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

PARUL UNIVERSITY

FACULTY OF ENGINEERING & TECHNOLOGY

Diploma Engineering, Mid semester Examination

Semester: 3RD **Date: (05/08/2022)**

Subject Code: (03613201) **Time: (1hr: 30min)**

Subject Name: (Introduction to Aeronautics) **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 Rocket.
2. What is aviation?
3. Write down Newton's 1st and 3rd Law.
4. What is Aircraft?
5. Write down NACA 4312.
6. What is design lift coefficient?
7. What is manned aerial vehicle and unmanned aerial vehicle?
8. What is Angle of Attack?
9. What is Airplane and how it differs from Aircraft?
10. What is Spacecraft?

Q.2 A) Write down Newton's laws of Motion. **(03)**

OR

A) Calculate Temperature, Density and Pressure at 5000m altitude. **(03)**

B) How does Airplane wing generates lift? **(03)**

OR

B) Write down short note on George Cayley's design. **(03)**

C) Write down Nomenclature of Airfoil with Neat sketch. **(04)**

OR

C) Define 1) Absolute Altitude, (2) Geometric Altitude, (3) Pressure Altitude, (4) Temperature Altitude. **(04)**

D) Explain Primary Control Surfaces with its function. **(04)**

Q.3 A) Give the nomenclature of airplane with neat sketch. **(03)**

B) Explain NACA 6-digit series. **(03)**

C) Classify Flight Vehicles. **(04)**

D) Write down forces acting on Aircraft and Define all forces. **(04)**