



**PART B (10 x 2 = 20 Marks)**

11. List the major drivers in the design of avionics for civil aircraft.
12. List any three data entry control systems.
13. List the various instruction sets in 8085 microprocessor.
14. Bring out the need for digital computers in avionics systems.
15. What is the need for Manchester II biphasic encoding in MIL STD 1553 B?
16. What is the need for two different speeds in ARINC 429 bus?
17. What is HOTAS?
18. What are the factors to be considered for designing a HMD?
19. What is the need for certification in civil aircraft?
20. How are reliability and maintainability related?

**PART C (5x14=70 Marks)**

21. a) (i) Enumerate on the top down design procedure that is adopted in design of Avionics systems. (8)
- (ii) Give few examples of standards used in the design of Avionics system. (6)
- (OR)
- b) With a neat sketch explain typical Avionics subsystems.
  
22. a) Explain 8085 microprocessor architecture and its salient features with a neat diagram. (OR)
- b) (i) Discuss the salient features of various memories used in digital computer. (8)
- (ii) Compare memory mapped I/O and peripheral mapped I/O in microprocessor. (6)
  
23. a) (i) Explain the data transmission in ARINC 629 in detail (7)
- (ii) Discuss the word and message formats in MIL STD 1553B. (7)
- (OR)
- b) (i) List the evolution of Avionics architecture starting from the first generation to fourth generation. (7)
- (ii) Discuss fourth generation Avionics architecture with block schematics. (7)

24. a) Compare and contrast the display technologies- CRT,LED,LCD,EL and plasma displays

**(OR)**

b) (i) Explain the principle of operation of Head up display with a neat diagram. (7)

(ii) Write short notes on Direct voice input. (7)

25. a) (i) Explain Radar Electronic Warfare in detail. (7)

(ii) Bring out the classification of navigation system. (7)

**(OR)**

b) (i) With a block diagram, explain fly by wire flight control system (7)

(ii) Discuss the communication systems used in aircraft. (7)

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