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Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019

Aircraft Systems and Instrumentation

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain about the primary and secondary control surfaces with neat diagram. (10 Marks)
- b. With clear illustration, describe about the push pull rod and fly by wire system. (10 Marks)
- 2 a. Discuss about the aircraft hydraulic system and its components. (10 Marks)
- b. Describe about:
 - i) Landing gear and retraction mechanism
 - ii) Shock absorbers
 (10 Marks)
- 3 a. Explain about the gravity and pressure feed fuel system with neat diagrams. (08 Marks)
- b. Describe about fuel pump classification. (06 Marks)
- c. With suitable figure explain about the engine starting and ignition sequence. (06 Marks)
- 4 a. Describe about the air cycle and vapour cycle system with neat diagrams. (10 Marks)
- b. Give details on aircraft de-icing and anti-icing system. (10 Marks)

PART – B

- 5 a. Elucidate about the aircraft instrumentation grouping. (10 Marks)
- b. Write short notes on:
 - i) VOR
 - ii) ILS
 - iii) INS
 (10 Marks)
- 6 a. Give detail report about basic air data systems and probes. (10 Marks)
- b. Describe aircraft instruments like ASI, Altimeter and Mach meter. (10 Marks)
- 7 a. Discuss in detail about the working principle of gyroscope and its properties. (10 Marks)
- b. Write short notes on:
 - i) Direction indicator
 - ii) Turn and bank indicator
 (10 Marks)
- 8 Describe in detail about engine RPM, EPR and temperature measurements with neat diagram. (20 Marks)

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