

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

00183 Term-End Examination

June, 2017

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

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions.

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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 are the measures to prevent fuel contamination? 4
 2. (a) What is the difference between a single-acting and a double-acting servo in aircraft hydraulic systems? Explain with a diagram. 6
 - (b) What are the advantages of tricycle landing gear? 4

3. (a) What are the types of lubrication systems used in an aircraft engine ? Explain any one of them in brief. 6
- (b) What is the difference between anti-icing and de-icing systems used in an aircraft? 4
4. (a) What are the precautions to be kept in mind while carrying out servicing of oxygen systems ? 4
- (b) Explain with a diagram, the functioning of a constant flow aircraft oxygen system. 6
5. (a) Why does icing occur ? What are the types of de-icing systems in an aircraft ? Explain in detail the system used for propeller de-icing. 6
- (b) What are the advantages of alternators over generators in aircraft electrical systems ? 4
6. (a) Explain the functioning of a thermal fire detection system. 4
- (b) Explain with a diagram, the functioning of an aircraft cabin pressurization system. 6
7. (a) What is the nationality marking for aircraft registered in India ? What are the categories of aircraft under which they can be issued Cs of A ? 4

- (b) What is the validity period of a Certificate of Airworthiness ? What are the conditions for its continued validity ? 6
8. (a) What is MEL ? What are the categories of MEL ? 4
- (b) Define Flight time. Why is it important from the point of view of maintenance planning ? 6
9. (a) What are the main parts of a turbine that require lubrication and cooling ? 4
- (b) Explain the method by which fuel control is achieved in turbine engines. 6
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