Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17AE2014** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ELEMENTS OF AVIONICS** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Recognize the different avionics subsystems that are integrated with the data buses. | CO6 | 20 |
| **(OR)** | | | | |
| 2. | a. | Describe the approximate percentile of avionics disbursement in different types of aircrafts. | CO6 | 5 |
| b. | Explain AEW and CS. | CO6 | 5 |
| c. | List the major drivers in the development of avionics systems. | CO4 | 4 |
| d. | Explain dead reckoning navigation. | CO4 | 4 |
| e. | Expand FLIR and HTS. | CO4 | 2 |
|  |  |  |  |  |
| 3. |  | Classify the characteristics of different generations of avionics architectures. | CO4 | 20 |
| **(OR)** | | | | |
| 4. | a. | List the specifications of Mil-Std-1553B. | CO2 | 5 |
| b. | Explain time division multiplexing in detail. | CO2 | 5 |
| c. | Mention any 5 mode codes and their purposes. | CO2 | 5 |
| d. | Describe the types of protocols used in avionics data buses. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | List the components of HDD CRT. | CO3 | 3 |
| b. | Mention military HDD types. | CO3 | 5 |
| c. | Describe the contents of PFD and a navigation display with a neat sketch. | CO3 | 6 |
| d. | Compare the specifications of different aircraft data buses. | CO3 | 6 |
| **(OR)** | | | | |
| 6. | a. | Describe the HUD display block set up with a neat sketch. | CO3 | 7 |
| b. | Illustrate the HUD electronics with a neat flow chart. | CO3 | 8 |
| c. | Differentiate between the different display systems and their features. | CO3 | 5 |
|  |  |  |  |  |
| 7. |  | Describe the working of the following technology with a neat sketch   1. Electroluminescent displays. 2. Plasma displays. 3. LED display. | CO3  CO3  CO3 | 5  5  10 |
| **(OR)** | | | | |
| 8. | a. | Mention the elements of electronic warfare. | CO4 | 5 |
| b. | Explain the electronic support measures. | CO4 | 10 |
| c. | Explain electronic interferences. | CO4 | 5 |
|  | | **Compulsory**: |  |  |
| 9. | a. | List the types of common mode failure in systems. | CO5 | 5 |
| b. | Infer your knowledge on the earliest processors and their architecture. | CO1 | 10 |
| c. | Determine the faults that can be tolerated. | CO5 | 5 |