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15AE554

Fifth Semester B.E. Degree Examination, June/July 2019 Aircraft Electrical System 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. (10 Marks)
b. With clear diagrams, discuss about power assisted and fully powered system. (06 Marks)

OR

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

Module-2

- 3 a. Explain about the open centre and closed centre hydraulic system and also write short notes on power packs. (10 Marks)
b. Describe about the low pressure and high pressure pneumatic system. (06 Marks)

OR

- 4 a. With clear diagrams discuss about the components of aircraft landing gear system. (12 Marks)
b. Write short notes on aircraft brake system. (04 Marks)

Module-3

- 5 a. Describe about the lubricating systems for piston and jet engines with neat diagrams. (08 Marks)
b. With clear diagrams discuss about the components of jet engine. (08 Marks)

OR

- 6 Give detail description about the starting and ignition systems and also draw its sequence diagram with explanation. (16 Marks)

Module-4

- 7 Elucidate about the air cycle system and vapour cycle system with neat diagrams. (16 Marks)

OR

- 8 a. Explain about the aircraft fire protection systems with neat diagrams. (08 Marks)
b. Discuss about the different types of aircraft de-icing and anti-icing systems. (08 Marks)

Module-5

- 9 a. Write short notes on:
i) Gyroscope types and its properties (04 Marks)
ii) Inertial Navigation system (04 Marks)
b. Discuss the operation and working principle of ASI, VSI, MM and altimeter with neat diagrams. (08 Marks)

OR

- 10 Describe the operation and working principle of engine instruments like Tachometers and pressure gauges with neat figures. (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.