

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**
