

DEPARTMENT OF MECHANICAL ENGINEERING

Sub: Thermal Engineering
Subject Incharge: Mr. Jaslok Pandey

Sub Code: ME3I (22337)
CO NO: CO302.1

VISION

"To incorporate technical & professional skills in Mechanical Engineers to fulfill industrial & social needs".

MISSION

- *To educate, guide, and mentor the students for academic excellence.*
- *To develop technical skills and discipline among the students as per the requirement of the industry.*
- *To impart ethics & social values by arranging social activities.*

Assignment No: 01

1. Define : Intensive property and Extensive Property
2. Explain the Concept of Flow Work associated with flow processes.
3. Differentiate between Heat and Work
4. State Clausius Statement of Second Law of Thermodynamics.
5. State Kelvin Planck Statement of Second Law of Thermodynamics.
6. What is system? Explain Different types of System.
7. What is S.F.E.E. Apply SFEE to Boiler, Nozzle, turbine and Compressor.
8. Define Enthalpy and Entropy.

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Assignment No: 02

1. Represent Isochoric Process on PV and TS chart.
2. Define isentropic process and Plot it on PV and TS Diagram.
3. Derive the characteristic gas equation using Boyle's and Charle's Law.
4. What is universal gas Constant?
5. Represent Isobaric Process on PV and TS chart.
6. Any Three Problem

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Assignment No: 03

01. Explain the Working of Lamont Boiler with neat sketch.
02. Define dryness fraction and degree of superheat.
03. Define Sensible Heat and Latent Heat.
04. Differentiate between Water tube and Fire Tube Boiler.
05. List any six methods of energy conservation In Boilers.
06. State the main features of Indian Boiler regulations. (IBR)
07. Explain the Working of Cochran Boiler with neat sketch.
08. Explain the Working of Babcock and Wilcox Boiler with neat sketch.

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Assignment No: 04

1. Explain the Function of steam nozzle.
2. Write the criteria for selection of nozzle for given situation.
3. Explain the need of compounding. Suggest the method of compounding for reaction steam turbine with justification.
4. Suggest the method to improve the performance of Steam turbine. Explain any one in brief.
5. Identify the different losses occurred in Steam turbine.
6. Explain Bleeding of Steam.
7. State the term governing of turbine and explain the nozzle control governing.
8. Explain the Choked Flow condition in nozzle.

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Assignment No: 05

1. Write the Elements of forced draught cooling tower.
2. Explain Dalton's Law of partial pressure. How is it applicable to condenser?
3. Explain principle of working of Impulse steam turbine with neat sketch.
4. Differentiate between natural draughts and forced draught cooling tower?
5. Draw a neat sketch of surface condenser and label it.
6. State any three function of steam condenser?
7. Define Throttling and state the purpose of it?

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