

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

**Term-End Examination**

**December, 2015**

**BAS-007 : CNS – ATM SYSTEMS**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Answer *seven* questions in all. All questions carry equal marks. Make suitable assumptions, if needed.

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1. (a) How do you distinguish between stationary target and moving target ? Explain the principle and working of an MTI radar. 6
- (b) An MTI radar operates at 4.8 GHz with PRF of 600 Hz. Calculate the lowest two blind speeds of this radar. 4
2. (a) Explain the traffic control procedure and its impact on resource management. 5
- (b) What are the main aspects of the air traffic management system ? 5
3. (a) Discuss airfield and aircraft emergencies. 5
- (b) What is AAI ? Explain. 5

4. (a) Describe the Ground Control Approach (GCA) and give its main advantages and disadvantages. 6
- (b) Explain the aircraft landing system. 4
5. (a) Write comparisons between AM and FM. 5
- (b) What is quantization error ? How does it depend upon the step size ? 5
6. Write short notes on any *two* of the following : 10
- (a) EM Spectrum
- (b) NDB
- (c) ICAO
- (d) Cardioid Pattern
7. Explain the Route Navigation system of an aircraft and satellite network of an airfield. 10
8. (a) What are the considerations that determine the field layout ? 5
- (b) Explain altitude, clutter and arrester barrier. 5
9. (a) Describe in detail the Precision Approach Radar (PAR). 5
- (b) Explain ADF and VFR. 5