

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC - SEMESTER-II • EXAMINATION – WINTER 2013****Subject Code: X21903****Date: 26-12-2013****Subject Name: Mechanical Measurement and Metrology****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.

- Q.1 (a)** Explain following terms with diagram **08**
(1) Dead zone
(2) Draft
(3) Hysteresis
(4) Resolution
- (b)** Differentiate between simple micrometer and inside micrometer. **06**
- Q.2 (a)** Explain applications of **07**
(1) Dial indicator
(2) Slip gauge
- (b)** Describe Sigma comparator. **07**
- OR**
- (b)** Describe with neat sketch bevel protector. **07**
- Q.3 (a)** Explain working principle of thermocouple **07**
(b) State the sources of errors and their remedies in Dead weight pressure gauge tester. **07**
- OR**
- Q.3 (a)** Write short notes on expansion thermometers. **07**
(b) Explain Piezometer and U tube manometer. **07**
- Q.4 (a)** Explain in brief various elements of generalized measuring system. **07**
(b) Explain construction and working of LVDT **07**
- OR**
- Q.4 (a)** State the applications of combination set. **07**
(b) Explain Stroboscope. **07**
- Q.5 (a)** Explain gear tooth vernier caliper. **07**
(b) Describe Autocollimator in detail. **07**
- OR**
- Q.5 (a)** Explain thread measuring methods. **07**
(b) Explain any one surface roughness tester. **07**
