Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III • EXAMINATION – SUMMER • 2014

Subject Code: 130104 **Date: 04-06-2014**

Subject Name: Introduction to Profession

Time: 02.30 pm - 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.**

Q.1	**(a)**	Classify aircraft engines subject to usage.	**07**
	(b)	Explain how an aircraft maneuvers around all three axis using primary control surfaces.	**07**
Q.2	**(a)**	With neat sketch explain how turbojet engine works.	**07**
	(b)	Define terms with respect to aircraft. Centre of Gravity, Centre of pressure, Aerodynamic Centre, Ailerons, Fuselage, Airframe and Horizontal Stabilizer.	**07**
		OR	
	(b)	With neat sketch explain main components of semi-monocoque fuselage structure.	**07**
Q.3	**(a)**	Enlist avionics equipment's used in aircraft for navigation purpose. Explain anyone.	**07**
	(b)	Briefly explain advantages and dis-advantages of Turbo Prop engines over Piston-Prop.	**07**
		OR	
Q.3	**(a)**	Explain system which helps pilot while making approach for landing.	**07**
	(b)	With neat sketch explain wing structure of light aircraft.	**07**
Q.4	**(a)**	With neat sketch differentiate between flaps and spoilers.	**07**
	(b)	Briefly explain tail dragger landing geometry with neat sketch.	**07**
		OR	
Q.4	**(a)**	How pilots confirm aircraft's flying radial? Explain Very High Frequency Omni Range.	**07**
	(b)	With neat sketch explain structural components of retractable landing gears.	**07**
Q.5	**(a)**	With neat sketch explain Semi-monocoque empennage structure.	**07**
	(b)	Explain main four forces acting upon an aircraft flying in steady cruise condition.	**07**
		OR	
Q.5	**(a)**	Classify Static stability of aircraft. Explain any one in brief.	**07**
	(b)	Differentiate between Primary and Secondary Radar equipment used for Air-Navigation.	**07**

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