

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**Diploma Engineering, Mid semester Examination**

**Semester:** 3<sup>rd</sup>  
**Subject Code:** (03613207)  
**Subject Name:** (Basic Engineering Thermodynamics)

**Date:** (10/08/2022)  
**Time:** (1hr: 30min)  
**Total Marks:** 40

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

- Q.1 Answer any six out of Ten. (2 Marks Each) (12)**
1. Define Enthalpy.
  2. What is Specific Enthalpy? Give SI units.
  3. Define Pressure with its related SI units.
  4. Give Definition of Internal Energy.
  5. What is Thermal Equilibrium?
  6. Give Definition of Thermodynamics.
  7. Give Definition of Isolated System with example.
  8. Give definition of Temperature with units.
  9. Give Statement of Conservation of Matter.
  10. Give Statement of Conservation of Energy.
- Q.2 A) Explain Zeroth law of Thermodynamics. (03)**
- OR**
- A) Explain Flow work with proper figure. (03)  
 B) Give Different Statement of First Law of Thermodynamics. (03)
- OR**
- B) Explain Control Mass. (03)  
 C) Which type thermodynamic system & boundary boiled water in Pressure Cooker? Explain with figure. (04)
- OR**
- C) Which type thermodynamic system & boundary boiled water in Filled Air in Ballon? Explain with figure (04)  
 D) Explain Joule's Experiments with proper Figure. (04)
- Q.3 A) Explain Quassi static Process with example. (03)**
- OR**
- A) Classification of Temperature measurement Devices. (03)  
 B) What is Extensive Property? Give Example. (03)
- OR**
- B) Proof Internal Energy is Property. (03)  
 C) Derive General Energy Equation. (04)
- OR**
- C) Differentiate between Point Function and Path function. (04)  
 D) Classification of Thermodynamics Boundary. Explain Heterogeneous System with example. (04)