21AE/AS755

(10 Marks)

Seventh Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Basics of Flight Simulation

Time: 3 hrs. Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

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		Module-1	
1	a.	Briefly explain history of flight simulation.	(10 Marks)
	b.	Explain various case of simulation.	(10 Marks)
		OR	
2	a.	Differentiate between engineering and conventional flight simulation.	(10 Marks)
	b.	Write short notes on role of simulate.	(05 Marks)
	C.	List advantages of flight simulate.	(05 Marks)
_		Module-2	
3	a.	Illustrate organization of simulate.	(10 Marks)
	b.	Briefly explain aircraft equation of motion.	(10 Marks)
		OR	
4	a.	Elucidate aerodynamics and engine modes.	(10 Marks)
	b.	Elucidate weather and data acquisition modes.	(10 Marks)
		Module-3	
5	a.	Explain differential equation with example.	(10 Marks)
	b.	Write a code for cannonball trajector.	(10 Marks)
		OR	
6	a.	Describe numerical integration with example.	(10 Marks)
	b.	Write short note on real time computation and flight data.	(10 Marks)
		Module-4	
7		Procure aircraft for equation.	(10 Marks)
	b.	Write short notes about A/C propulsion system.	(10 Marks)
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		OR	
8	a.	Describe various forces acting on aircraft.	(10 Marks)
	b.	Procure aircraft moment equations.	(10 Marks)
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		Module-5	
9	a.	Explain Laplace transform with example.	(10 Marks)
	b.	Explain effect of PID control terms.	(10 Marks)
		And a second	
		OR	
10	a.	Explain simulation concept of EFIS display.	(10 Marks)

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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Write short note on GPS and inertial navigation system.