

**B.TECH. IN AEROSPACE ENGINEERING
(BTAE)**

**Term-End Examination
June, 2011**

**BAS-011 : Aircraft Systems and Airworthiness
Requirements**

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions.

1. (a) Why an Aircraft is Required to be weighted ? Explain. 3
- (b) Enumerate conditions for re - weighing of heavy Aircraft and light Aircraft. 4
- (c) What is zero fuel weight ? Explain. 3
2. Write short notes on.
 - (a) ICAO 5
 - (b) Accumulator 5
3. Explain the Principle of Electro Hydraulic Servo System. Describe two Applications in an Aircraft system. 10

4. (a) What are the different types of contaminations in Hydraulic system and explain their effects on system performance? 6
- (b) What are the desirable properties of Hydraulic fluid in a Civil Aircraft? 4
5. (a) What are the different categories and sub - division of aircraft for issuance of air worthiness certificate as per Civil Aviation Requirements, Section - II, Series 'f' ? 6
- (b) What are normal limit load factor's for the above categories of Aircraft? 4
6. (a) What are the Requirements for issuance of type certificate of an Aircraft and it's components as per series F of CAR section 2 ? 5
- (b) Write down the conditions for de - Registration of an Aircraft. 5
7. (a) Explain the working of Gravity feed and pressure feed fuel system. Give it's Advantages and disadvantages. 5
- (b) Explain the working of different types of Fuel tank in use. 5

8. Explain Briefly Bootstrap cooling and Turbofan cooling of Air cycle system. 10
9. Write short notes on : 10
- (a) Indication and warnings in cockpit for fuel system.
 - (b) Fire extinguishing system.
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