Seat No.:	Enrolment No.
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Subject Code: 140103

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV • EXAMINATION - SUMMER • 2014

Date: 27-06-2014

•		Name: Aircraft System and Instruments	
1 1me Instru		0:30 am - 01:00 pm Total Marks: 70	
ilisti u		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Briefly explain working of gear and vane pump of hydraulic system of an aircraft. With neat sketch explain working of Mach meter.	07 07
Q.2	(a)	How pressurization is maintained in fuselage? Why lower baggage compartment is pressurized during flight in public transport aircrafts. What action a pilot takes in case of engine failure during flight to prevent hyperventilation?	07
	(b)	Briefly explain the system which records flight data and communication in cockpit. OR	07
	(b)	How pilots come to know about air speed of aircraft? Explain the system which provides information about above mentioned data.	07
Q.3	(a) (b)	With neat sketch explain working of turbo jet engine. With neat sketch explain working of hydraulic system for undercarriage. OR	07 07
Q.3	(a)	With neat sketch show the different configuration of reciprocating engine and give any two examples of piston propeller aircraft with specification.	07
	(b)	Explain gas turbine engine instrument panel in brief.	07
Q.4	(a) (b)	Explain construction of altimeter with neat sketch. Explain system which helps pilot to remove ice from leading edges and prevent ice formation during flight. OR	07 07
Q.4	(a)	What is Engine Pressure Ratio? How pilot come to know about stall and surging of	07
~ ··	(44)	compressor during flight?	
Q.4	(b)	What is gyroscope? How does it help pilot to navigate from one place to other?	07
Q.5	(a) (b)	With neat sketch explain how Altimeter works. Differentiate between single and double acting actuator with neat sketch. OR	07 07
Q.5	(a) (b)	With neat sketch explain how fire extinguisher system works if engine catches fire? In a sentence write application or importance of below mentioned flight instruments. Directional Gyro Instrument, Exhaust Gas Temperature Gauge, Mach Meter, Tachometer, Attitude Indicator, Fuel flow indicator, Cylinder Head Temperature Gauge.	07 07
