PRN: Course Code : UAE452

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

AIRCRAFT SYSTEM AND INSTRUMENTS

Day and Date: 28 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 Breaking system.How is Breaking Anti skid and steering used in Aircraft Systems ?	08	02	CO1
	b)	Brief about Hydraulic Pump.List down the types of Hydraulic Pump.	08	02	CO1
		OR			
	b)	State the principles and characteristics of Hydraulic system used in aircraft.	08	02	CO1
Q.2		**Attempt the following**			
	a)	Explain the basic principle of Hydraulic Control Systems.	08	02	CO2
	b)	Describe Electro-Mechanical Actuator (EMA) with the help of a neat labeled diagram.	08	02	CO2
		OR			
	b)	Brief about Advanced Actuation implementations. Explain fly-by-wire control actuation.	08	02	CO2
Q.3		**Attempt any two from the following**			
	a)	Explain the function of piston engine working on carburetor.	08	02	CO3
	b)	List down the Engine starting control and explain the Ignition control.	08	02	CO3
	c)	Describe Fuel system components and its characteristics	08	02	CO3
Q.4		**Attempt any two from the following**			
	a)	Explain in brief about Vapor cycle system used in aircraft.	08	02	CO4
	b)	List down the smoke detection system and explain them in detail.	08	02	CO4
	c)	Explain about Fire Extinguishing system used in aircraft.	08	02	CO4
Q.5		**Attempt any Two of the following**			
	a)	Describe the working principle of Vertical speed indicator.	09	02	CO5
	b)	Explain the working principle of Attitude indicator.	09	02	CO5
	c)	Explain the Pitot Static system and write down the VFR instruments.	09	02	CO5

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Q.6	**Attempt any Two of the following**				
	a)	What is an Emergency Landing ? How is emergency landing tested?	09	02	CO5
	b)	Explain the emergency system in the aircraft system and its types	09	02	CO5
	c)	Write short notes on emergency oxygen used in aircraft.	09	02	CO5

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