

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

Term-End Examination

00551

June, 2019

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

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions. All questions carry equal marks.

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1. (a) Describe with the help of a diagram the functioning of a fuel-pump type 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 reciprocating engine. 6
 - (b) What are the essential components of an aircraft hydraulic system ? 4

3. (a) What are the different types of oxygen systems in an 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 servicing of on-board 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 the 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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