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Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Second Semester - Regular) Examinations, May 2026

25FYPC12004 – Aircraft Structure

(Aeronautical Engineering)

Time: 3 hrs | Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. What is adverse yaw?	CO1	K1
b. Define stabilator.	CO2	K1
c. What is rudder limiter?	CO2	K1
d. Define elevon.	CO1	K1
e. Define trim tab.	CO3	K1

PART – B **(10 x 5 = 50 Marks)**

Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a. Explain artificial feel system and its importance.	05	CO4	K2
b. Describe yaw damper system.	05	CO4	K2
(OR)			
c. Explain Mach trim system.	05	CO4	K2
d. Describe rudder limiter system.	05	CO4	K2
3.a. Explain gust lock system.	05	CO4	K2
b. Explain operation and effect of ailerons in roll control.	05	CO2	K2
(OR)			
c. Explain adverse yaw and its correction methods.	05	CO1	K3
d. Explain operation of elevons in delta wing aircraft.	05	CO1	K2
4.a. Compare conventional and combined control surfaces.	05	CO2	K3
b. Explain advantages of elevons over separate controls.	05	CO1	K3
(OR)			
c. Explain function of wing fences.	05	CO2	K2
d. Describe saw tooth leading edges in aircraft.	05	CO2	K2
5.a. Explain vortex generators and their working.	05	CO4	K2
b. Describe balance tabs and their function.	05	CO3	K2
(OR)			
c. Describe mass balancing of control surfaces.	05	CO3	K2
d. Explain control surface flutter and prevention.	05	CO3	K3
6.a. Describe aerodynamic balance panels.	05	CO3	K2
b. Explain subsonic, transonic, and supersonic flight.	05	CO4	K2
(OR)			
c. Explain formation of shock waves.	05	CO4	K2
d. Explain area rule in aircraft design.	05	CO4	K2

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