USN [| | | | | | | |]

10AE82

Eighth Semester B.E. Degree Examination, June/July 2017
Avionics

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions, selecting*
atleast TWO questions from each part.

PART – A

1 a. State the function of a bus-tie breaker and draw the type of bus bar arrangement to which it would be applied. **(08 Marks)**
   b. Describe the construction and operation of a micro switch. **(08 Marks)**
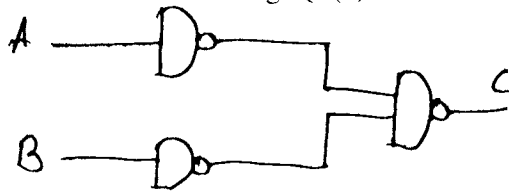   c. Write the truth table for the circuit shown in Fig. Q1(c). **(04 Marks)**

Fig.Q1(c)

2 a. Explain basic operational principle of an INS. **(10 Marks)**
   b. Explain the structure of stable platform. **(10 Marks)**

3 a. Explain the figure that illustrates the key features of FBW. **(07 Marks)**
   b. Explain the operation of failure detection algorithm for quaduplex sensors. **(08 Marks)**
   c. Define common mode failures with examples. **(05 Marks)**

4 a. What are the general EFIS color coding. **(07 Marks)**
   b. List and draw basic instrument grouping of flight instrument. **(04 Marks)**
   c. Name some of the aircraft instrument to which a digital counter is applied. **(04 Marks)**
   d. What are the function of heading select and cross select knobs? **(05 Marks)**

PART – B

5 a. Explain the different radio frequency band on which the aircraft communication carried out. **(10 Marks)**
   b. With neat diagram explain aircraft communication system. **(10 Marks)**

6 a. Explain the internal architecture of an 8086 with neat diagram. **(07 Marks)**
   b. List and explain different types of memories. **(06 Marks)**
   c. Explain the pin configuration of µp with neat diagram. **(07 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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