

GUJARAT TECHNOLOGICAL UNIVERSITY
BE SEM-III Examination-Dec.-2011

Subject code: 130104**Date: 24/12/2011****Subject Name: Introduction of Profession****Time: 2.30 pm -5.00 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) How lift is produced along cross section of the wing? Explain with neat sketch. 07
- (b) How many forces take place over flying aircraft? Explain briefly. 07
- Q.2 (a) Explain brayton cycle of gas turbine engines with neat sketch. 07
- (b) Differentiate between “four stroke engines” and “two stroke engines”. 07
- OR
- (b) Explain cycle of four stroke IC engine. 07
- Q.3 (a) What kind of reciprocating engines are used in aircrafts? 07
- (b) With neat sketch explain semi monocoque wing structure. 07
- OR
- Q.3 (a) Explain “wing aerofoil stalling” by $C_l - \alpha$ curve. 07
- (b) With neat sketch explain semi monocoque fuselage structure. 07
- Q.4 (a) Give a short note on “aircraft under carriage”. 07
- (b) Differentiate between “retractable landing gears.” and “fixed landing gears”. 07
- OR
- Q.4 (a) What are important components of ILS? Explain with layout. 07
- (b) Explain “VHF Omni directional Range” shortly? 07
- Q.5 (a) Enlist avionics equipments used in aircraft. How are they helpful for direction finding and landing in poor weather conditions. 07
- (b) Differentiate between “rotary engines” and “reciprocating engines”. 07
- OR
- Q.5 (a) Classify rotary engines used for civil and military aviation services. 07
- (b) Differentiate between Primary and Secondary Radar. 07
