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CGF32
01
10AE82

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

Avionics

Time: 3 hrs.   Max. Marks:100

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

PART – A

1   a. Bring out the requirements of avionics in civil and military aircraft.   (06 Marks)
    b. Explain split bus bar system used for electrical power distribution on board the aircraft.
                                                                                               (08 Marks)
    c. List different types of cables used for connecting on board electrical system and explain them.   (06 Marks)

2   a. With clear illustration explain about stable platform.   (08 Marks)
    b. Explain about the Inertial Reference and Inertial navigation system with clear diagrams.
                                                                                               (12 Marks)

3   a. Explain Quadruplex actuation system, with neat diagram.   (06 Marks)
    b. With neat diagram, explain generalized dissimilar redundant flight control system architecture.   (06 Marks)
    c. Explain roll rate command control, with neat diagram.   (08 Marks)

4   a. With a schematic diagram for 'basic six' and 'basic T' type instrument grouping, explain about the basic flight instruments.   (10 Marks)
    b. Explain about the digital air data computer and displays with clear diagrams and also discuss about the on board air data processing.   (10 Marks)

PART – B

5   a. Explain the different radio frequency band on which the aircraft communications are usually carried out.   (10 Marks)
    b. Explain slot antenna, with neat sketch.   (05 Marks)
    c. With a neat diagram, explain the transmitter in a communication system.   (05 Marks)

6   a. With neat diagram explain about Microprocessor.   (10 Marks)
    b. Give brief notes on :
       i) RAM   ii) ROM   iii) EPROM   iv) E^2PROM.   (10 Marks)

7   a. Summarize the characteristics and requirement for an airborne DVI system.   (08 Marks)
    b. List the advantages and disadvantages of ELD and plasma panel.   (07 Marks)
    c. What is the difference between civil and military aircraft cockpit?   (05 Marks)

8   a. Explain different types of words transferred in MIL – STD 1553B.   (10 Marks)
    b. Explain the working principle of RADAR.   (05 Marks)
    c. Why we use Manchester bi-phase data encoding for transmission?   (05 Marks)

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