



DIPLOMA IN MECHANICAL ENGINEERING

CENTRALIZED QUESTION BANK

1020234640 - METROLOGY AND MEASUREMENTS

**DIRECTORATE OF TECHNICAL
EDUCATION GOVERNMENT OF
TAMILNADU**

DIPLOMA END SEMESTER / YEAR EXAMINATION – 2025

Course: Mechanical Engineering

Subject : Metrology and Measurements

QP Code : 1020234640

Time : 3 Hours

Date :

Session:

Max Marks: 100

Answer the following questions

1. **VERNIER CALIPER**
 - i) Measure the dimensions of ground MS flat/Cylindrical bush using Vernier Caliper.
 - ii) Compare the results with Digital Vernier Caliper.
2. **OUTSIDE MICROMETER**
 - i) Measure the diameter of a wire using micrometer
 - ii) Compare the results with a digital Outside micrometer.
3. **INSIDE MICROMETER**
 - i) Measure the inside diameter of the bore of a bush cylindrical component using inside micrometer
 - ii) Compare the results with digital inside micrometer.
4. **SLIP GAUGES**

Measure the thickness of ground MS plates using slip gauges.
5. **VERNIER HEIGHT GAUGE**

Measure the height of gauge blocks or parallel bars using vernier height gauge
- 6 **MECHANICAL COMPARATOR**

Find out the measurement of a given component and Compare with a standard Component using a mechanical comparator and slip gauge.
- 7 **UNIVERSAL BEVEL PROTRACTOR**

Measure the angle of a V-block/Taper Shank of Drill/ Dovetail using universal bevel protractor.
- 8 **SINE BAR**

Measure the angle of the machined surface using sine bar with slip gauges
- 9 **SCREW THREAD MICROMETER**

Measure the geometrical dimensions of V-Thread using screw thread micrometer

GEAR TOOTH VERNIER CALIPER

Measure the geometrical dimensions of spur gear using gear tooth vernier caliper

Allocation of Marks

Sl. No	Description	Marks
1	Procedure / Preparation	10
2	Observation / Dimensions	20
3	Accuracy	20
4	Result	10
5	Written test	30
6	Viva voce	10
Total		100