

CBCS SCHEME

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15AE554

Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019 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 primary and secondary flight controls with relevant diagrams. (08 Marks)
b. Explain about power assisted and power operated system. (08 Marks)

OR

- 2 a. Write short notes on electro-hydrostatic actuator. (08 Marks)
b. Explain fly-by-wire and digital fly-by-wire systems. (08 Marks)

Module-2

- 3 a. Write a short note on hydraulic fluid. (05 Marks)
b. List the advantages and disadvantages of hydraulic system. (05 Marks)
c. With a neat sketch explain typical high pressure pneumatic system. (06 Marks)

OR

- 4 a. What is a landing gear? Explain the different types of landing gears. (08 Marks)
b. With a neat sketch explain electronic anti-skidding 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. Explain air cycle cooling system. (10 Marks)
b. Explain vapour cycle cooling system. (06 Marks)

OR

- 8 a. Explain the most common types of fire detection system used on aircraft. (08 Marks)
b. Describe about the aircraft anti-Icing systems. (08 Marks)

Module-5

- 9 a. Discuss and describe about the aircraft instrumentation grouping. (08 Marks)
b. Write short note on airspeed indicators. (08 Marks)

OR

- 10 a. What is tachometer? With neat sketch explain a mechanical tachometer. (08 Marks)
b. How are engine temperature measuring instruments classified? Explain any one type. (08 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.