

## DEPARTMENT OF MECHANICAL ENGINEERING

**Name of the Lab:** Metrology and Measurements Laboratory

**ME8513 (III Year - V Semester)**

**Regulations: R17**

### List of experiments recommended as per Anna University

1. Calibration and use of measuring instruments – Vernier caliper, micrometer, Vernier height gauge using gauge blocks
2. Calibration and use of measuring instruments – depth micrometer, bore gauge, telescopic gauge
3. Measurement of linear dimensions using Comparators
4. Measurement of angles using bevel protractor and sine bar
5. Measurement of screw thread parameters – Screw thread Micrometers and Three wire method (floating carriage micrometre)
6. Measurement of gear parameters – disc micrometers, gear tooth Vernier caliper
7. Measurement of features in a prismatic component using Coordinate Measuring Machine (CMM)
8. Programming of CNC Coordinate Measuring Machines for repeated measurements of identical components
9. Non-contact (Optical) measurement using Toolmaker's microscope / Profile projector and Video measurement system
10. Measurement of Surface finish in components manufactured using various processes (turning, milling, grinding, etc.,) using stylus based instruments.
11. Machine tool metrology – Level tests using precision level; Testing of straightness of a machine tool guide way using Autocollimator, spindle tests.
12. Measurement of force, torque and temperature

Estd - 2001