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

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**End Semester Examination – Nov/Dec – 2018**

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| **Code :** | **14EI2039** | **Duration :** | **3hrs** |
| **Sub. Name :** | **INSTRUMENTATION AND CONTROL FOR 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. | a. | Explain the characteristics of any two displays used in high-range measurements. | CO1 | 15 |
| b. | Summarize the function of head up display. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | Describe the construction and operation of airspeed indicator. | CO2 | 15 |
| b. | Write short note on pressure error correction transducer. | CO1 | 5 |
|  |  |  |  |  |
| 3. | a. | Describe the principal components and instruments which comprise an aircraft pitot-static system. | CO1 | 15 |
|  | b. | Discuss the features of altimeter which improves its accuracy. | CO2 | 5 |
| (OR) | | | | |
| 4. | a. | Describe the fundamental and working principles of bourdon tube. | CO1 | 15 |
| b. | Define the terms absolute pressure and gauge pressure. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | Explain how a rate gyroscope principle is applied for turn indicator. | CO3 | 15 |
| b. | Describe how the gyroscopic principle applied to a gyro horizon. | CO2 | 5 |
| (OR) | | | | |
| 6. | a. | Explain with neat diagram, the principle of directional gyro. | CO3 | 15 |
| b. | Briefly explain the two fundamental properties of a gyroscope. | CO3 | 5 |
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| 7. | a. | Describe the construction and operation of a float type and capacitive type of fuel quantity indicating system. | CO3 | 15 |
| b. | Explain how the Wheatstone bridge circuit may be utilized for the measurement of temperature. | CO3 | 5 |
| (OR) | | | | |
| 8. | a. | Describe a method of utilizing the voltage generated by exhaust-gas thermocouples for controlling the gas temperature. | CO3 | 15 |
| b. | Describe how temperature can cause variations in the properties of substances. | CO3 | 5 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Describe the operation of an engine vibration indicator. With neat sketch explain the construction of sensing device. | CO3 | 15 |
| b. | Explain the three axis accelerometer with the necessary diagrams. | CO3 | 5 |