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10AE82

Eighth Semester B.E. Degree Examination, June/July 2018
Avionics

Time: 3 hrs.

Max. Marks:100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.**PART – A**

- 1 a. Explain power utilization as a typical application to Avionics. (06 Marks)
b. Explain briefly about the special purpose cables in aircraft electrical systems. (06 Marks)
c. List the various switching devices available and explain the following switches –
i) Pressure switches ii) Time switches iii) Proximity switches. (08 Marks)
- 2 a. Explain with suitable sketch basic operational principle of an Inertial Navigation system. (10 Marks)
b. With a neat schematic, explain the working principle of stable platform system. (10 Marks)
- 3 a. Explain frequency response of a typical FBW (Fly by wire) actuator with a neat schematic plot. (10 Marks)
b. Write short notes on :
i) Roll rate command system (05 Marks)
ii) Pitch rate command system (05 Marks)
With a neat diagram.
- 4 a. List the basic six flight instrument and with a neat schematic, explain about basic 'T' type of flight instrument grouping. (10 Marks)
b. State the colour assigned to the display in EFIS and the type of information to which they respond. (05 Marks)
c. Write a short note on failure annunciation. (05 Marks)

PART – B

- 5 a. With a neat sketch, write note on
i) Amplifier (05 Marks)
ii) Oscillator. (05 Marks)
b. Explain briefly aircraft communication system with a general block diagram. (10 Marks)
- 6 a. Write short notes on: i) RAM ii) ROM iii) PROM iv) EPROM v) EEPROM. (10 Marks)
b. Write short notes on:
i) Flags of typical microprocessor (05 Marks)
ii) Interrupts of a typical microprocessor. (05 Marks)
- 7 a. Write short notes on :
i) HOTAS (05 Marks)
ii) Multi function keyboard (MFK) (05 Marks)
b. Write short notes on :
i) Touch screens (05 Marks)
ii) Direct Voice Input (DVI) (05 Marks)
- 8 a. Give a brief description about Avionics equipment fit. (10 Marks)
b. Write short notes on :
i) Electronic Warfare (EW) (05 Marks)
ii) Navigation system (05 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 on 47-48 = 50 will be treated as malpractice.