



PRESIDENCY UNIVERSITY

BENGALURU

Roll No.																			
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Make up Examinations – December 2025

Date: 31 – 12- 2025

Time: 09:30am – 12:30pm

School: SOE	Program: B. Tech. MECHANICAL ENGINEERING		
Course Code: MEC2005	Course Name: Fundamentals of Aerospace Engineering		
Semester: MK	Max Marks: 100	Weightage: 50%	

CO - Levels	C01	C02	C03	C04	C05	C06
Marks	12	12	24	04	24	24

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks.

10Q x 2M=20M

1.	What is Aerospace Engineering?	2 Marks	L1	C01
2.	State any two differences between aeronautics and astronautics.	2 Marks	L1	C02
3.	Define camber of an airfoil.	2 Marks	L1	C03
4.	What is meant by boundary layer?	2 Marks	L1	C03
5.	Define induced drag.	2 Marks	L1	C04
6.	What is meant by thrust-to-weight ratio?	2 Marks	L1	C04
7.	Define orbital period.	2 Marks	L1	C05
8.	What is meant by geostationary orbit?	2 Marks	L1	C05
9.	Name the three primary control surfaces of an aircraft.	2 Marks	L1	C06
10.	What is static stability?	2 Marks	L1	C06

Part B

Answer the Questions.

Total Marks 80M

11.	a.	Explain the classification of aerospace vehicles with suitable examples.	10 Marks	L2	CO1
	b.	Explain the basic components of an aircraft with neat sketches.	10 Marks	L2	CO2
Or					
12.	a.	Describe the evolution of flight from early aircraft to modern aviation.	10 Marks	L2	CO1
	b.	Explain different types of spacecraft and their applications.	10 Marks	L2	CO2
Or					
13.		Explain the airflow over an airfoil and discuss the generation of lift.	20 Marks	L2	CO3
Or					
14.		Explain the concept of aircraft stability and control with neat diagrams.	20 Marks	L2	CO3
Or					
15.		Explain the various types of drag acting on an aircraft and their effects on performance.	20 Marks	L2	CO6
Or					
16.		Explain the working principle of different aircraft engines with suitable sketches.	20 Marks	L2	CO6
Or					
17.		Discuss the principles of rocket propulsion and explain the working of a liquid propellant rocket engine.	20 Marks	L2	CO5
Or					
18.		Discuss satellite launch vehicles and explain the stages involved in launching a satellite.	20 Marks	L2	CO5