PRN:		Course Code :	PAS205B

000470

First Year **M. Tech** End Semester Examination Winter 2024

Aerospace Navigation

Day and Date: Mon 9 DEC 2024 Max Marks: **100**

Time : 02:00PM To 05:00PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1		**Attempt the following**			
	a)	Discuss about the Effect of Altitude on Satellite Lifetimes	08	1	1
	b)	Explain detail about the space coordinate system.	08	2	1
		OR			
	b)	Explain detail about the space Time system.	08	2	1
Q.2		**Attempt the following**			
	a)	Explain in detail about features of TACAN	08	2	1
	b)	Define navigation. Write short notes on navigation system.	08	2	2
		OR			
	b)	What are all the different categories of navigation? Brief in detail	08	3	2
Q.3		**Attempt any two from the following**			
	a)	What do you mean by gyro compassing with respect to inertial navigation system?	08	1	2
	b)	What is accelerometer and explain about different types of accelerometer.	08	2	3
	c)	Explain in detail about Radar Electronic war fare and its salient features and its usage.	08	2	3
Q.4		**Attempt any two from the following**			
	a)	Explain in detail about GPS Segments and its errors.	08	1	3
	b)	What is Dead reckoning navigation system and explain any one type in detail.	08	2	4
	c)	Explain the functioning and components of global positioning system.	08	3	4

Backlog

Q.5	**Attempt any Two of the following**				
	a)	Discuss the principle and components of Radio-navigation system.	09	3	4
	b)	What is antenna? What are the different types of antennas used for communication system	09	2	4
	c)	Briefly explain about Aircraft communications addressing and reporting system(ACRAS).	09	3	5
Q.6	**Attempt any Two of the following**				
	a)	Discuss the various avionics architecture in detail.	09	2	5
	b)	Explain the ARINC 629 data bus in detail.	09	2	5
	c)	Explain MIL STD 1553 B data bus in detail bring out clearly the bus architecture, protocol, word and message formats and coupling methods.	09	3	5

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Backlog