Code No: 37157/37158 **R05** **Set No - 2**

IV B.Tech I Semester Regular Examinations,Nov/Dec 2009
AVIONICS
Aeronautical Engineering

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

⋆ ⋆ ⋆ ⋆ ⋆

1. What is TCAS? Describe the principle and working/operation of TCAS. [6+10]
2. (a) Draw a block diagram to explain primary & secondary Surveillance Radar System.
   (b) Explain various modes of operation including Mode 'C' and 'S' as per ICAO specifications. [8+8]
3. (a) Explain Performance Requirements and Certification of Military Avionic Systems.
   (b) List out Avionic System Design Requirements in respect of Modern Civil Airliner. [8+8]
4. What are hyperbolic navigation systems? Explain the principle and working of DECCA. [8+8]
5. (a) Explain the methodology to enhance the functional/ operational accuracy of Airborne INS on an aircraft.
   (b) "Electronics unit" of INS is vital for aeronatical applications. Explain how Navigation parameters are extracted out of the this INS. [8+8]
6. Give an overview of Russian "GLONASS" Satellite Navigation System as used for both civil and military applications. [16]
7. (a) Digital Engine Control System (FADEC) is vital for Auto-Flight, explain this concept in any modern state-of-art aircraft.
   (b) How this can be integrated with Flight Management Systems? [8+8]
8. Explain the various display system architectures with the help of block diagrams for a typical electronic flight instrument display. [16]

⋆ ⋆ ⋆ ⋆ ⋆