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Fifth Semester B.E. Degree Examination, June/July 2024 Aircraft Systems and Instrumentation

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain about the primary and secondary control surfaces with neat diagram. (10 Marks)
b. Describe about the push pull rod system and power assisted system in detail (10 Marks)

OR

- 2 a. Briefly explain analog and digital fly by wire with schematic diagram. (10 Marks)
b. Enumerate about three axis autopilot system with neat diagram. (10 Marks)

Module-2

- 3 a. Write short note on hydraulic fluid. (06 Marks)
b. Explain the construction and working principle of Hydraulic system. (10 Marks)
c. List the advantages and disadvantages of hydraulic system. (04 Marks)

OR

- 4 a. Discuss about the types of pneumatic system in detail. (10 Marks)
b. Write short note on landing gear system with neat diagram. (10 Marks)

Module-3

- 5 a. Draw and explain the working principle of pressure feed and gravity feed fuel system. (12 Marks)
b. Describe about the lubrication system and for aircraft engines. (08 Marks)

OR

- 6 a. Enumerate the components and working principle of a turbofan engine with limitation. (10 Marks)
b. Give detail description about the starting sequence of aircraft engine with a diagram. (10 Marks)

Module-4

- 7 a. Explain about the basic aircycle system with neat diagram. (10 Marks)
b. Give detail description and working process of vapour cycle system. (10 Marks)

OR

- 8 a. Describe about the pneumatic boot deicing system. (08 Marks)
b. Write short note on the following :
i) Kidde system ii) Continuous loop detector iii) Systron Donner iv) Lindberg system. (12 Marks)

Module-5

- 9 a. Explain the working principle of pitot-static system in aircraft with neat diagram. (10 Marks)
b. Discuss the following with neat diagram. (10 Marks)
i) Mach warning system ii) Barometric pressure sensing

OR

- 10 Write short note on the following with diagram
i) Turn and bank indicator ii) Accelerometer iii) Airspeed indicator iv) Techometer. (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.