

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

Term-End Examination

June, 2017

00020

BAS-019 : AIRCRAFT INSTRUMENTS

Time : 3 hours

Maximum Marks : 70

Note : Attempt any **seven** questions. All questions carry equal marks. Use of calculator is permitted. Terms used have their usual meaning.

1. Explain radio-navigation system with the help of of a block diagram. 10
2. Describe the working of a Pitot tube with a neat sketch. 10
3. State the working principle of a gyroscope. Also, explain any one gyroscopic instrument used in an aircraft. 10
4. Describe the following in brief : 5×2=10
 - (a) Trunnion
 - (b) Isogonic Line
 - (c) Megger
 - (d) Turn and Bank Indicator
 - (e) RMI

5. (a) Explain in brief the flight director system in the automatic flight system of an aircraft. 5
- (b) What do you understand by 'Fast-Response' as applied to EGT ? 5
6. (a) Describe black box recorder of an aircraft. 5
- (b) Explain the speed control system in the automatic flight system of an aircraft. 5
7. What type of information is displayed by EICAS ? Explain in detail the functioning of a typical Flight Director System. 10
8. Describe in detail a primary servo unit and discuss its applications. 10
9. (a) Why is a tachometer important in the operation of an aircraft engine ? 5
- (b) Explain the operation of an AC tachometer system. 5
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