

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

Term-End Examination

June, 2018

00183

**BAS-011 : AIRCRAFT SYSTEMS AND
AIRWORTHINESS REQUIREMENTS**

Time : 3 hours

Maximum Marks : 70

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

1. (a) Which section of CAR deals specifically with “Design Standard And Type Certification” ? 4
- (b) What are the requirements for issuance of “Type Certificate” for an aircraft and its components as per Series F of CAR section 2 ? 6
2. (a) What are the advantages and disadvantages of pneumatic system over hydraulic system in aircraft control ? 6
- (b) What are the requirements of pressurization system in an aircraft ? 4

3. (a) What are the precautions and procedure adopted to carry out servicing of oxygen systems ? 4
- (b) Explain with a diagram the functioning of diluter-demand oxygen system. 6
4. (a) Explain the purpose of APU in aircraft. What are the basic differences between APU and GPU ? 4
- (b) What are the requirements of a lubrication system ? What does high oil temperature in flight indicate ? 6
5. (a) Explain the functioning of an optical smoke detector. 4
- (b) Describe in detail the classification of fire extinguishers. 6
6. (a) What is decompression ? What are its effects on pilots and passengers ? 4
- (b) What are the two types of air-conditioning systems used in an aircraft ? Explain the functioning of any one. 6

7. (a) What are the categories under which an aircraft can be registered by DGCA ? What are the documents required to be submitted with an application for registration ? 4
- (b) Define Airworthiness. What is C of A ? Under what conditions would a C of A cease to be valid ? 6
8. (a) When can DGCA issue special flight permits ? 4
- (b) What log books need to be mandatorily maintained in respect of each aircraft ? 6
9. (a) What are the components of a typical pneumatic power system ? 4
- (b) Explain the functioning of a dry sump oil system. 6
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