

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-V • EXAMINATION – WINTER 2013

Subject Code: 150105**Date: 11-12-2013****Subject Name: Operation and Maintenance of Aircraft****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) Explain stage wise procedure of maintenance and overhaul of gas turbine engine. What is external supply? **07**
(b) What is tachometer? Explain principle and operation with diagram and its application on aircraft. **07**
- Q.2** (a) Explain acronym “FACTOR” used for chemical agent in aviation industries under topic hazardous material. **07**
(b) Describe the following while working with plastic material-cutting plastic, drilling plastic and annealing plastic. **07**
- OR**
- (b) Describe deicing system, its purpose and application on aircraft. Does it work before or after formation of ice? **07**
- Q.3** (a) Explain tail plane and control surfaces structure, and areas of application of doubler on aircraft with its purpose. **07**
(b) Enlist and explain different types of weld joints with figures and example on aircraft constructional structure. **07**
- OR**
- Q.3** (a) Name different types of welding processes and explain any one with figure. **07**
(b) What do you understand by aircraft rigging? Explain with required figure. **07**
- Q.4** (a) Define thrust augmentation, purpose, requirements and its different methods. Explain after burner and nozzle system of GE J85 engine. **07**
(b) Describe principle and application of V.H.F. communication. Explain installation with proper diagram. **07**
- OR**
- Q.4** (a) How alternating current supply of alternator is rectified? Explain with Circuit diagram in detail. **07**
(b) What is EGT? Explain this indicator with principle, operation and installation on aircraft. Draw detailed circuit diagram. **07**
- Q.5** (a) Explain EICAS (Engine Indicating and Crew Alerting System) with its parameters displayed. How it is related with (ECAM) Electronic Control for Aircraft Monitoring? **07**
(b) What is function of weather radar in aircraft and what type of beam width is utilized? Explain with diagram and usefulness of weather radar. **07**
- OR**
- Q.5** (a) Explain aircraft starter generator with diagram. Describe different types of starters used in aircraft. **07**
(b) Explain spark plug in engine ignition, How EHT is generated with figure? **07**
