

| Government Polytech           |      |   |
|-------------------------------|------|---|
| Discipline : MECHANICAL ENGG. |      | Semester: 6th Sem                             |
| Subject : PSE                 |      | No. of Days /<br>per week class allotted : 04 |
| MONTH                         | Week | Day   |
| FEBRUARY                      | 3rd  | 2nd   |
|                               |      | 3rd   |
|                               |      | 4th   |
|                               | 4th  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               |      | 5th   |
|                               | 5th  | 1st   |
|                               |      | 2nd   |
| MARCH                         | 1st  | 4th   |
|                               |      | 5th   |
|                               | 2nd  | 1st   |
|                               |      | 4th   |
|                               |      | 5th   |
|                               | 3rd  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               |      | 5th   |
|                               | 4th  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               |      | 5th   |
|                               | 5th  | 1st   |
|                               |      | 2nd   |
|                               |      | 5th   |
| APRIL                         | 2nd  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               | 3rd  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               | 4th  | 1st   |
|                               |      | 2nd   |
|                               |      | 4th   |
|                               |      | 5th   |
|                               |      | 1st   |
|                               |      | 2nd   |

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|--|-----|-----|
|  | 5th | 4th |
|  |     | 5th |
|  |     | 1st |
|  | 1ST | 2nd |
|  |     | 4th |
|  | 2nd | 1st |
|  |     | 2nd |
|  |     | 4th |
|  |     | 5th |
|  | 3rd | 1st |
|  |     | 2nd |
|  |     | 4th |
|  | 4th | 1st |
|  |     | 2nd |

## nic Mayurbhanj, Tikarpada || Lesson Plan

Name of the Teaching Faculty : SASMITA SAHA

Semester From date : 14.02.2023

To Date : 23.05.2023

### Topics

Describe sources of energy

Explain concept of Central and Captive powerstation

Explain concept of Central and Captive powerstation

Classify power plants.

Importance of electrical power in day to day life.

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Overview of method of electrical power generation

Layout of steam powerstations.

Steam powercycle

Explain Carnot vapour power cycle with P-V,T-s diagram and determine thermal efficiency.

Explain Rankine cycle with P-V,T-S&H-s diagram

Determine thermal efficiency,Workdone,workratio, and specific steam Consumption.

solve simple problems.

solve simple problems.

Revision

list of the thermal power station in the state with their capacities

Operation of air pre heater

Operation of economiser,electrostatic precipitator

Operation of super heater,need of boiler mountings

operation of boiler

Draught systems(Naturaldraught,Forceddraught & balanceddraught)

Advantages & disadvantages of Draught systems

Advantages & disadvantages of steam turbine

Discuss about the elements of steam turbine

Governing and Performance of steam turbine.

Explain Thermal efficiency,Stage efficiency and Gross efficiency.

Function of condenser and classification of condenser

Function of condenser auxiliaries such as hot well,condenser extraction pump,air extraction pump and

Function and type of cooling tower and sprayponds

Selection of site for thermal powerstations

Classify nuclear fuel(Fissile&fertilematerial)

Explain fusion and fission reaction.Explain working of nuclear powerplants with blockdiagram

Explain the working and construction of nuclear reactor.Compare the nuclear and thermalplants

Explain the disposal of nuclear waste.Selection of site for nuclear powerstations.List of nuclear powerstations.

State the advantages and disadvantages of diesel electric power stations.

Explain briefly different systems of diesel electric power stations.

Explain Fuel storage and fuel supply system, Fuel injection system,Air supply system in diesel electric power station

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| Exhaust system,cooling system,Lubrication system,starting system,governing system of diesel electric power station         |
| Selection of site for diesel electric powerstations.Performance and thermal efficiency of diesel electric powerstations.   |
| State advantages and disadvantages of hydro electric powerplant.   |
| Classify and explain the general arrangement of storage type hydro electric project and explain its operation.             |
| Selection of site of hydel powerplant.   |
| List of hydro power stations with their capacities and number of units in the state.Types of turbines and generation used. |
| Simple problems  |
| Selection of site for gas turbine stations.  |
| Fuels for gas turbine.   |
| Elements of simple gas turbine power plants  |
| Merits,demerits and application of gas turbine power plants.   |
| Revision   |
| Revision   |
| Question Discussion  |