

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

Term-End Examination

June, 2010

BAS-007 : CNS - ATM SYSTEMS

Time : 3 hours

Maximum Marks : 70

Note : *Answer any seven questions.*

1. (a) Explain the Air Traffic Management System Functional Structure. 6
(b) Describe the Separation Assurance Loop of the ATM System. 4
2. (a) With the help of neat diagrams, explain the Aircraft Monitoring System (AMS). 4
(b) With the help of neat sketch, explain the different types of Display's in a RADAR System. 6
3. Define the Modulation. Explain each type of Modulation. 10
4. What do the following Acronym's stand for ? 10
Explain each :
(a) ICAO (b) ATM
(c) ADF (d) DGCA
(e) SSR

5. (a) Explain the specific hazards that an Airport may encounter. Also explain preventive measures. 5
- (b) What are the steps, the pilot must take to ensure safety of passenger's and crew ? When he encounters engine failure after take off while flying a single engine aircraft ? 5
6. (a) What are Network Protocols ? Explain in brief. 4
- (b) Explain the CW RADAR Principle and it's working. Also explain the FMCW RADAR. 6
7. What are Kepler's three law's ? Explain each law and hence explain Geostationary orbit and derive related expressions. 10
8. Explain in short the following : 5x2=10
- (a) GPS
- (b) VOR
- (c) ILS
- (d) LORAN
- (e) NDB

9. (a) What are the day-to-day problem's faced by the Air traffic control system ? 4
- (b) Explain the following term's 6
- (i) JATO
 - (ii) EMALS
 - (iii) STCA
10. (a) What are the objectives of Surveillance System ? 4
- (b) Explain the system Parameter's of any Radio Navigation System. 6
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