PRN:		Course Code :	UAE451

Second Year **B. Tech** End Semester Examination Summer 2024

Avionics Engineering

Day and Date: 29 MAY 2024 , Wed Max Marks: **100**

Time : 10:30AM To 01:30PM Duration: **03** hrs

Instructions:All questions are compulsory.

			Marks	Bloom's Level	CO
Q.1	**Attempt the following**				
	a)	Describe the importance and role of avionics in modern aircraft.	08	1	1
	b)	Explain the significance of the avionic environment.	08	2	1
		OR			
	b)	Discuss the concept of man-machine interaction.	08	2	1
Q.2	**Attempt the following**				
	a)	Explain in detail about Head Down Display (HDD).	08	2	1
	b)	Explain about the Head Up Display (HUD) and Draw a skecth on working principle of HUD.	08	2	2
		OR			
	b)	Explain in detail about the Cathode Ray Tube (CRT) & Draw the neat sketch of CRT working principle.	08	3	2
Q.3	**Attempt any two from the following**				
	a)	Describe the role and components of a Magnetic Heading Reference System (MHRS) in aircraft navigation.	08	1	2
	b)	Discuss the role and capabilities of AWACS (Airborne Warning and Control System) in air surveillance.	08	2	3
	c)	Explain the function and importance of Inertial Reference Systems (IRS) in aircraft navigation.	08	2	3
Q.4	**Attempt any two from the following**				
	a)	Explain the concept of Automatic Direction Finding (ADF).	08	1	3
	b)	Describe the functions and operation of the Very High Frequency Omni-Range (VOR) navigation system.	08	2	4
	c)	Compare and contrast Instrument Landing System (ILS) and Microwave Landing System (MLS) as landing aids.	08	3	4

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Q.5	**Attempt any Two of the following**				
	a)	Explain the significance of different frequency bands such as HF (High Frequency), VHF (Very High Frequency), UHF (Ultra High Frequency).	09	3	4
	b)	Discuss the role of antennas in aircraft communication systems.	09	2	4
	c)	Discuss the function and importance of transponders in aircraft surveillance and communication.	09	3	5
Q.6	**Attempt any Two of the following**				
	a)	Describe the characteristics and applications of MIL-STD-1553B.	09	2	5
	b)	Explain the role of Fibre Channel options in avionics data communication.	09	2	5
	c)	Discuss the concept of Time-Triggered Ethernet (TTE).	09	3	5

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