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Question Paper Code:1017001

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024

Seventh Semester

Aeronautical Engineering

U20AE701– AVIONICS

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. What are the advantages of using avionics in civil and military aircraft?
2. Differentiate between volatile and non volatile memories.
3. Give few Avionics architecture.
4. Define ARINC-629 standard.
5. What is CRT and its usage in aircraft displays?
6. What is HOTAS?
7. Define Navigation and their types.
8. What is GPS?
9. Define Autopilot.
10. Write short notes on Vertical speed indicator.

11. (a) Explain with a neat sketch of Integrated Avionics & weapon system and bring out the advantages and disadvantages. (16)

(OR)

- (b) With a neat block diagram explain in detail about Avionics sub systems. (16)

12. (a) Explain MIL STD 1553 B data bus in detail bring out clearly the bus architecture, protocol, word and message formats and Coupling methods. (16)

(OR)

- (i) Explain centralized architecture with neat block diagram. (10)

- (b) (ii) Describe federated architecture and also explain how is federated architecture different from centralized architecture? (6)

13. (a) Describe the evolution of avionics display technologies including CRT, LED, LCD, EL and plasma panels. Compare and contrast their key features, advantages and disadvantages. (16)

(OR)

- (b) Explain with neat sketches MFDS, HUD and MFK. (16)

14. (a) Discuss in detail about the Inertial Navigation system and explain its two types of constructions. (16)

(OR)

- (b) (i) Describe the operation of ILS and its components with neat sketches. (10)

- (ii) Describe in detail about Microwave landing system (MLS). (6)

15. (a) With neat sketches, describe in detail about Airspeed indicator and Vertical speed Indicator. (16)

(OR)

- (b) Explain the operation of Autopilot and its benefits used for aircraft. (16)