Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

VII SEMESTER B.TECH. (AERONAUTICAL ENGINEERING)

END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: AIRCRAFT SYSTEMS AND INSTRUMENTS [AAE 403]

REVISED CREDIT SYSTEM
(02/12/2016)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ANY FIVE FULL** questions.
- Missing data may be suitable assumed.

1A. Explain Mode control Panel. **(2)**

1B. What do you mean by glass cockpit? What are its advantages? **(3)**

1C. How aircraft display systems are classified? Also explain T arrangement. **(5)**

2A. Differentiate static and dynamic pressures. **(2)**

2B. Explain the operating principle of Bourden tube. How it can be used to measure temperature? **(3)**

2C. Explain airspeed indicator in detail with necessary diagram. **(5)**

3A. What do you mean by DC selsyn system? **(2)**

3B. What is Air Data Computer (ADC)? Explain with block diagram. **(3)**

3C. Explain Mach meter in detail. **(5)**

4A. What are the major errors in using magnetic compass as a direction indicator? **(2)**

4B.	Briefly explain Flux Detector Unit (FDU).	**(3)**
4C.	What are the major gyroscopic properties? Also derive RLG equation.	**(5)**
5A.	Explain Hall effect sensor. What is its application in aircraft?	**(2)**
5B.	Explain any one type of torque meter in detail.	**(3)**
5C.	Explain engine vibration monitoring system using electromagnetic velocity pick up.	**(5)**
6A.	Explain RADAR equation in detail.	**(2)**
6B.	What is Bootstrap refrigeration system used in aircraft?	**(3)**
6C.	Explain Inertial Navigation system in detail.	**(5)**