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2107052

DIPLOMA OF VOCATION

Industrial Electronics

Subject: Principles of Instrumentation

Subject Code: EDDPI-301

Semester: Fifth

July 2021

Theory (External): 35 Marks

Time: 03 Hours

Instructions to the Students

1. This Question paper consists of two Sections. All sections are compulsory.
2. Section A comprises 10 questions of objective type in nature. All questions are compulsory. Each question carries 1 mark.
3. Section B comprises 8 essay type questions out of which students need to do any 5. Each question carries 5 marks.
4. Read the questions carefully and write the answers in the answer sheets provided.
5. Do not write anything on the question paper.
6. Wherever necessary, the diagram drawn should be neat and properly labelled

Roll Number									

SECTION -A (SHORT/OBJECTIVE TYPE QUESTIONS)

(10x1=10 Marks)

- A. Mention the various testing signals in instrumentation.
- B. What are the advantages of instrumentation?
- C. Explain data logging.
- D. What is Step Response of a second order of instrumentation system.
- E. What is bar graph LCD?
- F. What is static error?
- G. Explain the time constant of first order system.
- H. Static characteristics of a sensor cannot be found using calibration
 - a) True
 - b) False
- I. The LED seven segment display uses seven individual
 - a) Light emitting diodes
 - b) Light restoring diodes
 - c) Inductors
 - d) Capacitors
- J. can measure only level
 - a) Bellow
 - b) Diaphragm
 - c) Strain Gauge
 - d) Radioactive method

SECTION -B (ESSAY TYPE QUESTIONS)

(5x5=25 Marks)

- 1. What is the basic principle of calibration? What calibration tools used for instrument selection.
- 2. What is the difference between?
 - (a) Static response
 - (b) Dynamic response
- 3. Define all the process variables and state their unit of measurement?
- 4. What are the applications of a seven segment display? Explain how it works.
- 5. What is X-Y recorder explain with the help of block diagram.
- 6. Explain the following terms:
 - (a) Response time
 - (b) Damping co-efficient
- 7. Explain the Random Error and Systematic error in detail.
- 8. What is grounding and Shielding explain with example.

====END OF PAPER====