

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

Term-End Examination

June, 2017

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

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **seven** questions. All questions carry equal marks. Standard terms and notations have their usual meaning.

1. (a) Mention the major care and precautions that are observed during aircraft maintenance. 5
(b) Differentiate between inter-check and major service of an aircraft. 5
2. What is the life cycle costing concept and what are its benefits ? 10
3. An aircraft engine consists of four modules having constant failure rates : $\lambda_1 = 0.003$; $\lambda_2 = 0.0018$; $\lambda_3 = 0.0015$ and $\lambda_4 = 0.0020$ failures per operating hour. Calculate the probability that the engine will not fail in a 24-hour period. 10

4. (a) Distinguish between preventive maintenance and corrective maintenance. 5
- (b) Discuss 'Structural Health Monitoring' in relation to aircraft maintenance. 5
5. (a) What are the precautions that are taken during landing of a flight ? 5
- (b) What is airworthiness ? Mention the names of few CARs issued by DGCA. 5
6. How does an aircraft affect the environment ? Discuss the various methods to reduce pollution due to an aircraft. 10
7. (a) Explain the significant factors that affect maintenance management. 5
- (b) Compare qualification and acceptance testing. 5
8. Write short notes on the following : 5+5=10
- (a) Interchangeability
- (b) Modularization
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