

# METROLOGY LABORATORY

## Metrology Laboratory

### OBJECTIVES:

- To educate on different measurement systems and on common types of errors
- To learn alignment tests on Lathe, Drilling, Milling and Grinding machines.
- To introduce with measuring equipment used for linear and angular measurements.
- To get familiarized with surface roughness measurements on machine components.

### LIST OF EXPERIMENTS:

1. Measurement of lengths, heights and diameters by vernier calipers and micrometers.
2. Measurement of bores by internal micrometers and dial bore indicators.
3. Use of gear teeth, vernier calipers and checking the chordal addendum and chordal height of spur gear.
4. Alignment Tests on Lathe Machine
5. Alignment Tests on Drilling
6. Alignment Tests on milling
7. Alignment Tests on lathe
8. Alignment Tests on grinding Machine
9. Tool makers microscope and its applications
10. Angle and taper measurements by Bevel protractor and Sine bars
11. Flatness testing of surface plate.
12. Thread measurement by Three wire method.
13. Usage of Ring and Plug Gauges.
14. Surface roughness measurement using Tally surf..

