



10AE82

Eighth Semester B.E. Degree Examination, Dec.2019/Jan.2020
Avionics

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain bus bar, split bar with a neat sketch. (10 Marks)
b. Explain the need for avionics in Civil and Military aircrafts. (10 Marks)
- 2 a. Explain the structure of stable platform, with a neat sketch. (10 Marks)
b. Explain the importance of compass swing. (10 Marks)
- 3 a. Explain in a FBW system? With neat sketch explain the concepts and features. (10 Marks)
b. Explain pitch and roll rate, with a neat block diagram. (10 Marks)
- 4 a. List the basic flight instruments used on the aircraft. Represent with a schematic diagram 'basic six' and basic T type of flight instrument grouping. (10 Marks)
b. Draw a functional block diagram and explain the digital air data computer, used for on board air data processing. (10 Marks)

PART – B

- 5 a. What is an oscillator? How an oscillator generates sine and square wave forms? (10 Marks)
b. Briefly explain the following :
(i) Notch antenna (ii) Slot antenna (10 Marks)
- 6 a. Write short notes on any three of the following :
(i) EPROM
(ii) EEPROM
(iii) Bubble memory
(iv) Core memory (12 Marks)
b. With a neat schematic block diagram, explain the overall avionics system architecture for a military aircraft. (08 Marks)
- 7 a. List the advantages and disadvantages of liquid crystal display for use in flight deck instrument display. (08 Marks)
b. Briefly discuss the following :
(i) HOTAS (ii) HUD (iii) DVI (12 Marks)
- 8 a. Explain with neat sketch, electrical data bus system. (10 Marks)
b. Explain with neat schematic layout the fire control system. (10 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.