

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC - SEMESTER-II • EXAMINATION – WINTER • 2014****Subject Code: X21903****Date: 01-01-2015****Subject Name: Mechanical Measurement and Metrology****Time: 02:30 pm - 05:00 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) State the principle of Vernier Instrument and explain briefly construction and use of vernier caliper with neat sketch **07**
- (b) Explain principle of sine bar with neat sketch. **07**
- Q.2** (a) Describe with sketch a liquid-in-glass thermometer. Write it's applications. **07**
- (b) Explain construction and working of Burden tube Pressure gauge with neat sketch **07**
- Q.3** (a) Explain working principle of the thermocouple with neat sketch. **07**
- (b) Describe three wire method to measure the effective diameter of a given screw thread. **07**
- Q.4** (a) Name the various alignment test to be performed on Milling machine and describe any three. **07**
- (b) Explain Taylor-Hobson Talysurf surface roughness tester with neat sketch. **07**
- Q.5** (a) Explain construction and working of gear tooth vernier caliper with neat sketch. **07**
- (b) Explain Prony Brake dynamometer with neat sketch. **07**
- Q.6** (a) Explain and classify different types of errors in measurement system. **07**
- (b) Define straightness and explain wedge method and straight edge method for measuring straightness. **07**
- Q.7** (a) List out various element of Generalized measurement system. Explain in brief function of each element. **07**
- (b) What is manometer ? Explain working of U-tube manometer with neat sketch. **07**
