**Q.P. Code:** 16EC416 **R16**

**Reg. No:** | | | | | | | | | | |

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR**

(AUTONOMOUS)

**B.Tech III Year I Semester Regular & Supplementary Examinations Nov/Dec 2019**

**ELECTRONIC MEASUREMENTS AND INSTRUMENTATION**

**(Electronics & Communication Engineering)**

Time: 3 hours Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

**UNIT-I**

| | | | |
|---|---|---|---|
| **1** | **a** | Explain the construction of multi-range voltmeter& Range extension DC voltmeter. | **7M** |
| | **b** | A D'Arsonval movement with a full scale deflection current of 50 μA and internal resistance of 500Ω is to be converted into a multirange voltmeter .define the value of multiplier required for0-20v, 0-50v,0-100v. | **5M** |

**OR**

| | | | |
|---|---|---|---|
| **2** | **a** | Define following characteristics i)Accuracy ii)Resolution iii)sensitivity | **6M** |
| | **b** | Discuss about basic DC Ammeters. | **6M** |

**UNIT-II**

| | | | |
|---|---|---|---|
| **3** | **a** | Explain the major parts of CRT with a block diagram. | **6M** |
| | **b** | Compare dual trace oscilloscopes and dual beam CRO. | **6M** |

**OR**

| | | | |
|---|---|---|---|
| **4** | **a** | Describe in details the construction and working of an analog type storage oscilloscope. | **6M** |
| | **b** | Explain with the block diagram how the digital frequency can be measured using counter/meter instrument. | **6M** |

**UNIT-III**

| | | | |
|---|---|---|---|
| **5** | **a** | With help of a neat sketch, explain the working of a frequency selective wave analyzer. | **6M** |
| | **b** | With a neat sketch explain the operation of Spectrum analyzer. | **6M** |

**OR**

| | | | |
|---|---|---|---|
| **6** | **a** | List the application of wave analyzers. | **4M** |
| | **b** | Draw the block diagram of a function generator and explain its operation. | **8M** |

**UNIT-IV**

| | | | |
|---|---|---|---|
| **7** | **a** | Explain any Two ac bridges to measure unknown inductance. | **8M** |
| | **b** | Distinguish between AC Bridges and DC bridges. | **4M** |

**OR**

| | | | |
|---|---|---|---|
| **8** | **a** | Explain Anderson's bridge. | **6M** |
| | **b** | What is interference & explain noise reduction techniques. | **6M** |

**UNIT-V**

| | | | |
|---|---|---|---|
| **9** | **a** | Explain the operation of LVDT. | **6M** |
| | **b** | Describe the operation of capacitive transducers. | **6M** |

**OR**

| | | | |
|---|---|---|---|
| **10** | **a** | Write short notes on i) Inductive transducers. ii) Thermocouple. | **6M** |
| | **b** | Discuss the signal conditioning circuits. | **6M** |

*** END ***