

**B.Tech. AEROSPACE ENGINEERING  
(BTAE)**

**Term-End Examination**

**December, 2016**

**BAS-011 : AIRCRAFT SYSTEMS AND  
AIRWORTHINESS REQUIREMENTS**

*Time : 3 hours*

*Maximum Marks : 70*

*Note : Answer any seven questions.*

1. (a) Describe with the help of a diagram, the functioning of a gravity feed fuel system in an aircraft. 6  
(b) What is the function of a fuel primer in an aircraft fuel system ? 4
2. (a) What are the functions of an aircraft engine oil system ? Explain the functioning of a wet sump oil system in a reciprocating engine. 6  
(b) What are the essential components of an aircraft hydraulic system ? 4
3. (a) What are the different kinds of oxygen systems in aircraft ? 4  
(b) Explain with a diagram the functioning of a pressure demand oxygen system. 6

4. (a) Explain with a diagram the functioning of an aircraft pneumatic system for turbofan engine. 6
- (b) What are the precautions to be kept in mind while carrying out servicing of oxygen systems ? 4
5. (a) Draw a basic overview of aircraft electrical network. 4
- (b) What are the types of on-board monitoring equipment of aircraft electrical systems ?  
What is the function of load meter ? 6
6. (a) Why is pressurization important ? What is differential pressure and how is it monitored ? 4
- (b) Describe the maintenance procedures used for air-conditioning systems in aircraft. 6
7. (a) What are the pre-requisites for an aircraft to be issued Type Certificate by DGCA ? 4
- (b) Define Airworthiness. What is C of A ?  
Under what conditions would a C of A cease to be valid ? 6

8. (a) What information must be recorded in the Aircraft Technical Log System ? 4
- (b) What are the aircraft maintenance guidelines specified by CAR ? 6
9. (a) What kind of smoke detection system is used for cargo bay of aircraft ? 4
- (b) Explain the functioning of an optical fire detection system. 6
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