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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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