Seat No.:	Enrolment No.
Deat 110	Emoment 10.

GUJARAT TECHNOLOGICAL UNIVERSITY BE- IVth SEMESTER-EXAMINATION - MAY/JUNE- 2012 Subject code: 140103

Data: 02/06/2012

շաթյ		Date. 02/00/2012	
Subje	ect N	Jame: Aircraft Systems and Instruments	
Гіте	: 10:	30 am – 01:00 pm Total Marks: 70	
[nstr	ucti	ons:	
		empt all questions.	
		ke suitable assumptions wherever necessary.	
		res to the right indicate full marks.	
Q.1	(a)	Explain aircraft engine fuel system, list components and write engine driven fuel	07
	(L.)	pump function with figure.	07
	(b)	What do you understand by Head up display? Explain with figure and examples.	07
		What is "Basic T flight instrument grouping" explain with figure.	
Q.2	(a)	Describe types of reciprocating engine according to cylinder arrangement.	07
	(4)	What do you understand by Single-Raw and Double-Raw radial engines?	0.
	(b)	Explain power plant instrument grouping with figure for four engine aircraft in	07
	` /	details.	
		OR	
	(b)	Why heaters are provided in pitot-static (probe) head with figure of D.C. circuit.	07
		Explain the circuit.	
0.0			
Q.3	(a)	Write operational principle of turboprop engine with figure and explain its	07
	(b)	exhaust system with figure. Explain pneumatic type altimeter, its operations and construction with figure.	07
	(D)	OR	U/
Q.3	(a)	Discuss axial flow turbine engine construction with all sections and figures.	07
V.	(b)	Describe three degree freedom gyroscope construction, its operating principle	07
	()	and properties with figure.	
Q.4	(a)	Elucidate reciprocating engine magneto ignition system and principle of	07
		operation with figure.	
	(b)	Describe RPM indicator using principle of "Generator and Indictor system" with	07
		figure.	
0.4	(-)	OR	07
Q.4	(a)	Explain different types of shimmy dampers and function of dampers.	07 07
	(b)	Explain EGT operation. Explain its sensor with principle and types with figures.	U/
Q.5	(a)	Briefly describe different types of gas turbine starters, show complete circuit and	07
V.	(u)	function of starter generator system.	0,
	(b)	Explain pneumatic type horizon gyroscope with operation and figure.	07
	()	OR	
Q.5	(a)	Describe icing effect on aircraft flight with figure and suggest different methods	07
•		used for prevention.	
	(b)	Explain aircraft communication system and describe HF, VHF with figure	07
		showing operation and navigation equipment.	
