

Code: AE2T5

I B.Tech-II Semester - Regular Examinations - July 2014

**INTRODUCTION TO AERONAUTICAL
ENGINEERING**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Explain about the materials, Structures used in manufacturing of planes in the recent years. 7 M
- b) Explain the importance of Propulsion in the working of Airplanes and discuss briefly about latest developments. 7 M
2. a) What are the components of an airplane and explain about their functions in smooth running of airplane. 7 M
- b) How do we classify different flight vehicles and explain. 7 M
3. a) Explain about Aerofoil, Mach number in detail. 7 M
- b) Discuss the different physical properties and structure of atmosphere. 7 M
4. a) Discuss in detail about Monocoque structure and typical wing. 7 M

- b) Discuss in detail about Semi-Monocoque, Geodesic construction. 7 M
5. a) Discuss in detail about Jet engines and its superiority with other types of engines. 7 M
- b) Explain about Turboprop. 7 M
6. a) Discuss about aerodynamics of wing. 7 M
- b) What are free coefficients, Moment coefficients, Generating Lift. 7 M
7. a) How performance of aircraft is measured in accelerated Flight ? 7 M
- b) How performance of an aircraft is measured in steady flight ? 7 M
8. a) Differentiate between dynamic stability and longitudinal stability. 7 M
- b) What is meant by Airplane static stability and Discuss different factors affecting. 7 M