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BAS-011

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

Term-End Examination

December, 2015

**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. 6
(b) What are the measures to prevent fuel contamination? 4
 2. (a) Differentiate between a single-acting and a double-acting servo in aircraft hydraulic systems with a diagram. 6
(b) What are the advantages of a tricycle landing gear? 4
 3. (a) What are the types of lubrication systems used in aircraft engines? Explain any one of them in brief. 6
(b) Differentiate between anti-icing and de-icing systems used in aircraft? 4

4. (a) What are the precautions to be kept in mind while servicing 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 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 thermal fire detection systems. 4
- (b) Explain with a diagram the functioning of an aircraft cabin pressurisation system. 6
7. (a) What is the nationality marking for an aircraft registered in India ? What are the categories of aircraft under which they can be issued certificate of air-worthiness (C of A) ? 4
- (b) What is the validity period for a certificate of air-worthiness (C of A) ? 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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