

Seat No.: _____
No. _____

Enrolment

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-IV • EXAMINATION – WINTER • 2014

Subject Code: 341702

Date: 29-11-2014

Subject Name: Process Instrumentation-I

Time: 02:30 pm - 05:00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

- Q.1** (a) Define error. List types of error and explain each in brief. **07**
(b) Define the following terms **07**
(i) Accuracy (ii) Precision (iii) Resolution
(iv) Reynolds's number (v) Humidity (vi) Range
(vii) Laminar flow
- Q.2** (a) List out elastic type pressure sensing elements and explain bellows type pressure sensor. **07**
(b) Give importance of standards of measurements. **07**
OR
(b) Enlist types of manometer and explain working principle and construction for U tube manometer. **07**
- Q.3** (a) Describe pressure switch with schematic diagram. **07**
(b) Describe dead weight tester with schematic diagram. **07**
OR
- Q.3** (a) Explain working of Thermal conductivity gauge for vacuum measurement. **07**
(b) Explain construction and working of LVDT type pressure measurement. **07**
- Q.4** (a) State importance of flow measurement in process industries. **07**
(b) Explain principle, construction and working of Rotameter with neat diagram. **07**
OR
- Q. 4** (a) Explain detail construction for Venturi tube. **07**
(b) Draw the schematic diagram of electromagnetic flow meter and explain it with merits and demerits. **07**
- Q.5** (a) Explain photoelectric type speed measurement. **07**
(b) Explain wet and dry bulb type hygrometer method. **07**
OR
- Q.5** (a) What is hygrometer? Explain hair hygrometer. **07**
(b) Explain electronics flow transmitters with neat diagram. **07**
