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## Eighth Semester B.E. Degree Examination, July/August 2022

### Avionics

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

#### Module-1

- 1 a. Explain vital services with examples. (06 Marks)  
b. Illustrate the significance of each position of the code used in aircraft cable, 2 D 3 B 2 3 P. (10 Marks)

OR

- 2 a. Draw and explain the routing chart of temperature sensing switch and warning system. (10 Marks)  
b. What is the significance of the line drawn over a letter or signal function when related to the input or output of logic gate? (06 Marks)

#### Module-2

- 3 a. Explain different inflight alignment methods. (08 Marks)  
b. Explain roll rate command control with neat diagram. (08 Marks)

OR

- 4 a. Explain basic operational principle of an inertial navigation system. (08 Marks)  
b. What are the common modes of failures in avionics systems? (08 Marks)

#### Module-3

- 5 a. Explain basic air data system with a neat block diagram. (08 Marks)  
b. Explain the different radio frequency band on which the aircraft communications are usually carried out. (08 Marks)

OR

- 6 a. Describe types of failure warning annunciations. (06 Marks)  
b. With a neat sketch, write note on oscillator. (05 Marks)  
c. Explain basic stages used in receiver to produce an output from a radio wave. (05 Marks)

#### Module-4

- 7 a. Describe the following: ALU, ACC, PSW, PC, SP, BUS (06 Marks)  
b. With neat diagram, explain the architecture of Intel 8086. (10 Marks)

OR

- 8 a. What is the importance of collimating lenses? (06 Marks)  
b. Write the truth table to display: AVIONICS – 15AE81 ON LED DISPLAY (10 Marks)

#### Module-5

- 9 a. Briefly explain the different elements of electronic warfare. (08 Marks)  
b. Explain with a neat sketch electrical data bus system. (08 Marks)

OR

- 10 a. Explain with neat schematic layout the Fire control system. (08 Marks)  
b. With the help of schematic diagram, briefly explain the different word formats used in MIL STD 1553 B data bus. (08 Marks)

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