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 :** | **14EI2041** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MEASURMENTS AND 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. | a. | Discuss in detail the different types of systematic errors and the measures taken to minimize these errors. | CO 1 | 5 |
| b. | Explain the construction and working of Multirange Voltmeter. | CO 1 | 15 |
| (OR) | | | | |
| 2. |  | Describe the construction and working of Galvanometer instrument. Derive its torque equation. | CO 1 | 20 |
| 3. |  | Describe the working of Energy meter with its constructional diagram. | CO 1 | 20 |
| (OR) | | | | |
| 4. | a. | Describe how an unknown resistance is measured with the help of Wheatstone &Kelvin bridge. | CO 1 | 10 |
|  | b. | Discuss the working of Desaughty’s bridge. Derive the equations for AC Bridge balance. | CO 1 | 10 |
| 5. | a. | Write short note on LVDT. | CO 2 | 5 |
|  | b. | Explain the circuit of RC phase shift oscillators. Describe how Barkhausen criteria are satisfied in this oscillator. | CO 2 | 15 |
| (OR) | | | | |
| 6. |  | Discuss the principle and working of Thermistors & RTD sensors with neat sketch. | CO 2 | 20 |
| 7. | a. | Sketch the block diagram of Spectrum analyzer and describe its working. | CO 2 | 10 |
|  | b. | Describe the principle of working of Wien’s bridge oscillator. Give its advantages and disadvantages. | CO 2 | 10 |
| (OR) | | | | |
| 8. |  | Describe in detail the circuit and working of an Mono-stable multivibrator. | CO 2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Explain in detail about Strip chart recorder. Explain the different types of marking mechanisms used in it. | CO 1 | 10 |
|  | b. | With suitable circuit diagram, the working of an XY recorder. Give its applications. | CO 1 | 10 |

ALL THE BEST