

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019
Subject Code:2140103
Date:20/05/2019
Subject Name: Aircraft Systems, Instruments and Maintenance
Time:02:30 PM TO 05:00 PM
Total Marks: 70
Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Explain turn and slip indicator with neat sketch.	03
	(b) Explain fuel flow indicator.	04
	(c) Draw a schematic design of turbojet engine and explain each component.	07
Q.2	(a) Explain vertical speed indicator with neat sketch.	03
	(b) What is fuel system? Enlist and explain three components of fuel system?	04
	(c) Explain aircraft hydraulic system, requirement and components.	07
	OR	
	(c) What is EPR and how it is useful to pilot?	07
Q.3	(a) What is thrust reversal?	03
	(b) Differentiate between 2 stroke and 4 stroke engine.	04
	(c) Write dual radar paddle and nose brake operation with working figure.	07
	OR	
Q.3	(a) Explain variable pitch propeller control?	03
	(b) Explain pitot static system.	04
	(c) Explain gyroscope, its principle, its properties with neat sketch.	07
Q.4	(a) What is thrust vectoring?	03
	(b) Explain radar paddle operation.	04
	(c) Describe tachometer operation with figure.	07
	OR	
Q.4	(a) Explain blockage error in air speed indicator.	03
	(b) How crew cabin and passenger compartment are pressurized?	04
	(c) What is Mach meter? How does it works?	07
Q.5	(a) What are application of control horns and bell cranks in aircraft?	03
	(b) Explain lubrication system.	04
	(c) What is direction indicator? With the help of simple diagram describe a direction indicator. How do we control drift?	07
	OR	
Q.5	(a) Why does bleed air valve close before takeoff and approaching for landing?	03
	(b) Differentiate between reciprocating and gas turbine engine?	04
	(c) What is flight management system? What are its advantage ?	07
