



CBCS SCHEME

15AE554

Fifth Semester B.E. Degree Examination, June/July 2023 Aircraft Electrical Systems and Instrumentation

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Describe about the push pull rod and cable and pulley system with neat diagram. (08 Marks)
b. With neat diagram, discuss about power assisted and fully powered system. (08 Marks)

OR

- 2 a. Give detail description about FBw with suitable diagram. (08 Marks)
b. Describe about the three axis autopilot system. (08 Marks)

Module-2

- 3 a. Explain basic types of Hydraulic pump. (08 Marks)
b. Briefly explain Pneumatic system and its components. (08 Marks)

OR

- 4 a. With neat sketch, explain electronic Anti-Skidding system. (08 Marks)
b. What is steering system and why it is used? List the function of steering system. (08 Marks)

Module-3

- 5 a. What is the purpose of an aircraft fuel system? With neat sketch explain generalized fuel system of large transport aircraft. (08 Marks)
b. With a typical example. Explain fuel system for Jet engines. (08 Marks)

OR

- 6 a. Explain the lubricating system components used on gas turbine engines. (08 Marks)
b. What are some of the factors that influence the choice of the starting system? (08 Marks)

Module-4

- 7 a. What are the salient requirements necessary for the successful functioning of an Air conditioning system? (08 Marks)
b. Explain vapour cycle cooling system. (08 Marks)

OR

- 8 a. What are the different types of anti-icing systems? Briefly explain. (10 Marks)
b. Write short note on system – Donner. (06 Marks)

Module-5

- 9 Discuss the operation and working principle of flight instruments like ASI, VSI, Mach meter and Altimeter with neat diagram. (16 Marks)

OR

- 10 Elucidate the working principle of engine instruments like Tachometer and pressure gauges with suitable diagrams. (16 Marks)

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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.