

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

Semester: 5th
Subject Code: (03613305)
Subject Name: (Aerospace Propulsion)

Date: (09/08/2022)
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 first law of thermodynamics.
 2. What is Rayleigh flow?
 3. Write down the Thrust equation.
 4. Define the first law of motion.
 5. What is aeolipile?
 6. Define Zeroth law of thermodynamics.
 7. What is specific heat at constant volume?
 8. What is Rich mixture in combustion process?
 9. What is stoichiometric ratio?
 10. What is stagnation enthalpy?
- Q.2 A) Draw the diagram of Ramjet Engine. (03)**
- OR**
- A) Short note on: Rocket Engine. (03)
B) Explain modes of heat transfer. (03)
- OR**
- B) Enlist the factors affecting the combustion chamber design. (03)
C) Explain the Efficiency of jet engine. (04)
- OR**
- C) Explain the Brayton cycle with P-V and T-S diagrams. (04)
D) Explain Turbofan engine with neat sketch. (04)
- Q.3 A) Give the classification of propulsive system. (03)**
B) Write down the requirements of combustion chamber. (03)
C) What are the types of combustion chamber? Explain any one in detail. (04)
D) Draw the combustion chamber geometry and explain in brief. (04)