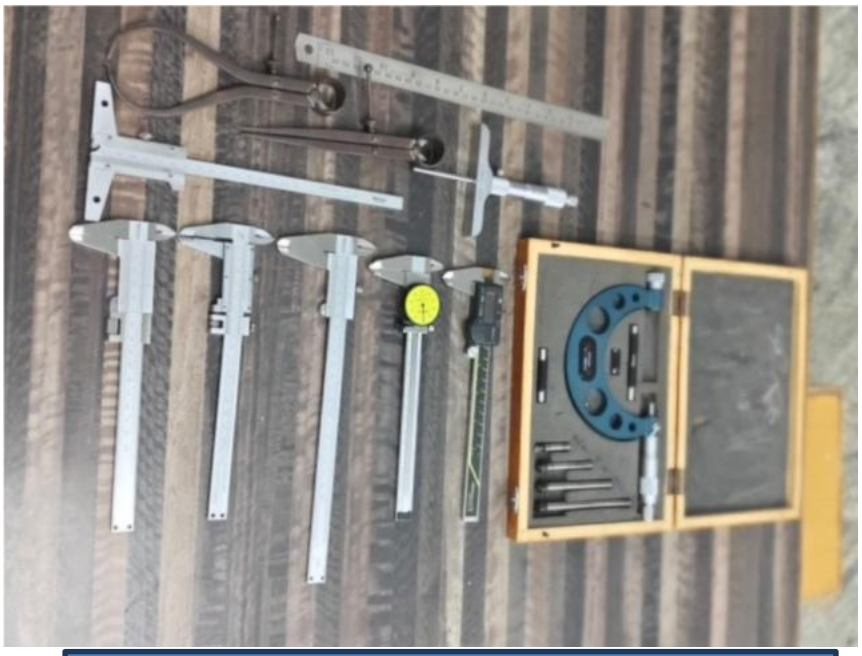
# METROLOGY LABORATORY

## LIST OF THE EUIPMENTS

1. Vernier callipers
2. Micrometers
3. Gear Tooth Vernier calliper
4. Tool makers microscope
5. Bevel protractor, Sine bars
6. Floating Carriage Thread Micrometer
7. Talysurf instrument

| Name of the Equipment: | Vernier callipers, Micrometers. |
|---|---|



Vernier callipers, Micrometres

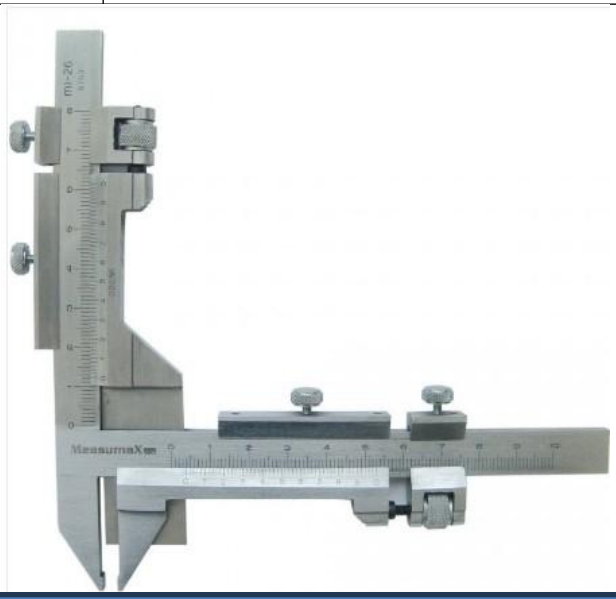
**Specifications:**

Range: 0 to 150 mm and 150 to 300 mm

**Experiments that can be conducted:**

- Measurement of lengths, heights, diameters

| Name of the Equipment: | Gear Tooth Vernier callipers |
|---|---|



Gear Tooth Vernier callipers

**Specifications:**

Measuring range: 1–26 mm
Material: Steel
Display type: Analog

**Experiments that can be conducted:**

- For checking the chordal addendum and chordal height of spur gear.

| Name of the Equipment: | TOOL MAKERS MICROSCOPE |
|---|---|



TOOL MAKERS MICROSCOPE

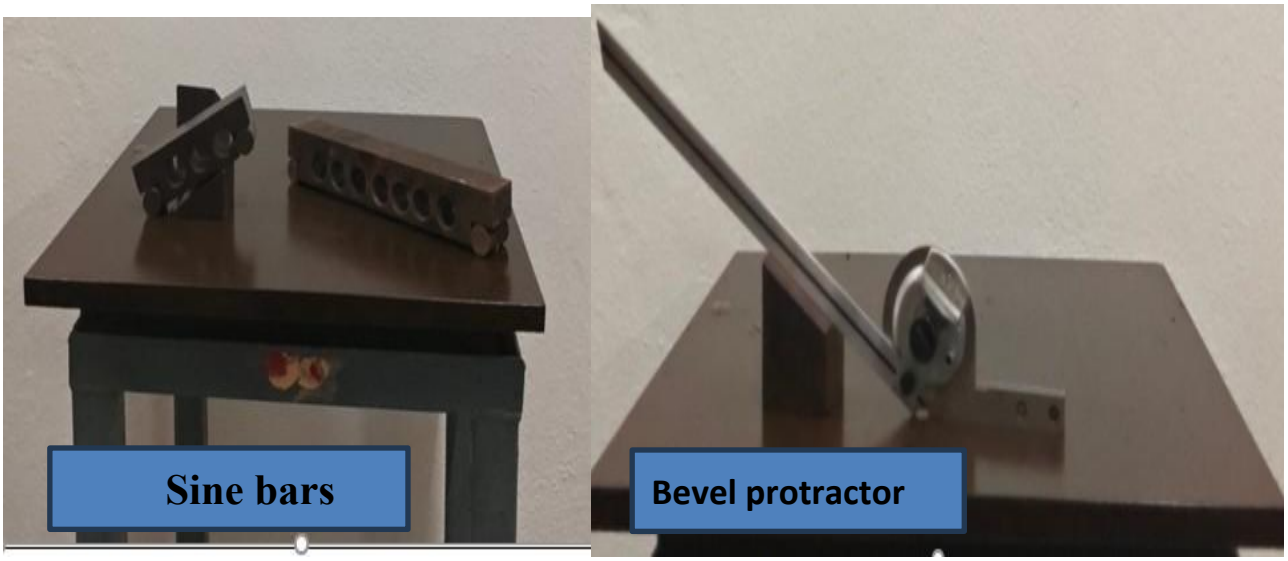
**Specifications:**

**Magnification: 30X**
**Objective:2X**
**Eyepiece:** W.F. 15X with cross reticle
**Field of view:** 8 mm diameter
**Working distance: 115 mm**
**Observation tube:** Monocular, inclined at 30
**Stand:** Large and heavy base provides extra overall rigidity to the instrument
**Measuring stage:** 150 × 150 mm size; travel up to 50 mm in each direction.

**Experiments that can be conducted:**

- Thread Measurement

| Name of the Equipment: | Bevel protractor, Sine bars |
|---|---|




**Specifications:**

**Bevel Protractor:**

Measuring range: 0 to $360^0$

Least count / resolution: 5 minutes (5′),

Blade length: 150mm, 300mm

**Sine Bar:**

Available centre distance: 100 mm / 200 mm

Roller Diameter: 20 mm

**Experiments that can be conducted:**

- Angle and taper measurements

| **Name of the Equipment:** | Floating Carriage Thread Micrometre. |
|---|---|



Floating Carriage Thread Micrometre.

**Specifications:**

Measuring Range : 0–100 mm

Measuring capability: Measurement of major, minor & effective thread diameters

**Experiments that can be conducted:**

- Thread measurement

| Name of the Equipment: | Talysurf instrument. |
|---|---|




Talysurf instrument.

**Specifications:**

**Evaluation Standard:** Set to ISO1997.
**Cut-off Length (λ c):** Set to 0.8 mm.
**Sampling Lengths:** Set to x5 **(**five sampling lengths).
**Measuring Speed:** Set to 0.5 mm/s**.**

**Experiments that can be conducted:**

- Surface roughness measurement