

NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN MECHATRONICS ENGINEERING & SMART FACTORY-CP15
IV SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JULY 2023

Subject: Measurement & Instrumentation
Subject Code: CP15405T

Total Time: 2 Hr.
Total Marks: 50

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING

2*8=16

- 1.1 Define measuring system
- 1.2 Design a voltage to frequency converter for output frequency of 5KHz.
- 1.3 Define Seebeck Effect
- 1.4 List the types of sensors used for pressure measurement.
- 1.5 What is encoder?
- 1.6 What are the different types of orifice plate used for flow measurement?
- 1.7 What is Tachometer and mention the types of tachometer?
- 1.8 Define piezoelectric sensor.
- 1.9 Write a short note on LM35
- 1.10 Define stability & resolution

2.0 ANSWER ANY SIX OF THE FOLLOWING

3*6=18

- 2.1 Differentiate between static and dynamic characteristics with example
- 2.2 Draw the pin details of IC 8038
- 2.3 Explain the working of bimetallic strip with neat sketch
- 2.4 List the different types of pressure and explain anyone
- 2.5 Explain the operation of strain gauge load cell with neat sketch
- 2.6 Draw the block diagram of basic ultra-sonic transmission link.
- 2.7 What is digital shaft encoder? Explain with neat sketch
- 2.8 Explain inductive proximity switch with neat sketch

3.0 ANSWER ANY FOUR OF THE FOLLOWING

4*4=16

- 3.1 Draw the block diagram of measuring system and explain
- 3.2 Explain the construction of RTD with neat sketch
- 3.3 Define diaphragm and explain its types
- 3.4 Sketch the working of AC tachometer Generator and Explain
- 3.5 Explain the principle, operation and Applications of LVDT for displacement measurement
- 3.6 Explain the working of thermocouple and its types