

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-I &II (SPFU) EXAMINATION – SUMMER-2019****Subject Code: ENG006****Date: 11/06/2019****Subject Name: Measurement and Instrumentation****Time: 10:30 AM TO 01:30 PM****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the terms: (1) Sensitivity (2) Resolution (3) Accuracy (4) Precision (5) Drift (6) Calibration (7) Dead zone **07**  
(b) Explain the construction and working of a single phase energy meter. **07**
- Q.2** (a) Explain the types of error. What are the techniques to reduce error? **07**  
(b) What is transducer? Explain the classification of transducers. **07**
- Q.3** (a) Explain LVDT with neat sketch. **07**  
(b) Explain CRO with neat diagram. Also discuss the applications of CRO. **07**
- Q.4** (a) What are fundamental and derived quantities in measurement? Write short note on S.I. system of units. **07**  
(b) Discuss the different types of strain gauges with their applications. **07**
- Q.5** (a) Explain the comparison between voltmeter and ammeter. **07**  
(b) Explain the comparison between moving iron and moving coil instrument. **07**
- Q.6** (a) Explain different types of potentiometers. **07**  
(b) Discuss the various techniques of temperature measurement. **07**
- Q.7** (a) Write various methods of flow measurement. Explain any one in detail. **07**  
(b) Discuss various applications of multimeter. **07**

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