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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**Supplementary Examination – June – 2017**

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| **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. |  | ISO and ARINC with other organizations have framed certain regulations for developing an aircraft instrument system. Explain in detail | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Explain the the following terms.   1. Calibration and Sensitivity. 2. Repeativity and Reproduceability. 3. Precision and Accuracy. | CO1 | 6 |
| b. | What are mechanical, electrical and electronic instruments? How are they classified? What are the forces that keeps them working? | CO1 | 8 |
| 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 on the basic 6 aircraft cockpit instruments. | CO2 | 20 |
| 5. | a. | Explain the working of strain gauge, LVDT and photoelectric cells. | CO2 | 10 |
|  | b. | Give a detailed note temperature, resistive position and capacitive type of transducers. | 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 a detailed note all the engine parameter measurements. | CO2 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | With neat sketch explain the synchros. | CO2 | 20 |

ALL THE BEST