

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV (OLD) - EXAMINATION – SUMMER 2017****Subject Code: 140103****Date: 14/06/2017****Subject Name: Aircraft Systems And Instruments****Time: 10:30 AM to 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) What is the purpose of hydraulic system in the aircraft? How and where is it used? What are the different elements of a hydraulic system? Explain with the help of a simple diagram. **07**
- (b) What is a tachometer? How is it used in the measuring instruments? Explain with simple diagram. **07**
- Q.2** (a) Explain working principle of altimeter with neat sketch. **07**
- (b) Explain Pitot Static System of an aircraft. **07**
- OR**
- (b) Explain cabin pressurization system of an aircraft. **07**
- Q.3** (a) In which all the locations in the aircraft fire detection system are installed? What is the principle of their working? With the help of a diagram explain any fire protection system. **07**
- (b) With neat sketch explain magneto ignition system of reciprocating engine. **07**
- OR**
- Q.3** (a) Explain induction & exhaust system of an aircraft. **07**
- (b) Explain working principle of vacuum system for heading & attitude indicator. **07**
- Q.4** (a) Classify the various selector valves & explain working of piston selector valves. **07**
- (b) Explain working principle of turn & bank indicator. **07**
- OR**
- Q.4** (a) With the help of neat sketch explain working principle of gear & vane pump. **07**
- (b) What is flight management system? What are its advantages? **07**
- Q.5** (a) Describe icing effect on aircraft flight with figure and suggest different methods used for prevention. **07**
- (b) With the help of neat sketch explain working principle of hydraulic reservoirs. **07**
- OR**
- Q.5** (a) With the help of neat sketch explain working of Turbo-fan engine. **07**
- (b) Write a short note on black box recorder. **07**
