



**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

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**GEAR TOOTH VERNIER CALIPER**

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

**Allocation of Marks**

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