

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year II Semester Regular & Supplementary Examinations June-2025
INDUSTRIAL INSTRUMENTATION
 (Open Elective-II)

Time: 3 Hours**Max. Marks: 60**

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

UNIT-I

- | | | | | | |
|---|---|--|-----|----|----|
| 1 | a | Discuss various systematic errors that exist in the measurement systems. | CO1 | L1 | 6M |
| | b | Explain the different test signals used in standard test input signals. | CO2 | L2 | 6M |

OR

- | | | | | | |
|---|---|---|-----|----|----|
| 2 | a | Explain the Dynamic characteristics of the measurement system. | CO1 | L2 | 4M |
| | b | Explain the various Static characteristics of the measurement system. | CO1 | L2 | 8M |

UNIT-II

- | | | | | | |
|---|---|--|-----|----|----|
| 3 | a | Explain about Frequency Modulation(FM). | CO3 | L2 | 6M |
| | b | Explain the frequency modulation telemetry system. | CO3 | L2 | 6M |

OR

- | | | | | | |
|---|---|--|-----|----|----|
| 4 | a | Describe the various classifications of multiplexer. | CO3 | L2 | 6M |
| | b | Discuss the technique of Time division multiplexer. | CO3 | L2 | 6M |

UNIT-III

- | | | | | | |
|---|---|--|-----|----|----|
| 5 | a | Explain the operational details of Hetrodyne wave analyzer. | CO3 | L2 | 6M |
| | b | Discuss the constructional details of the basic spectrum analyzer. | CO3 | L2 | 6M |

OR

- | | | | | | |
|---|---|---|-----|----|----|
| 6 | a | What are the advantages of digital voltmeter? | CO4 | L2 | 6M |
| | b | Explain about the successive approximation type digital voltmeters. | CO4 | L2 | 6M |

UNIT-IV

- | | | | | | |
|---|---|--|-----|----|----|
| 7 | a | What is a transducer? Explain classification of transducers. | CO5 | L1 | 6M |
| | b | Explain the advantages of electrical transducer. | CO5 | L2 | 6M |

OR

- | | | | | | |
|---|---|---|-----|----|----|
| 8 | a | Describe the working principle of piezo electric transducers. | CO5 | L2 | 6M |
| | b | Discuss in detail about photovoltaic cells. | CO5 | L2 | 6M |

UNIT-V

- | | | | | | |
|---|---|--|-----|----|----|
| 9 | a | What is the anemometer? Briefly explain the hot wire anemometer. | CO6 | L1 | 6M |
| | b | Explain the operation of the Resistance thermometer. | CO6 | L2 | 6M |

OR

- | | | | | | |
|----|---|---|-----|----|----|
| 10 | a | Define strain and what are the reasons for experiencing strain. | CO6 | L1 | 6M |
| | b | Explain the concept of Gauge sensitivity. | CO6 | L2 | 6M |

*** END ***