**R16**

**Reg. No:**

### SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
**B.Tech III Year II Semester Supplementary Examinations February-2022**
**ELECTRICAL AND ELECTRONIC MEASUREMENTS**
(Electrical and Electronics Engineering)

Time: 3 hours                                                                 Max. Marks: 60

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

### UNIT-I

| 1 | a | Derive an expression for the Deflecting torque in MI type instruments. | 6M |
|---|---|---|---|
|   | b | List the advantages & disadvantages of MI type instruments. | 6M |

**OR**

| 2 | a | Compare various controlling system in indicating instrument. | 5M |
|---|---|---|---|
|   | b | The deflecting torque of an ammeter varies as the square of the current passing through it. If a current of 5A produces a deflection of 90degree, what will be the deflection for a current of 10A when the instrument is i) spring control ii) gravity control | 7M |

### UNIT-II

| 3 | a | Explain about De sauty's Bridge with a neat sketch. | 6M |
|---|---|---|---|
|   | b | List the advantages and disadvantages of Maxwell's Bridge. | 6M |

**OR**

| 4 | a | Derive the general balance equation of a DC Bridge. | 6M |
|---|---|---|---|
|   | b | List some advantages and disadvantages of Anderson bridge. | 6M |

### UNIT-III

| 5 | a | Explain the measurement of LPF and UPF. | 6M |
|---|---|---|---|
|   | b | Explain about creeping and its compensation in single phase induction type energy meter. | 6M |

**OR**

| 6 | a | Explain the friction compensation in single phase induction type energy meter. | 6M |
|---|---|---|---|
|   | b | Explain stray magnetic field errors in electro dynamometer type wattmeter. | 6M |

### UNIT-IV

| 7 | a | How do you measure current and voltage using potentiometer? | 4M |
|---|---|---|---|
|   | b | Describe the construction and working of co-ordinate type Potentiometer & its standardization. | 8M |

**OR**

| 8 | a | Describe the construction and working of a d.c potentiometer. | 6M |
|---|---|---|---|
|   | b | What is standardization? Explain | 6M |

### UNIT-V

| 9 | a | Derive the equation of motion for ballistic galvanometer. | 6M |
|---|---|---|---|
|   | b | Explain six point methods. | 6M |

**OR**

| 10 | a | Determine leakage factor with flux meter. | 6M |
|---|---|---|---|
|    | b | Compare flux meter and ballistic galvanometer. | 6M |

*** END ***