

# CBCS SCHEME

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15AE81

## Eighth Semester B.E. Degree Examination, June/July 2019 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 split bus bar system used for electrical power distribution on board the aircraft. (08 Marks)
- b. List the various switching devices available and explain the following switches: (08 Marks)
- i) Pressure switches
  - ii) Time switches
  - iii) Proximity switches.

OR

- 2 a. Explain briefly about the special purpose cables in aircraft electrical systems. (05 Marks)
- b. What do you mean by pole and throw? Explain with the help of suitable sketches the possible arrangements. (05 Marks)
- c. Explain the importance of avionics systems in civil and military aircrafts. (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. With a neat sketch, explain the architecture of a general microprocessor. (08 Marks)
- b. Write short notes on: (08 Marks)
- i) CRT Display
  - ii) Plasma Panel.

OR

- 8 a. Explain the classification of a memory. (08 Marks)  
b. With a neat sketch, explain the working principle of head up display. (08 Marks)

Module-5

- 9 a. Briefly explain the different elements of electronic warfare. (08 Marks)  
b. Briefly explain the following:  
i) Pulse Radar  
ii) Navigation system. (08 Marks)

OR

- 10 a. Give a brief description about Avionics equipment fit. (08 Marks)  
b. With the help of a schematic diagram, briefly explain the different word formats used in MIL STD 1553B data bus. (08 Marks)

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