

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

Term-End Examination

December, 2017

**BAS-018 : AIRCRAFT SAFETY AND
MAINTENANCE ENGINEERING**

Time : 3 hours

Maximum Marks : 70

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

1. Explain in detail the maintenance of an aircraft and the purpose of a maintenance check-list. 10
2. Discuss in detail the maintenance of air conditioning and pressurisation system of an aircraft. 10
3. (a) What are the benefits of condition based maintenance system ? 5+5=10
(b) Define system safety. What are the components of a system safety programme plan ?
4. A maintenance technician is performing task at continuous time. Derive an expression to check his/her reliability, if the rate of errors made by the maintenance technician is assumed to be constant. An aircraft maintenance person is performing time continuous task at 0.008 errors per hour. Calculate his/her reliability during a 5-hour mission. 10

5. What is Non Destructive Testing (NDT) ? What kinds of NDT techniques are used to ensure safety of an airplane ? 10
 6. Derive and compare the reliability of system in series and parallel for constant rate of failure. 10
 7. What is the Life cycle costing concept and what are its benefits ? 10
 8. Enumerate the guidelines in Air safety circulars to ensure Apron discipline. 10
 9. Describe the four steps of Statistical Process Control (SPC) in aircraft health monitoring. 10
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