CBCS SCHEME

USN | | | | | | | | | |

15AE81

Eighth Semester B.E. Degree Examination, Feb./Mar. 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 bus bar, split bar with a neat sketch. **(10 Marks)**
     b. Explain the importance of avionics system in civil and military aircrafts. **(06 Marks)**

OR

2   a. Describe the construction and operation of mercury switch arranged to 'break' a circuit. **(08 Marks)**
     b. What do you mean by pole and throw? Explain with the help of suitable sketches the possible arrangements. **(08 Marks)**

Module-2

3   a. Explain the structure of stable plate form with a neat diagram. **(08 Marks)**
     b. Explain the importance of compass swing. **(08 Marks)**

OR

4   a. What is a fly by wire system? With neat diagram, explain the concepts and features. **(10 Marks)**
     b. Explain pitch and roll rate, with a neat block diagram. **(06 Marks)**

Module-3

5   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. **(08 Marks)**
     b. Draw a functional block diagram and explain the digital air data computer used for on board air data processing. **(08 Marks)**

OR

6   a. What is an oscillator? How an oscillator generates sine and square wave forms? **(08 Marks)**
     b. Briefly explain the following: i) Notch antenna   ii) Slot antenna. **(08 Marks)**

Module-4

7   a. Write short notes on the following: i) EPROM   ii) EEPROM **(06 Marks)**
     b. With a neat schematic block diagram, explain the overall avionics system architecture for a military aircraft. **(10 Marks)**

OR

8   a. Briefly discuss the following: i) HOTAS   ii) HUD. **(10 Marks)**
     b. List the advantages and disadvantages of liquid crystal display for use in flight deck instrument display. **(06 Marks)**

Module-5

9   a. Briefly explain the different elements of electronics 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 STD1553B data bus. **(08 Marks)**

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