

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

Term-End Examination

December, 2010

BAS-007 : CNS - ATM SYSTEMS

Time : 3 hours

Maximum Marks : 70

Note : Answer any seven questions.

1. (a) Explain the principle of RADAR and Derive the RADAR equation. 6
(b) Differentiate between the Primary Surveillance Radar and Secondary Surveillance Radar. 4
2. (a) Explain the difference between the Amplitude Modulation and Frequency Modulation. 7
(b) A 400 Watt carrier is modulated to a depth of 75 percent. Calculate the total power in the modulated wave. 3
3. Explain the Air Traffic Management System. 10
4. What is hyperbolic navigation ? What are it's types? Explain each type in detail. 10
5. What are Air data instrument's ? Explain any two. 10

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| 6. | (a) | Briefly Explain the Ground controller ATC. | 6 |
| | (b) | Explain the difference between the Analog and Digital Signals. | 4 |
| 7. | | What is a VOR ? Explain each of its part's in detail. | 10 |
| 8. | (a) | What is a DME ? Explain its working with the help of a neat sketch. | 6 |
| | (b) | What are Marker Beacon's ? | 4 |
| 9. | (a) | What are the day to day problems faced by the Air Traffic Control System ? | 4 |
| | (b) | Explain the following term's | 6 |
| | | (i) JATO | |
| | | (ii) EMALS | |
| | | (iii) STCA | |
| 10. | (a) | What is an ATC Transponder ? What are the different modes of operation of the transponder ? What is the importance of mode 'C' ? | 5 |
| | (b) | Define the pulse modulation explain each type in short ? | 5 |