Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – III • EXAMINATION – WINTER 2012

Subject code: 130104 **Date: 10-01-2013**

Subject Name: Introduction of Profession Aeronautical Engineering

Time: 10.30 am – 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.**

Q.1	**(a)**	What do you understand about a word Aeronautical Engineering?	**07**
	(b)	What are the main parts of aircraft? Shortly explain their functions.	**07**
Q.2	**(a)**	What is Airfoil? Explain Bernoulli's principle for the generation of lift?	**07**
	(b)	What do you understand by landing gear? Explain Tricycle type landing gears.	**07**
		OR	
	(b)	What type of Gas Turbine engines are used in aircrafts? Explain any one of them.	**07**
Q.3	**(a)**	What are limitations of using I.C. engines in aircrafts?	**07**
	(b)	What are main components of aircraft wing structure? Briefly explain with neat sketch.	**07**
		OR	
Q.3	**(a)**	Explain main components of semi monocoque fuselage structure with neat sketch.	**07**
	(b)	Explain main components of truss type fuselage structure with neat sketch.	**07**
Q.4	**(a)**	What do you understand by aviation electronics? Enlist electronic instruments using in aircrafts.	**07**
	(b)	Give a short note on VOR.	**07**
		OR	
Q.4	**(a)**	With neat sketch of ILS layout explain glide slope and Localizer transmitters.	**07**
Q.4	**(b)**	What are primary and secondary radar? How are they used in civil and military aviation?	**07**
Q.5	**(a)**	What is Distance Measuring Equipment? Why is it located with Glide slope instead of Localizer?	**07**
	(b)	Explain starting procedure of gas turbine engine.	**07**
		OR	
Q.5	**(a)**	What are main functions of Elevators, ailerons and rudder?	**07**
	(b)	What are main functions of flaps, Trim tabs, spoilers and air brakes?	**07**

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