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BAS-018

B.Tech. AEROSPACE ENGINEERING (BTAE)

Term-End Examination

00293

June, 2018

BAS-018 : AIRCRAFT SAFETY AND MAINTENANCE ENGINEERING

Time : 3 hours *Maximum Marks : 70*

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

1. (a) How does cracking and corrosion occur on aircraft components ? *5*

(b) What are the air safety instructions required to avoid the condition of overloading of aircraft ? *5*

2. Assume that a system is composed of five independent and identical subsystems in series. The constant failure rate of each subsystem is 0·004 failures per hour. Calculate the reliability and mean time to failure for 25 hours of mission. *10*

3. Explain the starting procedure of an aircraft piston engine. *10*

4. Briefly explain the different types of ground support units. What are the intake and exhaust hazard areas ? *10*

5. (a) What is aircraft proximity ? How can aircraft proximity be detected ? *5*

   (b) Explain in detail 'towing' of an aircraft. *5*

6. Write in brief about the following check procedures in aircraft maintenance : $4 \times 2\frac{1}{2} = 10$

   (a) Transit check

   (b) Ramp check

   (c) Service check

   (d) Inter check

7. (a) What is rigging of an aircraft ? Enlist the precautions to be taken while parking of an aircraft.

   (b) Explain Aircraft logs and enlist the guidelines for issuance of Airworthiness Certificates. *5+5=10*

8. Discuss in detail special inspection and condition based monitoring of aircraft components. *10*

9. Describe the responsibilities of both, pilot and Air Traffic Control (ATC) in ensuring a safe flight. *10*
