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BAS-011

00452

B.TECH. AEROSPACE ENGINEERING (BTAE)

Term-End Examination

December, 2017

BAS-011 : AIRCRAFT SYSTEMS AND AIRWORTHINESS REQUIREMENTS

Time : 3 hours *Maximum Marks : 70*

Note : (i) *Answer any seven questions.*
(ii) *All questions carry equal marks.*

1. (a) Describe with the help of a diagram, the functioning of a Fuel-pump type fuel system in aircraft. **6**

   (b) What are the types and colour codes of Aviation fuel ? **4**

2. (a) What is the difference between a single-acting and double-acting servo in aircraft hydraulic systems ? Explain with a diagram. **6**

   (b) What are the possible causes of fuel contamination ? **4**

3. (a) What are the types of lubrication systems used in aircraft engine ? Explain any one of them in brief. **6**

   (b) What is the difference between anti-icing and de-icing systems as used in aircraft ? **4**

4. (a) What are the characteristics of aviation oxygen ? How is it stored in aircraft ? 4

(b) Explain with a diagram the functioning of a constant flow aircraft oxygen system. 6

5. (a) Explain with a diagram the functioning of an ionization type smoke detector. 6

(b) Name the various types of fire extinguishing agents used in aircraft. 4

6. (a) Explain the principle of operation of an Evaporative Air cycle air conditioning system. 4

(b) Describe 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 certificate of Airworthiness ? 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