Reg. No.



III SEMESTER B.TECH. (AERONAUTICAL ENGINEERING) END SEMESTER MAKEUP EXAMINATIONS, APRIL 2022

SUBJECT: : INTRODUCTION TO AEROSPACE ENGINEERING (AAE 2157)

REVISED CREDIT SYSTEM

(26/04/2022)

Duration: 3 Hours

Max. Marks: 50

Instructions to Candidates:

✤ Answer all the questions.

✤ Assume missing data if any.

QN	Question	Max marks	СО	BT
1A)	Derive and analyze hydrostatic equation with proper diagrams	(05)	CO1	4
1B)	Define various types of altitude terminologies.	(03)	CO1	3
1C)	Analyze the relation between geopotential and geometric altitudes	(02)	CO1	4
2A)	Explain boundary layer with all necessary diagrams and equations.	(05)	CO2	2
2B)	Why L/D ratio is known as the efficiency factor of an aircraft? Explain.	(03)	CO2	2
2C)	Explain drag divergence Mach number in detail with necessary diagrams.	(02)	CO2	2
3A)	Explain the term pressure co-efficient. Also analyze the procedure to obtain lift co-efficient from it.	(05)	CO3	4
3B)	Explain the various processes behind the formation of induced drag with proper diagrams.	(03)	CO3	2
3C)	Explain various types of drag forces associated with aircraft. Explain each with necessary equations and diagrams.	(02)	CO3	1
4A)	Explain lateral static stability with all necessary diagrams	(05)	CO4	2
4B)	Explain mechanical flight control systems. What are its advantages and disadvantages?	(03)	CO4	2
4C)	Explain aircraft take-off and turning performance with all necessary diagrams and equations	(02)	CO4	2
5A)	Illustrate Hohmann orbital maneuver with all necessary diagrams and equations.	(05)	CO5	4

5B)	Explain range and endurance of jet powered aircraft with all	(03)	CO5	2
	necessary diagrams and equations.			
5C)	Explain the terms power required and power available for	(02)	CO5	1
	both propeller and jet powered aircrafts with necessary			
	diagrams and equations.			