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10AE82

**Eighth Semester B.E. Degree Examination, July/August 2021**  
**Avionics**

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 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).

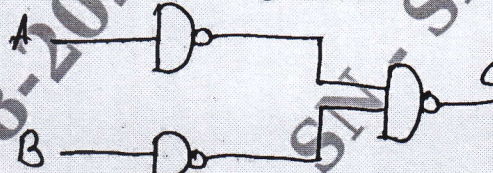


Fig.Q1(c)

- a. (04 Marks)
- 2 a. What does an INS consist of? Mention their function. (05 Marks)
- b. How does Gimbaled INS work? (07 Marks)
- c. Describe the advantages and disadvantages of INS. (08 Marks)
- 3 a. Explain the figure that illustrates the key features of FBW. (07 Marks)
- b. Explain the operation of failure detection algorithm for quadplex sensors. (08 Marks)
- c. Define common mode failures with examples. (05 Marks)
- 4 a. Describe types of failure warning annunciation. (06 Marks)
- b. List the parameters of Air data display. (06 Marks)
- c. Draw basic instrument grouping of flight instruments. (04 Marks)
- d. Name some of the aircrafts instruments to which digital counter is applied. (04 Marks)
- 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. With a neat sketch, explain Microprocessor architecture in detail. (08 Marks)
- b. What is Aliasing? (04 Marks)
- c. Explain the classification of Memory. (08 Marks)
- 7 a. Write short notes on : (05 Marks)
  - i) HOTAS (05 Marks)
  - ii) Multi function keyboard (MFK)
- b. Write short notes on : (05 Marks)
  - i) Touch screens (05 Marks)
  - ii) Direct Voice Input (DVI)
- 8 a. Give a brief description about Avionics equipment fit. (10 Marks)
- b. Write short notes on : (05 Marks)
  - i) Electronic Warfare (EW) (05 Marks)
  - ii) Navigation system

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.