

00644

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

Term-End Examination

June, 2014

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

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions.

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1. (a) What is flight control system ? With a neat sketch, show the various control surfaces and system in an Aircraft. 5
 - (b) Explain briefly the different types of flight control system. 5
 2. (a) Explain with the neat sketch the application of sequence valve in landing gear system of Aircraft. 5
 - (b) Explain with neat sketch the low pressure pneumatic system of Aircraft. 5
 3. (a) Describe briefly the various types of generator's used in Aircraft. 5
 - (b) Explain briefly the different types of batteries used in an Aircraft. 5
 4. (a) Why oxygen system is required in an Aircraft ? Give reasons with examples. 5
 - (b) What is chemical oxygen generator system and portable oxygen system ? What are their respective advantages and disadvantages ? 5

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| 5. | (a) Describe a typical closed loop control system with position feedback. | 5 |
| | (b) Describe a typical nose wheel steering system of an aircraft with a sketch. | 5 |
| 6. | (a) Describe the loads felt on landing gear during landing. | 3 |
| | (b) What is the function of shock absorber ? Explain the working of a typical shock absorber. | 7 |
| 7. | Describe an Electro hydraulic type servo system and it's application in Aircraft. | 10 |
| 8. | (a) Explain briefly bootstrap cooling and turbofan cooling of air cycle systems. | 7 |
| | (b) What are desirable properties of Hydraulic Fluid in a Civil Aircraft ? | 3 |
| 9. | (a) Write down the conditions for de-registration of an Aircraft. | 4 |
| | (b) Write short notes : | 6 |
| | (i) ICAO | |
| | (ii) DGCA | |
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