

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-IV (NEW) EXAMINATION – WINTER 2020****Subject Code:2140103****Date:24/02/2021****Subject Name:Aircraft Systems, Instruments and Maintenance****Time:02:30 PM TO 04:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) What are advantages of lubrication system in aircraft?	03
	(b) Differentiate between cable and pushrod control mechanism of aircraft.	04
	(c) With neat sketch explain how Tachometer works.	07
Q.2	(a) What is the main difference between magnetic and gyro compass?	03
	(b) Explain temperature error in pressure instruments.	04
	(c) Explain errors of gyro instruments when gyro RPM decreases below certain levels.	07
Q.3	(a) What are applications of control horns and bell cranks in aircrafts?	03
	(b) What is thrust vectoring?	04
	(c) Explain working principle of turbojet engine.	07
Q.4	(a) Explain eye end and pushrod assembly with nomenclature.	03
	(b) What is thrust reversal?	04
	(c) Explain working principle of 4-stroke reciprocating engine.	07
Q.5	(a) Define conditioned air.	03
	(b) Explain blockage error in air speed indicator.	04
	(c) Explain water-methanol thrust augmentation system with neat sketch.	07
Q.6	(a) Define bleed air.	03
	(b) Shortly explain aircraft rigging.	04
	(c) Explain afterburner thrust augmentation system with neat sketch.	07
Q.7	(a) Enlist any five lubrication system components.	03
	(b) Explain how tachometer works.	04
	(c) Draw assembly of push rod and explain principle of operation.	07
Q.8	(a) Enlist any five hydraulic system components.	03
	(b) Explain how attitude indicator works.	04
	(c) Discuss various types of control horns used for operation of control surfaces.	07
