



10AE848

Eighth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Aircraft Systems and Instrumentation

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. With a neat sketch explain the flight control surfaces for commercial airliner. (10 Marks)
b. With a neat sketch explain the following :
i) Electro – Hydrostatic Actuator (EHA)
ii) Electro – Mechanical Actuator (EMA). (10 Marks)
- 2 a. With a neat sketch explain the following :
i) A simple hydraulic system
ii) The Airbus A380 Landing Gear Configuration. (10 Marks)
b. With a neat sketch explain engine bleed air control. (10 Marks)
- 3 a. Explain the characteristics of fuel system. (08 Marks)
b. With a neat sketch explain the engine air management system. (12 Marks)
- 4 Write notes on the following :
a. Emergency landing
b. Warning systems
c. Anti-misting and De-Misting
d. Rain dispersal. (20 Marks)

PART – B

- 5 a. With a neat sketch explain flight instruments and navigation system. (12 Marks)
b. With a neat sketch explain the working principles of pitot-static system and instruments. (08 Marks)
- 6 a. With a neat sketch explain the stall warning and AOA (Angle of Attack) indicators. (10 Marks)
b. Write notes on the following :
i) Vertical speed indicator
ii) Stall warning
iii) Mach warning
iv) Altimeter. (10 Marks)
- 7 a. Write a short notes on common gyroscopic instruments. (10 Marks)
b. With a neat sketch explain the autopilot components. (10 Marks)
- 8 Explain the following :
a. Temperature measuring instruments
b. Pressure measuring instruments. (20 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.