

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

## GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (OLD) - EXAMINATION – SUMMER 2017

Subject Code: 141901

Date: 06/06/2017

Subject Name: Mechanical Measurement & Metrology

Time: 10:30 AM to 01:00 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) Comparison between line standard and end standard. 07  
(b) Differentiate between systematic error and random error. 07
- Q.2 (a) Explain least count of micrometer screw and types of error. 07  
(b) Describe the construction and working of micrometer screw with neat sketch. 07  
OR  
(b) Describe the vernier height gauge with neat sketch. 07
- Q.3 (a) Describe with neat sketch the following equipments, 07  
(i) Slip gauges (ii) sine bar (iii) Dial indicator.  
(b) Describe the working of sigma comparator and magnification with neat sketch. 07  
OR
- Q.3 (a) Explain the measurement of effective diameter by two wire method. 07  
(b) Explain how to measure internal diameter of threaded part using slip gauges. 07
- Q.4 (a) Explain Parkinson's gear tester with neat sketch. 07  
(b) Sketch and describe a Gear tooth vernier caliper. 07  
OR
- Q.4 (a) Write short note of 'Auto collimator'. 07  
(b) Describe the working of N.P.L. gauge interferometer with sketch. 07
- Q.5 (a) Explain optical pyrometer for measurement of temperature. 07  
(b) Describe the working and construction of LVDT with neat sketch. 07  
OR
- Q.5 (a) Describe the construction and working of Dead weight pressure gauge. 07  
(b) Write short note on Proving ring type load cell. 07

\*\*\*\*\*