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**MANIPAL INSTITUTE OF TECHNOLOGY**  
**MANIPAL**

*A Constituent Institution of Manipal University*

**IV SEMESTER B.TECH. (AERONAUTICAL ENGINEERING)**

**END SEMESTER EXAMINATIONS, APRIL 2018**

**SUB: INTRODUCTION TO AEROSPACE ENGINEERING [AAE 3281]**

**REVISED CREDIT SYSTEM**  
**(30/04/2018)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitable assumed.

- 1A.** How the aircraft is moving forward? Also explain with suitable examples the different parts of aircraft and rocket. (4)
- 1B.** Discuss the role, mission and standards of IATA and ICAO trade bodies. (6)
- 2A.** Explain with neat diagrams the differences between air breathing engines and non-air breathing engines. Give suitable examples. (4)
- 2B.** Explain the different types of aircraft maintenance with neat flow chart diagram. (6)
- 3A.** Describe the role of low wing and high wing concept in aircraft. (4)
- 3B.** Explain the construction, working, advantages and limitations of solid, liquid and Hybrid propellant rockets. (6)
- 4A.** With neat diagrams explain the different types of fuselage structures. (4)
- 4B.** Explain the different types of fluid flows which are used to describe the aircraft aerodynamics. (6)
- 5A.** Discuss the aircraft landing gear design considerations. (4)
- 5B.** Explain the design based engines with neat line diagrams (6)