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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14AE2010** | **Duration :** | **3hrs** |
| **Sub. Name :** | **AIRCRAFT INSTRUMENTATION** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | What are the requirements and standards for developing the aircraft instrumentation system? | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | What are the principle elements of an instrument? | CO1 | 7 |
| b. | Explain moving iron, moving coil and induction type of instrument. | CO1 | 7 |
| c. | Explain gear and hairspring mechanism in detail. | CO1 | 6 |
| 3. | a. | What are the temperature compensation techniques involved? | CO1 | 15 |
|  | b. | Write a brief note on sealing of instruments against atmospheric effect. | CO1 | 5 |
| (OR) | | | | |
| 4. |  | Give a detailed note all the cockpit instruments of pitot static and gyroscopic types. | CO2 | 20 |
| 5. | a. | Give a detailed note temperature, resistive position and capacitive type of transducers. | CO2 | 10 |
|  | b. | Explain the working of strain gauge, LVDT and photoelectric cells. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | What are the instruments used for pressure measurements? Give a detailed note. | CO2 | 15 |
|  | b. | What are pressure switches? | CO2 | 5 |
| 7. | a. | Explain a Temperature Sensing Element and Radiation Pyrometer System with a neat sketch. | CO2 | 10 |
|  | b. | What are the RAT and TAT measuring systems? Explain in detail. | CO2 | 10 |
| (OR) | | | | |
| 8. |  | Write short note on the following  a. Tachometer  b. Engine vibration measuring system  c. EPR | CO2  CO2  CO2 | 7  7  6 |
|  | | **Compulsory:** |  |  |
| 9. |  | With neat sketches explain the diferrent data transmission systems of the AC types. | CO2 | 20 |