ENGINEERING THERMODYNAMICS

Course Code Category Hours / Week Credits Maximum Marks A5AE07 PC L T P C CIA SEE Total A5AE07 PC L T P C CIA SEE Total A5AE07 PC L T P C CIA SEE Total A5AE07 PC L T P C CIA SEE Total Asternation Statistics Analyze the thermodynamic properties of pure substances undergoing various thermodynamic processes. 3 A. Evaluate the thermodynamic properties of gases and mixture of gases. Realize the working of different power cycles UNIT-I FIRST LAW OF THERMODYNAMICS Basic Concepts: Macroscopic and Microscopic viewpoints, Quasi static Process, various flow and non-flow process, energy in State and in Transition, Work and Heat, Point and Path function. Zeroth Law of Thermodynamics. Felvin Planck and Clausius Statements and their Equivalence / Second Law of Thermodynamics-Kelvin Planck and Clausius Statements and their Equivalence / Corollaries, PMM of Second kind, Carnot's principle, Carnot cycle and its specialties, Clausius Inequality, Entropy, Principle of Entropy Increase, Elementary Treatment of the Thind uw of Thermodynamics	III Semester										
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Text Books:

- 1. Engineering Thermodynamics, P.K. Nag, 6th Edition, Mc Graw Hill Education.
- 2. Thermodynamics an engineering approach, Yunus A. Cengel& Michael A. Boles, 8th Edition, Mc Graw Hill Companies.

Reference Books:

- 1. Fundamentals of engineering thermodynamics, Rathakrishnan. E, 2nd Edition, Prentice hall of India Pvt Ltd., 2006.
- 2. Thermodynamics, Arora.C.P, Tata Mc Graw Hill, New Delhi.

COURSE OUTCOMES:

Students should able to

1. Apply first law of thermodynamics to real time applications

- 2. Evaluate the performance parameters of energy transfers
- 3. Evaluate the properties of gases during phase changes
- 4. Compare the process parameters in mixture of gases
- 5. Distinguish the processes of various power cycles