



Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER – VIII • EXAMINATION – WINTER - 2017****Subject Code: 180101****Date: 07-11-2017****Subject Name: Aircraft Design-II****Time: 02:30 pm to 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 Draw a circle to square adaptor joining a circular cross section of 10 cm and 10 cm X 10 cm. 07
- B Design a cockpit for a single pilot fighter plane. 07
- Q-2 A Prepare wing layout of a wing carrying 100000 pounds of weight with speed of 0.8 Mach. Take suitable aspect and taper ratio. 07
- B Shortly explain Preliminary design and detailed design. 07
- OR
- B Shortly explain aircraft configurations with neat sketches. 07
- Q-3 A Differentiate between fixed and rubber engine sizing. 07
- B With neat sketch explain how circle to square adaptors are used to model fuselage cross sections. 07
- OR
- A How will you verify either all formers are properly modeled or not? 07
- B Shortly explain aircraft layout procedure with example and neat sketches. 07
- Q-4 A Explain structural consideration of a conventional semimonocoque fuselage. 07
- B How will you design a fuselage carrying 80 passengers on board? 07
- OR
- A Which considerations will you take to design hydraulics of aircrafts? 07
- B Discuss consideration to locate guns and hard points on airframes. 07
- Q-5 A With neat sketch explain design of oleo type shock absorber of aircraft under carriage. 07
- B Explain possible retraction geometry of main under carriage. 07
- OR
- A Discuss various jet VTOL configurations. 07
- B Discuss various Prop VTOL configurations. 07

