L.E. COLLEGE MORBI
MECHANICAL ENGINEERING DEPARTMENT
3rd SEMESTER
ENGINEERING THERMODYNAMICS (3131905)

ASSIGNMENT: CO3 (10 Marks)

1. What do you mean by entropy? Also state characteristics for it.
2. State and prove Clausious theorem.
3. Prove that entropy is property of the system.
4. Derive an expression for change in entropy of the universe.
5. A fluid undergoes a reversible adiabatic compression from pressure 1 MPa bar and volume 0.3 m^3 to volume of 0.05 m^3, according to the law $PV^{1.3}$= constant. Determine 1) work done, 2) heat transfer, 3) change in internal energy, 4) change of enthalpy, 5) change of entropy.
6. Brief note on the term "EXERGY"
7. Give your explanation on available energy, unavailable energy, dead state & availability.
8. Derive an expression for availability of a non-flow process.
9. Explain exergy destruction in heat transfer process.
10. Write a note on Gouy-Stodola theorem and its applications.

Vision of the Department: To deliver quality engineering education for Mechanical Engineers with Professional competency, Human values and Acceptability in the society.

Mission of the Department:

- To nurture engineers with basic and advance mechanical engineering concepts
- To impart Techno-Managerial skill in students to meet global engineering challenges
- To create ethical engineers who can contribute for sustainable development of society