Reg. No.

Question Paper Code : X10043

B.E./B.Tech. DEGREE EXAMINATIONS – NOV / DEC 2020 and
APRIL / MAY 2021
Sixth / Seventh Semester

Aeronautical Engineering

AE8751 AVIONICS
Common to Aerospace Engineering / Mechatronics Engineering
(Regulations 2017)

Time: 3 Hours   Answer ALL Questions   Max. Marks 100

PART- A (10 x 2 = 20 Marks)

1. Mention the advantages of using Avionics over conventional aircraft systems.

2. Explain volatile memory with an example.

3. Why Manchester II Biphase Encoding method is used in MIL-STD-553B?

4. What is DAIS?

5. Explain the principle behind the working of touch screen display.

6. Define glass cockpit.

7. Compare ILS and MLS systems.

8. Write short notes on global navigation satellite system.

9. Why should we use an autopilot system in aircrafts?

10. Explain the working of a Mach warning system.

PART- B (5 x 13 = 65 Marks)

11. a) Explain the design procedure of avionics subsystems in civil aircrafts with the help of a block diagram. (13)

OR

    b) Explain the different types of memories in detail. (13)

12. a) Explain in detail the word format of MIL-STD-1553B data bus. (13)

OR

b) Explain the second generation and third generation architecture of Avionics systems. (13)

13. a) Write short notes on MFDS, EL and plasma panel. (13)

OR

b) With a neat diagram, explain the working principle of HUD display. (13)

14. a) Explain the inertial navigation system with a neat diagram. (13)

OR

b) With diagrams, explain the working principle of a global positioning system. (13)

15. a) Describe the altitude warning system with neat labelled diagrams. (13)

OR

b) With a neat block diagram, explain the concept of lateral autopilot with a block diagram. (13)

PART - C (1 x 15 = 15 Marks)

16. a) What is a CRT? What are the different types of CRT'S? Explain the working principle of a CRT with neat diagrams. (15)

OR

b) Elucidate on the working principle of the Indian satellite Navigation system with diagrams. (15)

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