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BAS-018

B.Tech. AEROSPACE ENGINEERING (BTAE)

Term-End Examination

December, 2015

BAS-018 : AIRCRAFT SAFETY AND MAINTENANCE ENGINEERING

Time : 3 hours   *Maximum Marks : 70*

Note : *Answer any* **ten** *questions. All questions carry equal marks.*

1. What is the purpose of a maintenance check list ? What are the precautions to be observed while undertaking towing of an aircraft ?   7

2. Enumerate the various precautions and preparations to be ready before emergency landing of an aircraft.   7

3. Explain the Structural Health Monitoring for an aircraft and also give the various kinds of NDT (Non-Destructive Testing) techniques used to ensure safety of an airplane.   7

4. What are the stages in a system life cycle of an aircraft ? Also explain the life cycle costing concept.   7

5. An aircraft engine consists of three parts having constant failure rates $\lambda_1 = 0.004$, $\lambda_2 = 0.002$ and $\lambda_3 = 0.0025$ failures per operating hour. Calculate the probability that the engine will not fail in a 24 hours period. 7

6. Describe the occurrence and prevention of fatigue failure in an aircraft component. 7

7. Describe the role of flight crew in ensuring the safety of passengers. 7

8. What are Air Safety circulars ? List down the various CAR publications. 7

9. Explain the jacking and taxiing procedures of an aircraft. 7

10. What are aircraft logs ? What are the guidelines for issuance of Airworthiness Certificates ? 7

11. Discuss the need of maintaining Environmental Cleanliness in Aviation. 7

12. How does cracking and corrosion occur on aircraft components ? 7

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