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2112E004

DIPLOMA OF VOCATION
Industrial Electronics
Subject: Principles of Instrumentation
Subject Code: EDPI-301
Semester: Fifth
December 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. What is an instrumentation system?
- B. What are printing devices?
- C. Mention the scope of instrumentation.
- D. What environmental effects the selection of instrumentation.
- E. Explain the remedial actions for errors.
- F. What are the integrating methods?
- G. Accuracy and Precision are same for a sensor's observation
 - a) True
 - b) False
- H. The desirable static characteristics of a measuring system is
 - a) Accuracy
 - b) Static Error
 - c) Drift and Dead zone
 - d) Accuracy, Sensitivity and reproducibility
- I. Which one is not a process variable
 - a) Flow
 - b) Pressure
 - c) Temperature
 - d) Air

SECTION -B (ESSAY TYPE QUESTIONS)
(5x5=25 Marks)

1. What is Dynamic Response of an instrument and how it is defined?
2. How the following factors affect the instrument explain:
 - (a) Accuracy and Precision
 - (b) Resolution
3. Define the building blocks of instrumentation system. Explain the function of each block.
4. What are Static and Dynamic Characteristics of instruments?
5. Explain the working principle of X-Y recorder. Mention its applications.
6. Explain the following terms:
 - (a) Hysteresis
 - (b) Loading effect
7. What are the the classifications of instrument errors?
8. What is earthing and guarding. Discuss with the help of example.

===END OF PAPER===