire star connected system arrangement. | 04.03.2024 To 14.03.2024 | 6.1 6.2 6.3 6.3.1 6.3.2 6.3.3 6.4 6.4.1 6.4.2 | DistributionSystem. Radial, Ring Main and Inter connectedsystem DC distributions. Distributor fed at one End Distributor fed at both the ends. Ring distributors AC distribution system .Method of solvingAC distribution | 04.03.2024 06.03.2024 07.03.2024 11.03.2024 12.03.2024 13.02.2024 14.03.2024 | |

| | | | | | | | | |
|---|-------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--|
| 7 | UNDERGROUND CABLES | 06 | <p>7.1 Cable insulation and classification of cables.</p> <p>7.2 Types of L. T. & H.T. cables with constructional features.</p> <p>7.3 Methods of cable lying.</p> <p>7.4 Localization of cable faults: Murray and Varley loop test for short circuit fault / Earth fault.</p> | <p>15.03.2024 To 21.03.2024</p> | <p>7.1</p> <p>7.2</p> <p>7.3</p> <p>7.4</p> | <p>Cable insulation and classification of cables Types of L. T. &H.T. cables with constructional features.</p> <p>Methods of cable lying.</p> <p>Murray and Varley loop test for short circuit fault / Earth fault.</p> | <p>15.03.2024 16.03.2024 18.02.2024 19.03.2024 20.03.2024 21.03.2024</p> | |
|---|-------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|--|

| | | | | | | | | |
|---|-------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--|
| 8 | ECONOMIC ASPECTS | 06 | <p>8.1 Causes of low power factor and methods of improvement of power factor in power system.</p> <p>8.2 Factors affecting the economics of generation: (Define and explain)</p> <p>8.2.1 Load curves.</p> <p>8.2.2 Demand factor.</p> <p>8.2.3 Maximum demand.</p> <p>8.2.4 Load factor.</p> <p>8.2.5 Diversity factor.</p> <p>8.2.6 Plant capacity factor.</p> <p>8.3 Peak load and Base load on Power station.</p> | 22.03.2024 To 02.04.2024 | <p>8.1</p> <p>8.2</p> <p>8.2.1</p> <p>8.2.2</p> <p>8.2.3</p> <p>8.2.4</p> <p>8.2.5</p> <p>8.2.6</p> <p>8.3</p> | <p>Causes of low power factor and methods of improvement of power factor in power system.</p> <p>Factors affecting the economics of generation:</p> <p>Load curves.</p> <p>Demand factor</p> <p>Maximum demand.</p> <p>Load factor.</p> <p>Diversity factor.</p> <p>Plant capacity factor</p> <p>Peak load and Base load on Power station.</p> | 22.03.2024 23.03.2024 27.03.2024 28.03.2024 30.03.2024 02.04.2024 | |
| 9 | TYPES OF TARIFF | 03 | <p>9.1. Desirable characteristic of a tariff.</p> <p>9.2. Explain flat rate, block rate, two part and maximum demand tariff. (Solve Problems)</p> | 03.04.2024 To 05.04.2024 | <p>9.1</p> <p>9.2</p> | <p>Characteristic of a tariff.</p> <p>Explain flat rate, block rate, two part and maximum demand tariff.</p> | 03.04.2024 04.04.2024 05.04.2024 | |

| | | | | | | | | |
|----|-------------------|----|----------------------------------------------------------------------------------------------------------|--------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--|
| 10 | SUBSTATION | 05 | 10.1 Layout of LT, HT and EHT substation. Earthing of Substation, transmission and distribution lines | 06.04.2024 To 13.04.2024 | 10.1 | Layout of LT, HT and EHT substation Earthing of Substation, transmission and distribution lines 11,33,66 KV bus bar system | 06.04.2024 08.04.2024 09.04.2024 10.04.2024 12.04.2024 13.04.2024 | |
|----|-------------------|----|----------------------------------------------------------------------------------------------------------|--------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--|


 HOD
 Electrical Engg.
 Gandhi School of Engg.
 Berhampur (Gm.)

HOD