

CBCS SCHEME

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21AE/AS62

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 Aircraft Systems and Avionics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With neat diagram explain auto pilot system and state advantages and disadvantages. (10 Marks)
- b. Describe about the primary and secondary flight controls with relevant diagram. (10 Marks)

OR

- 2 a. Explain landing gear system working using pneumatic system. (08 Marks)
- b. Explain a simple hydraulic system and briefly explain about simplified B757 hydraulic system. (12 Marks)

Module-2

- 3 a. Write a note on types of fuels used for cargo aircraft and combat airplane. (05 Marks)
- b. What are lubricating system used in aircraft engines? (07 Marks)
- c. List and explain different types of fuel quantity indicators. (08 Marks)

OR

- 4 a. What are two basic methods of cooling cabin air? Explain any one method. (08 Marks)
- b. List the most common types of fire detection system used on aircraft. Explain fenwal system and kidde system. (12 Marks)

Module-3

- 5 Write short notes on :
 - a. Machmeter
 - b. Tachometer
 - c. Altitude indicator
 - d. Vertical speed indicator
 - e. Air speed indicator.(20 Marks)

OR

- 6 With relevant sketch explain eh working of :
 - a. Gyroscope
 - b. Pitot static system
 - c. Accelerometer
 - d. Bourdon – tube pressure gauge.(20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-4

- 7 a. Explain the importance of avionics system in civil and military aircraft. (08 Marks)
b. Explain briefly about the special purpose cables in aircraft electrical system. (12 Marks)

OR

- 8 a. Explain split bus bar system used for electrical power distribution on board the aircraft. (08 Marks)
b. Write short notes on :
i) Toggle switches
ii) Proximity switches
iii) Rotary switches
iv) Push switches. (12 Marks)

Module-5

- 9 Write short notes on the following :
a. HUD
b. HOTAS
c. MFD
d. Plasma Panel
e. LCO and LED. (20 Marks)

OR

- 10 a. Explain the principle of inertial navigation system with suitable diagram. (10 Marks)
b. Briefly explain the different elements of electronic warfare. (10 Marks)

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