Seat No: _____ **Enrollment No: _____**

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Diploma Engineering, Mid semester Examination

Semester: 5th **Date: (09/08/2022)**

Subject Code: (03613305) **Time: (1hr: 30min)**

Subject Name: (Aerospace Propulsion) **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 continuity equation.
2. What is enthalpy?
3. Enlist the components of combustion chamber.
4. What is secondary air combustion process?
5. Define the first law of thermodynamics.
6. What is the second law of motion?
7. What is radiation?
8. Define thrust in jet engine.
9. What is thermal efficiency in jet engine?
10. What is Rayleigh flow?

Q.2 A) What is stoichiometric ratio and explain the types of air-fuel mixture in combustion process. **(03)**

OR

A) Explain stepwise combustion process. **(03)**

B) Give the classification of propulsive system. **(03)**

OR

B) Explain modes of heat transfer. **(03)**

C) Draw the combustion chamber geometry and explain in brief. **(04)**

OR

C) Explain the rocket engine with neat sketch. **(04)**

D) What are the types of combustion chamber? Explain any one in detail. **(04)**

Q.3 A) Draw the diagram of turboprop engine with details. **(03)**

B) Explain the Brayton cycle with P-V and T-S diagrams. **(03)**

C) Explain turbojet engine with neat sketch. **(04)**

D) Explain the factors affecting the thrust. **(04)**