Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2023

Subject Code:3140103 Date:11-07-2023

Subject Name:Aircraft Systems, Instruments and Maintenance

Time:10:30 AM TO 01:00 PM Total Marks:70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			MARKS
Q.1	**(a)**	Explain Position Indicator briefly.	**03**
	(b)	Explain Thermo couple and sensors	**04**
	(c)	Explain Turbo Fan engine with neat sketch.	**07**
Q.2	**(a)**	Draw the Altimeter schematic diagram with all nomenclatures.	**03**
	(b)	What are the functions of Airspeed Indicator, explain with schematic diagram.	**04**
	(c)	Explain Aircraft electrical system Briefly	**07**
		OR	
	(c)	Briefly Explain attitude indicator With schematic diagram.	**07**
Q.3	**(a)**	Explain Fuel flow indicator briefly	**03**
	(b)	Explain Types of inspection briefly	**04**
	(c)	Explain working principle of Boost gauge and supercharger with schematic diagram.	**07**
		OR	
Q.3	**(a)**	Differentiate between turn coordinator and turn & slip indicator.	**03**
	(b)	Explain Control column function and construction.	**04**
	(c)	Explain briefly, Aircraft landing gear system.	**07**
Q.4	**(a)**	What is Flap control? Explain Briefly with schematic diagram.	**03**
	(b)	Differentiate between Repair, Modification, Alteration and reconditioning	**04**
	(c)	Explain Aircraft seat injection system.	**07**
		OR	
Q.4	**(a)**	Explain Service Bulletin	**03**
	(b)	Explain Briefly Thrust reversal.	**04**
	(c)	Classify and explain actuators according to its application with the help of schematic diagram.	**07**
Q.5	**(a)**	Draw Schematic Diagram of control horns.	**03**
	(b)	Explain types of maintenance schedule	**04**
	(c)	Explain gyroscope, its principle, its function and its properties with neat sketch.	**07**
		OR	
Q.5	**(a)**	Why does bleed air valve close before take-off and approaching for landing?	**03**
	(b)	Explain Cylinder Head Temperature Gauge.	**04**
	(c)	Differentiate the aircraft cabin pressurization system of turbo engines and reciprocating engines with the help of appropriate diagram.	**07**

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