National Accreditation Board for Testing and Calibration Laboratories

# CERTIFICATE OF ACCREDITATION

## ACCUTRACE LABORATORY LLP

**has been assessed and accredited in accordance with the standard**

## ISO/IEC 17025:2017

## "General Requirements for the Competence of Testing & Calibration Laboratories"

**for its facilities at**

**E-14, MADHAVPURA MARKET, SHAHIBAUG, AHMEDABAD, GUJARAT, INDIA**

**in the field of**

## CALIBRATION

**Certificate Number:** CC-2590

**Issue Date:** 05/03/2023 **Valid Until:** 04/03/2025

**This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.**
**(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)**

**Name of Legal Identity :** AccuTrace Laboratory LLP

**Signed for and on behalf of NABL**

**N. Venkateswaran**
**Chief Executive Officer**

# SCOPE OF ACCREDITATION

| | | | |
|---|---|---|---|
| **Laboratory Name :** | ACCUTRACE LABORATORY LLP, E-14, MADHAVPURA MARKET, SHAHIBAUG, AHMEDABAD, GUJARAT, INDIA | | |
| **Accreditation Standard** | ISO/IEC 17025:2017 | | |
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| **Validity** | 05/03/2023 to 04/03/2025 | **Last Amended on** | 19/05/2023 |

| S.No | Discipline / Group | Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument | Calibration or Measurement Method or procedure | Measurement range and additional parameters where applicable(Range and Frequency) | * Calibration and Measurement Capability(CMC)(±) |
|---|---|---|---|---|---|
| Permanent Facility | | | | | |
| 1 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 µA to 100 mA | 0.10 % to 0.16 % |
| 2 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 mA to 10 A | 0.16 % to 0.10 % |
| 3 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 10 mV to 100 mV | 0.1 % to 0.12 % |
| 4 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 mV to 1000 V | 0.12 % to 0.08 % |

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| 5 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Capacitance @ 1kHz | Using 6½ DMM by Direct method | 1 nF to 100 µF | 1.16 % |
| 6 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ Digit Multi function Calibrator & 100 Turn Coil by direct method | 0.2 mA to 2000 mA | 0.425 % to 0.347 % |
| 7 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ multi function Calibrator & 100 Turn Coil by Direct method | 10 A to 1000 A | 0.47 % to 1.22 % |
| 8 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ Digit multi function Calibrator & 100 Turn Coil by direct method | 2000 mA to 10 A | 0.347 % to 0.47 % |
| 9 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz | Using 5½ Digit multi function Calibrator by Direct method | 10 mV to 100 mV | 0.64 % to 0.221 % |

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| 10 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz | Using 5½ Digit multi function Calibrator by Direct method | 100 mV to 1000 V | 0.221 % |
| 11 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Capacitance @ 1kHz | Using decade capacitance box by direct method | 100 pF to 100 µF | 1.22 % |
| 12 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Inductance @ 1kHz | Using decade inductance box by direct method | 0.1 mH to 10 H | 2.3 % to 1.2 % |
| 13 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 6½ Digital Multimeter by Direct method | 100 µA to 100 mA | 0.09 % |
| 14 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 6½ Digital Multimeter by Direct method | 100 mA to 10 A | 0.09 % to 0.18 % |
| 15 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using HV Probe with DMM by Direct method | 1 kV to 5 kV | 2.71% |

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| 16 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 6½ Digital Multimeter by Direct method | 1 mV to 100 mV | 0.18 % to 0.009 % |
| 17 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 6½ Digital Multimeter by Direct method | 100 mV to 1000 V | 0.009% |
| 18 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance | Using 6½ Digital Multimeter by Direct method | 1 ohm to 100 Mohm | 0.16 % to 0.42 % |
| 19 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance | Using 6½ Digital Multimeter by Direct method | 100 Mohm to 1 Gohm | 0.42 % to 0.28 % |
| 20 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - Low Resistance | Using Std. Resistance Direct / VI Method | 20 µohm to 1 ohm | 0.08 % |
| 21 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator by direct method | 0.2 mA to 2000 mA | 0.344 % to 0.23 % |

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| 22 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator & 100 Turn Coil by direct method | 10 A to 1000 A | 1.143 % to 1.06 % |
| 23 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator by Direct Method | 2000 mA to 10 A | 0.23 % |
| 24 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using 5½ Digit Multifunction calibrator by Direct method | 1 mV to 100 mV | 0.60 % to 0.127 % |
| 25 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using 5½ Digit Multifunction calibration by Direct method | 100 mV to 1000 V | 0.127 % |
| 26 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage for pH meter | Using Universal Calibrator by Simulation Method | - 416.90 mV DC (14 pH) to 416.90 mV (0 pH) | 0.09 % |
| 27 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by direct method | 1 kohm to 10 Mohm | 0.503 % |

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| 28 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by Direct method | 1 ohm to 1 kohm | 0.67 % to 0.503 % |
| 29 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by Direct Method | 10 Mohm to 1 Gohm | 0.116 % to 2.37 % |
| 30 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - High Resistance | Using high resistance box by direct method | 1 Gohm to 1000 Gohm | 2.5 % to 8.45 % |
| 31 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - Low Resistance | Using Micro resistance box by direct method | 100 µohm to 1 ohm | 6.75 % to 0.24 % |
| 32 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | J-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1370 °C | 0.3°C |

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| 33 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | K-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1370 °C | 0.7°C |
| 34 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | N-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1300 °C | 0.22°C |
| 35 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | R-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |
| 36 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | RTD - Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 800 °C | 0.2°C |
| 37 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | S-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1760 °C | 0.8°C |

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| 38 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | T-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 399 °C | 0.9°C |
| 39 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | J-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 750 °C | 0.1°C |
| 40 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | K-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 1350 °C | 0.7°C |
| 41 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | N-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1300 °C | 0.2°C |
| 42 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | R-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |

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| 43 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | RTD - Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 800 °C | 0.12°C |
| 44 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | S-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |
| 45 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | T-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 399.9 °C | 0.3°C |
| 46 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using 6½ Digital Multimeter by Direct method | 45 Hz to 1000 Hz | 0.13 % to 0.013 % |
| 47 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Timer/Stopwatch (Mechanical/Digital) | Using Digital Timer by Comparison Method | 1 s to 86400 s | 0.4 s to 10 s |

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| 48 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multi function Calibrator 5½ Digit by Direct Method | 45 Hz to 999.9 Hz | 0.31 % to 0.065 % |
| 49 | FLUID FLOW-FLOW MEASURING DEVICES | Air Flow rate( High Volume Sampler / Respirable Dust Sampler / PM10 Sampler) Medium Air | Using Top loading calibrator by comparison method | 0.6 $m^3$/min to 1.5 $m^3$/min | 3.1% |
| 50 | FLUID FLOW-FLOW MEASURING DEVICES | Velocity ( Anemometers ) Medium Air | Using Anemometer in Wind Tunnel by Comparison method | 0.23 m/s to 4 m/s | 10.2% |
| 51 | FLUID FLOW-FLOW MEASURING DEVICES | Velocity ( Pitot tube/Anemometers ) Medium Air | Using Pitot Tube in Wind Tunnel by Comparison method | 4.15 m/s to 29.84 m/s | 1.7% |
| 52 | FLUID FLOW-FLOW MEASURING DEVICES | Volume Flow rate (Flow Meter / Rotameter / Dry Gas Meter / Flow Calibrator) Medium Air | Using Air flow calibrator by comparison method | 0.5 lpm to 100 lpm | 2.4% |

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| 53 | FLUID FLOW-FLOW MEASURING DEVICES | Volume Flow rate of flow measuring devices like (Flow Meter / Rotameter / Dry Gas Meter / Flow Calibrator) Medium Air | Using Air flow calibrator by comparison method | 1 cc/min to 500 cc/min | 2.2% |
| 54 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 10 rpm to 100 rpm | 0.36rpm |
| 55 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 100 rpm to 1000 rpm | 2.24 rpm |
| 56 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 1000 rpm to 8000 rpm | 3.15 rpm |
| 57 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter / Centrifuge (Non-Contact) | Using tachometer by comparison method | 8000 rpm to 90000 rpm | 13.6rpm |
| 58 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 10 rpm to 100 rpm | 0.36 rpm |
| 59 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 100 rpm to 1000 rpm | 2.22 rpm |

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| 60 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 1000 rpm to 8000 rpm | 3.33 rpm |
| 61 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 10 rpm to 100 rpm | 0.36 rpm |
| 62 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 100 rpm to 1000 rpm | 2.22 rpm |
| 63 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 1000 rpm to 8000 rpm | 3.15 rpm |
| 64 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non-contact) | Using RPM source & Master Tachometer by Comparison Method | 8000 rpm to 90000 rpm | 12.6rpm |
| 65 | MECHANICAL-ACOUSTICS | Sound level meter | Using sound calibrator by comparison method | 114 dB@ 1kHz | 0.8dB |
| 66 | MECHANICAL-ACOUSTICS | Sound level meter | Using sound calibrator by comparison method | 94 dB@ 1kHz | 0.8dB |

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| 67 | MECHANICAL-DENSITY AND VISCOSITY | Density Hydrometer, Twaddle Hydrometer, Baume Hydrometer, Specific Hydrometer, Gravity Hydrometer, Brix Hydrometer, Lactometer, Alcometer. | Using Weighing Balance by Hydrostatic weighing method as per NISP SP 250-78 Standard. | 0.6 g/ml to 1.8 g/ml | 0.0004g/ml |
| 68 | MECHANICAL-DENSITY AND VISCOSITY | Density Hydrometer, Twaddle Hydrometer, Baume Hydrometer, Specific Hydrometer, Gravity Hydrometer, Brix Hydrometer, Lactometer, Alcometer. | Using Weighing Balance by Hydrostatic weighing method as per NISP SP 250-78 Standard. | 1.8 g/ml to 2 g/ml | 0.0006g/ml |
| 69 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Angle inclinometer - (L.C.: 0.1°) | Using Angle Gauge by comparison method | 0°-90°-0° | 3.4minute of arc |
| 70 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Angular scale/angle measurement - (L.C.: 1°) | Using profile projector by comparison method | 0 ° to 360 ° | 9 minute of arc |

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| 71 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Bevel Protractor - (L.C.: 5 minute) | Using Angle Gauge by Comparison Method | 0-90-0 ° | 3.5minute of arc |
| 72 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Bore Gauge - Transmission Error (L.C.: 0.001 mm) | Using Dial Calibration Tester (L.C. 0.2 µm) by Comparison Method | Up to 1.0 mm | 3.5 µm |
| 73 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Bridge Cam Gauge / Weld Gauge - linear scale (L.C.: 1mm) | Using Profile Projector by comparison method | 0 to 60 mm | 228µm |
| 74 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Caliper Checker & External Micrometer by Comparison Method | 0 to 300 mm | 11 µm |
| 75 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Caliper Checker & External Micrometer by Comparison Method | 0 to 600 mm | 15.0µm |

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| 76 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Chamfer Gauge | Using Profile Projector by comparison method | 0.5 mm to 5 mm | 25.7µm |
| 77 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Coating thickness gauge | Using Standard foils by comparison method | 525 µm to 1999 µm | 3µm |
| 78 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Coating thickness gauge - (L.C.: 0.0001 mm) | Using Standard foils by comparison method | 10 µm to 525 µm | 2.3 µm |
| 79 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Combination Set (L.C.: 1°) | Using Angle Gauge by Comparison Method | 0 ° to 90 ° | 35 minute of arc |
| 80 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Depth Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Gauges Block Set & Surface Plate by Comparison Method | 0 to 150 mm | 10 µm |

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| 81 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Depth Gauge - (L.C : 0.01 mm) | using slip gauges, long slip gauge & surface plate by comparison method | 0 to 600 mm | 10µm |
| 82 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Depth micormeter - ( L.C.:0.01 mm) | Using slip gauge set & surface plate by comparison method | 0 to 150 mm | 10µm |
| 83 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Depth Micrometer - (L.C : 0.01 mm) | using slip gauges & surface plate by comparison method | 0 to 300 mm | 8µm |
| 84 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Dial Thickness Gauge (L.C.: 0.001 mm) | Using Gauge Block Set by Comparison Method | 0 to 12.7 mm | 1.5µm |
| 85 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Dial Thickness Gauge - (L.C.: 0.01 mm) | Using Gauge Block Set by Comparison Method | 0 to 25 mm | 9.9µm |

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| 86 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Extensometer - Mechanical & Electrical (L.C.: 0.001 mm) | Using extensometer fixture and Dig plunger Gauge as per by comparison method | 0 to 25 mm | 4 µm |
| 87 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer - Analog / Dial /Digital (L.C.: 0.001 mm) | Using Gauge Block Set by Comparison Method | 0 to 150 mm | 1.7µm |
| 88 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer - Analog / Dial /Digital (L.C.: 0.01 mm) | Using Gauge Block Set, long slip gauges by Comparison Method | 0 to 1500 mm | 15µm |
| 89 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Feeler Gauge | Using Plunger Dial Gauge & Comparator Stand By Comparison Method | Up to 1.0 mm | 2 µm |
| 90 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using long slip gauge set & surface plate by comparison method | 0 to 1000 mm | 14µm |

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| 91 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Caliper Checker & Surface Plate by Comparison Method | 0 to 600 mm | 11 µm |
| 92 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Indenter / Impact distance Gauge / Special Gauges Template / Inspection Jig & fixtures - Linear measurement | Using profile projector by comparison method | 0 to 200 mm | 10µm |
| 93 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Inside Caliper - (L.C : 0.01 mm) | Using slip gauges & caliper checker by comparison method | 0 to 150 mm | 16µm |
| 94 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Lever Dial Gauge - (L.C.: 0.01 mm) | Using Dial Calibration Tester by Comparison Method | 0 to 0.8 mm | 6.7 µm |
| 95 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Lever Dial Gauge - (L.C.: 0.001 mm) | Using Dial Calibration Tester by Comparison Method | 0 to 0.2 mm | 3.3µm |

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| 96 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | LVDT With indicator / Electronic probe with DRO /Plunger dial gauge - ( L.C.: 0.0001 mm) | Using Slip gauge set & comparator stand by comparison method | 0 to 25 mm | 1.8µm |
| 97 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | LVDT with indicator-Plunger gauge - (L.C.: 0.01 mm) | Using Slip gauge set & comparator stand by comparison method | 0 to 150 mm | 30µm |
| 98 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Measuring pin | Using Dial gauge & Slip gauge set by comparison method | 0.1 mm to 20 mm | 2.52µm |
| 99 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Measuring Scale - ( L.C.: 0.5 /1 mm) | using Tape & Scale Calibrator by comparison method | 0 to 2000 mm | 225xSqrt(L) µm, where L in m |
| 100 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Measuring Tape/Pl Tape - (L.C.: 0.1 / 0.01 mm) | Using Tape & Scale Calibrator by comparison method | 0 to 50 m | 225*sqrt(L)µm |

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| 101 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Micrometer Setting Rod | Using Gauge Block Set, Plunger Dial Gauge & Comparator Stand by Comparison Method | 25 mm to 1475 mm | 13 µm |
| 102 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Pistol Caliper - (L.C. 0.1 mm) | Using slip gauge set by comparison method | 0 to 100 mm | 78µm |
| 103 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Plain plug gauge | Using slip gauge set, comparator stand & Plunger type dial Gauge by comparison method | 3 mm to 200 mm | 3.5µm |
| 104 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Plunger Dial Gauge - (L.C.: 0.001 mm) | Using Dial Calibration Tester by Comparison Method | 0 to 25 mm | 3.3 µm |
| 105 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Plunger dial gauge L.C: 0.001 mm | Using Granite Comparator, Slip Gauge by comparison method | 0 to 50 mm | 3.5um |

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| 106 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Plunger dial gauge / LVDT With Indicator (L.C.: 0.01 mm) | Using Slip gauge set & comparator stand by comparison method | 0 to 100 mm | 8µm |
| 107 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Radius Gauge | Using Profile Projector by Comparison Method | Up to 50 mm | 35 µm |
| 108 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Snap gauge | Using slip gauge set by comparison method | 2 mm to 150 mm | 2µm |
| 109 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Spirit level - (L.C.: 0.01 mm/m) | Using Dial gauge & Tilting Fixture by Comparison Method | 1.0 mm/m | 4.0µm/m |
| 110 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Standard Foils | Using Plunger Dial Gauge & Comparator Stand by Comparison Method | 10 µm to 2000 µm | 2 µm |

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| 111 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Std Wire gauge | Using Profile Projector by comparison method | 0.19 mm to 7.62 mm | 8.4µm |
| 112 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Steel Scale | Using Tape & Scale Calibrator by comparison method | 0 to 1000 mm | 225*sqrt(L)µm |
| 113 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Taper gauge (length of taper scale) | Using Profile Projector by comparison method | 0 to 15 mm | 57µm |
| 114 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Template / Flakiness & elongation Index / cube mould / Inspection Jig & fixtures - Linear measurement | Using Caliper by comparison method | 0 to 200 mm | 34 µm |
| 115 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Test Sieve | Using Profile Projector by Comparison Method | 25 µm to 4.0 mm | 4µm |

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| 116 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Test Sieve | Using Digital Caliper by Comparison Method | 4 mm to 125 mm | 31 µm |
| 117 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Thread pitch gauge(Pitch) | Using Profile Projector by comparison method | up to 7 mm | 13.4µm |
| 118 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Thread Plug Gauge (Effective Diameter & Major Diameter) | Using Floating Carriage Diameter Measuring Machine, Cylindrical Setting Standards And Thread Measuring Wire by comparison method | 2 mm to 100 mm | 4µm |
| 119 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Ultrasonic Thickness Gauge | Using Slip Gauge & long slip gauges Set by comparison method | 0 to 100 mm | 75 µm |
| 120 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Dial calibration tester - Mechanical & Electrical (L.C.: 0.0002mm) | Using Slip gauge set & Dig plunger gauge by comparison method | 0 to 25 mm | 0.5µm |

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| 121 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Electronic probe with stand (L. C. 0.0001 mm) | using Gauge block set by comparison method | 0 to 25 mm | 0.5µm |
| 122 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Linear probe / LVDT - (L.C: 0.001 mm) | Using Granite Comparator, Slip Gauge by comparison method | 0 to 50 mm | 3.6µm |
| 123 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Microscope | Using glass scale by comparison method | Up to 1000 x | 1.1% |
| 124 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Angular - (L..C.: 1 sec) | Using angular scale by comparison method | 0 ° to 360 ° | 3 min |
| 125 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Linear measurement - (L.C: 0.001 mm) | Using glass scale by comparison method | 0 to 200 mm | 3µm |
| 126 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Magnification | Using glass scale & Caliper by comparison method | 10 X to 100 X | 0.3 % |
| 127 | MECHANICAL-DUROMETER | Rubber Hardness Tester - Shore A | Using Dial calibration tester by depth indentor as per ASTM D 2240 | 0 Shore A to 100 Shore A | 0.95 Shore A |

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| 128 | MECHANICAL-DUROMETER | Rubber Hardness Tester - Shore D | Using Using Dial calibration tester by depth indentor as per ASTM D 2240 | 0 Shore D to 100 Shore D | 0.95 Shore D |
| 129 | MECHANICAL-HARDNESS TESTING MACHINES | Indentation Measuring system of Brinell / Vickers Hardness Tester | Using glass scale as per IS 1500 Part 2 : 2021, IS 1501 Part 2 : 2020, ASTM E-10 : 2018 ASTM-92: 2017 | 0 to 7 mm | 6.05 µm |
| 130 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 70 bar | 0.25 bar |
| 131 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 700 bar | 0.25 bar |

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| 132 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 bar to 1000 bar | 0.61bar |
| 133 | MECHANICAL-PRESSURE INDICATING DEVICES | Low pressure (Manometer / Magnehalic gauge / Pressure gaue (analog / Digital) / Trasmitter | Using Digital Pressure Gauge, MFC & Pressure Pump as per DKD R-6-1 by Comparison Method | 0 to 50 mbar | 0.05mbar |
| 134 | MECHANICAL-PRESSURE INDICATING DEVICES | Low pressure (Manometer / Magnehalic gauge / Pressure gauge (analog / Digital) / Transmitterr | Using Digital Pressure Gauge, MFC & Pressure Pump as per DKD R-6-1 by Comparison Method | -50 mbar to 0 mbar | 0.05mbar |
| 135 | MECHANICAL-PRESSURE INDICATING DEVICES | Pneumatic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Pump, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 35 bar | 0.014 bar |

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| 136 | MECHANICAL-PRESSURE INDICATING DEVICES | Pressure Gauge (Absolute), Barometers, Manometers, Transmitter - Analog/Digital | Using Digital Pressure Gauge & Pressure Pump Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 300 mbar A to 1164 mbar A | 0.57mbar |
| 137 | MECHANICAL-PRESSURE INDICATING DEVICES | Vaccum Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter, Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Pump Universal calibrator/Digital multimeter as per DKD R-6-2 by Comparison Method | -0.85 bar to 0 bar | 0.012 bar |
| 138 | MECHANICAL-TORQUE GENERATING DEVICES | Torque Wrench {Type-I (Class A, B, C, D, E) & Type-II (Class A, B, C, D, E, F, G)} | Using Torque Transducers with Indicator by Comparison Method as per ISO 16906: 2018 | 0.2 Nm to 20 Nm | 1.55 % |
| 139 | MECHANICAL-TORQUE GENERATING DEVICES | Torque Wrench {Type-I (Class A, B, C, D, E) & Type-II (Class A, B, C, D, E, F, G)} | Using Torque Transducers with Indicator by Comparison Method as per ISO 16906: 2018 | 20 Nm to 200 Nm | 1.55 % |

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| 140 | MECHANICAL-TORQUE GENERATING DEVICES | Torque Wrench {Type-I (Class A, B, C, D, E) & Type-II (Class A, B, C, D, E, F, G)} | Using Torque Transducers with Indicator by Comparison Method as per ISO 16906: 2018 | 200 Nm to 2000 Nm | 1.66 % |
| 141 | MECHANICAL-VOLUME | Butyrometer | Using semi micro Balance (readability 0.01 mg), Mercury of Known Density By Gravimetric Method | 0 % to 90 % | 1% |
| 142 | MECHANICAL-VOLUME | Glassware Measuring Cylinder / Volumetric Flask / Conical Flask / Beaker | Using Precision Balance (readability 1 mg), Thermometer & Water of Known Density by Gravimetric Method | 100 ml to 1000 ml | 0.15 ml |
| 143 | MECHANICAL-VOLUME | Glassware Measuring Cylinder / Volumetric Flask / Conical Flask / Beaker | Using Precision Balance (readability 1 mg), Thermometer & Water of Known Density by Gravimetric Method | 1000 ml to 2000 ml | 0.11ml |
| 144 | MECHANICAL-VOLUME | Glassware Measuring Cylinder / Volumetric Flask / Conical Flask / Beaker | Using Precision Balance (readability 10 mg), Thermometer & Water of Known Density by Gravimetric Method | 2000 ml to 5000 ml | 2ml |

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|---|---|---|---|---|---|
| 145 | MECHANICAL-VOLUME | Glassware Measuring Cylinder / Volumetric Flask / Conical Flask / Beaker / Pipette ( volumetric / graduated) / Burett | Using semi micro Balance (readability 0.01 mg), Thermometer & Water of Known Density by Gravimetric Method | 1 ml to 10 ml | 3µl |
| 146 | MECHANICAL-VOLUME | Glassware Measuring Cylinder / Volumetric Flask / Conical Flask / Beaker / Pipette ( volumetric / graduated) / Burette | Using semi micro Balance (readability 0.01 mg), Thermometer & Water of Known Density by Gravimetric Method | 10 ml to 100 ml | 25µl |
| 147 | MECHANICAL-VOLUME | Micro Pipette | Using Micro Balance (readability 0.001 mg), Thermometer & Water of Known Density by Gravimetric Method | 0.1 µl to 1 µl | 0.07µl |
| 148 | MECHANICAL-VOLUME | Micro Pipette | Using Micro Balance (readability 0.001 mg), Thermometer & Water of Known Density by Gravimetric Method | 1 µl to 10 µl | 0.11ul |

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|---|---|---|---|---|---|
| 149 | MECHANICAL-VOLUME | Micro Pipette | Using Micro Balance (readability 0.001 mg) & semi micro Balance (readability 0.01 mg), Thermometer & Water of Known Density by Gravimetric Method | 10 µl to 100 µl | 0.58 µl |
| 150 | MECHANICAL-VOLUME | Micro Pipette | Using semi micro Balance (readability 0.01 mg), Thermometer & Water of Known Density by Gravimetric Method | 100 µl to 1000 µl | 0.69 µl |
| 151 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 0.01 mg), Class I | Using Standard Weights of E1 Accuracy Class as per OIML R 76–1 | Up to 200 g | 0.06mg |
| 152 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 1 g), Class III | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 30 kg to 50 kg | 2.4 g |
| 153 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 1 mg), Class II | Using Standard Weights of E2 & F1 Accuracy Class as per OIML R 76–1 | 200 g to 1000 g | 2.4mg |

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| 154 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 10 mg), Class II | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 1 kg to 6 kg | 14 mg |
| 155 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 100 mg), Class III | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 6 kg to 30 kg | 100mg |
| 156 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability:20 g), Class IV | Using Standard Weights of M1 Accuracy Class as per OIML R 76–1 | 100 kg to 200 Kg | 47g |
| 157 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability:50 g), Class IV | Using Standard Weights of M1 Accuracy Class as per OIML R 76–1 | 200 kg to 500 kg | 63 g |
| 158 | MECHANICAL-WEIGHTS | Weights (Accuracy Class F2 and Coarser) | Using Standard Weights of F1 Accuracy Class with Digital Balance (Readability: 0.1 g) as per OIML R 111 by ABBA method | 20000 g | 94 mg |
| 159 | MECHANICAL-WEIGHTS | Weights (Accuracy Class M1 and Coarser) | Using Standard Weights of F1 Accuracy Class with Digital Balance (Readability: 0.1 g) as per OIML R 111 by ABBA method | 10000 g | 94mg |

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|---|---|---|---|---|---|
| 160 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balances as per OIML R 111 by ABBA Method | 1 g | 0.003mg |
| 161 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 1 mg | 0.001mg |
| 162 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balances as per OIML R 111 by ABBA Method | 10 g | 0.01mg |
| 163 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 10 mg | 0.001mg |

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|---|---|---|---|---|---|
| 164 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 100 g | 0.02mg |
| 165 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balances as per OIML R 111 by ABBA Method | 100 mg | 0.001mg |
| 166 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 2 g | 0.004mg |
| 167 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 2 mg | 0.001mg |

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|---|---|---|---|---|---|
| 168 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 20 mg | 0.001mg |
| 169 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 200 g | 0.03mg |
| 170 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 200 mg | 0.002mg |
| 171 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 5 g | 0.005mg |

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|---|---|---|---|---|---|
| 172 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 5 mg | 0.001mg |
| 173 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 50 mg | 0.001mg |
| 174 | MECHANICAL-WEIGHTS | Weights / Mass (Accuracy Class E2and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator / Balance as per OIML R 111 by ABBA Method | 500 mg | 0.002mg |
| 175 | MECHANICAL-WEIGHTS | Weights / Mass Accuracy Class F1 and coarser | Using Standard Weights of E1 & E2 Accuracy Class with Digital Balance (Readability: 0.001 g) as per OIML R 111 by ABBA method | 1000 g | 1.06mg |

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|---|---|---|---|---|---|
| 176 | MECHANICAL-WEIGHTS | Weights / Mass Accuracy Class F2 and coarser | Using Standard Weights of F1,E2 & E1 Accuracy Class with Digital Balance (Readability: 0.001 g) as per OIML R 111 by ABBA method | 2000 g | 1.36mg |
| 177 | MECHANICAL-WEIGHTS | Weights /Mass - Accuracy Class F1 and coarser | Using Standard Weights of E1 Accuracy Class with Digital Balance (Readability: 0.001 g) as per OIML R 111 by ABBA method | 500 g | 1mg |
| 178 | MECHANICAL-WEIGHTS | Weights Accuracy Class F2 and coarser | Using Standard Weights of F1 Accuracy Class with Digital Balance (Readability: 0.01 g) as per OIML R 111 by ABBA method | 5000 g | 11 mg |
| 179 | MECHANICAL-WEIGHTS | Weights/Mass (Accuracy Cass E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator/Balance as per OIML R 111 by ABBA Method | 20 g | 0.01mg |

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|---|---|---|---|---|---|
| 180 | MECHANICAL-WEIGHTS | Weights/Mass (Accuracy Class E2 and coarser) | Using E1 Accuracy Class Standard Weights & Mass Comparator - Balance as per OIML R 111 by ABBA Method | 50 g | 0.01mg |
| 181 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using Temp.+RH Sensor with Indicator (Single Position Calibration) by comparison method | 10 °C to 50 °C @ 50 %rh | 0.5°C |
| 182 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using Temp.+RH Sensor with Indicator (Single Position Calibration) by comparison method | 20 % rh to 95 % rh @25°C | 1.2 %rh |
| 183 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator, Data Logger, Thermo-hygrometer, Temp-Humidity Sensor, Dry & Wet thermometer | Using Temp.+RH Sensor with Indicator & Humidity Generator with Chamber by comparison method | 10 °C to 50 °C | 0.4°C |
| 184 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator, Humidity Transmitter, Data Logger, Thermo-hygrometer, Humidity Sensor | Using Temp.+RH Sensor with Indicator & Humidity Generator with Chamber by comparison method | 20 %rh to 95 %rh @ 25°C | 0.98 %rh |

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|---|---|---|---|---|---|
| 185 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity sensor with Indicator, Humidity Transmitter, Data Logger with sensor, Thermo-hygrometer with Sensor,Dry & Wet thermometer | Using PT-100 Sensor with Indicator & Temp -Humidity Generator with Chamber by comparison method | 0 °C to 50 °C @ 50% RH | 0.32°C |
| 186 | THERMAL-SPECIFIC HEAT & HUMIDITY | Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using PT-100 Sensor with Indicator by comparison method | 0 °C to 50 °C @ 50% RH | 0.32 °C |
| 187 | THERMAL-TEMPERATURE | Liquid in Glass Thermometer | Using 4 wire RTD with Indicator & Liquid Bath by comparison method | (-) 80 °C to 50 °C | 0.34°C |
| 188 | THERMAL-TEMPERATURE | Liquid in Glass Thermometer | Using 4 wire RTD with Indicator & Liquid Bath by comparison method | 50 °C to 250 °C | 0.34°C |
| 189 | THERMAL-TEMPERATURE | Non Contact Thermometry & Infrared Thermometers, Pyrometers, Thermal Imagers | Using Pyrometer with Black Body Source by comparison method | 50 °C to 500 °C | 3.0°C |

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| 190 | THERMAL-TEMPERATURE | Non-Contact Thermometry & Infrared Thermometers, Pyrometers, Thermal Imagers | Using Pyrometer with Black Body Source (0.95 emissivity) by comparison method | 25 °C to 50 °C | 3°C |
| 191 | THERMAL-TEMPERATURE | Oven, Furnace, Incubator, Chamber, Autoclave, BOD | Using 9 RTD Sensors with Multi Channel Data Logger by Comparison Method | 0 °C to 300 °C | 2.5°C |
| 192 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge, Datalogger with sensor & without sensor, Transducer, Transmitter | Using 4 Wire PT 100 with indicator using dry Bath by comparison method | -35 °C to 50 °C | 0.11°C |
| 193 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge, Transducer, Transmitter | Using SSPRT Sensor with Indicator & Liquid Nitrogen Bath by Comparison Method | -196 °C | 0.19°C |

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| 194 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without indicator/ Recorder / Controller, Digital Thermometer, Temperature Gauge | Using 4 Wire RTD with indicator, oil bath by comparison method | 50 °C to 250 °C | 0.19°C |
| 195 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without indicator/ Recorder / Controller, Digital Thermometer, Temperature Gauge, Transducer, Transmitter | Using 4 Wire PT 100 with indicator & Liquid Bath by comparison method | (-) 80 °C to 50 °C | 0.19°C |
| 196 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without indicator/ Recorder / Controller, Digital Thermometer, Temperature Gauge, Transducer, Transmitter | Using 4 wire RTD with indicator & dry bath by comparison method | 250 °C to 400 °C | 0.4 °C |
| 197 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Chamber / Dry Block / Deep Freezer / Refrigerator | Using 4 wire RTD with Indicator by comparison method | -80 °C to 0 °C | 0.19°C |

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| 198 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Chamber / Industrial Incubator/ Liquid Bath / Dry Block / Oven / Autoclave / Refrigerator/oil bath / COD/ BOD | Using 4 wire RTD with Indicator by comparison method | 0 °C to 300 °C | 0.16°C |
| 199 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Furnace / Oven / Muffle Furnace | Using S-type Thermocouple with Temperature Indicator (Single Position Calibration) by comparison method | 300 °C to 1200 °C | 2.3°C |
| 200 | THERMAL-TEMPERATURE | Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge | Using S-type thermocouple with indicator & dry block furnace by comparison method | 400 °C to 1200 °C | 2.02°C |

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|---|---|---|---|---|---|
| Site Facility | | | | | |
| 1 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 µA to 100 mA | 0.10 % to 0.16 % |
| 2 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 mA to 10 A | 0.16 % to 0.10 % |
| 3 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using HV Probe with DMM by Direct method | 1 kV to 27 kV | 2.0% |
| 4 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 10 mV to 100 mV | 0.1 % to 0.12 % |

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|---|---|---|---|---|---|
| 5 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz | Using 6½ Digital Multimeter by Direct method | 100 mV to 1000 V | 0.12 % to 0.08 % |
| 6 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Capacitance @ 1kHz | Using 6½ DMM by Direct method | 1 nF to 100 µF | 1.16 % |
| 7 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ Digit Multi function Calibrator & 100 Turn Coil by direct method | 0.2 mA to 2000 mA | 0.425 % to 0.347 % |
| 8 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ multi function Calibrator & 100 Turn Coil by Direct method | 10 A to 1000 A | 0.47 % to 1.22 % |
| 9 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz | Using 5½ Digit multi function Calibrator & 100 Turn Coil by direct method | 2000 mA to 10 A | 0.347 % to 0.47 % |

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| 10 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz | Using 5½ Digit multi function Calibrator by Direct method | 10 mV to 100 mV | 0.64 % to 0.221 % |
| 11 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz | Using 5½ Digit multi function Calibrator by Direct method | 100 mV to 1000 V | 0.221 % |
| 12 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Capacitance @ 1kHz | Using decade capacitance box by direct method | 100 pF to 100 µF | 1.22 % |
| 13 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Inductance @ 1kHz | Using decade inductance box by direct method | 0.1 mH to 10 H | 2.3 % to 1.2 % |
| 14 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 6½ Digital Multimeter by Direct method | 100 µA to 100 mA | 0.09 % |
| 15 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 6½ Digital Multimeter by Direct method | 100 mA to 10 A | 0.09 % to 0.18 % |

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|---|---|---|---|---|---|
| 16 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using High voltage probe with DMM by Direct method | 1 kV DC to 16 kV DC | 3.6 % |
| 17 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using HV Probe with DMM by Direct method | 1 kV to 5 kV | 2.71% |
| 18 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 6½ Digital Multimeter by Direct method | 1 mV to 100 mV | 0.18 % to 0.009 % |
| 19 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 6½ Digital Multimeter by Direct method | 100 mV to 1000 V | 0.009% |
| 20 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance | Using 6½ Digital Multimeter by Direct method | 1 ohm to 100 Mohm | 0.16 % to 0.42 % |
| 21 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance | Using 6½ Digital Multimeter by Direct method | 100 Mohm to 1 Gohm | 0.42 % to 0.28 % |

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|---|---|---|---|---|---|
| 22 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator by direct method | 0.2 mA to 2000 mA | 0.344 % to 0.23 % |
| 23 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator & 100 Turn Coil by direct method | 10 A to 1000 A | 1.143 % to 1.06 % |
| 24 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using 5½ Digit Multifunction Calibrator by Direct Method | 2000 mA to 10 A | 0.23 % |
| 25 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using 5½ Digit Multifunction calibrator by Direct method | 1 mV to 100 mV | 0.60 % to 0.127 % |
| 26 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using 5½ Digit Multifunction calibration by Direct method | 100 mV to 1000 V | 0.127 % |
| 27 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage for pH meter | Using Universal Calibrator by Simulation Method | - 416.90 mV DC (14 pH) to 416.90 mV (0 pH) | 0.09 % |

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|---|---|---|---|---|---|
| 28 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by direct method | 1 kohm to 10 Mohm | 0.503 % |
| 29 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by Direct method | 1 ohm to 1 kohm | 0.67 % to 0.503 % |
| 30 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance | Using Decade Resistance Box by Direct Method | 10 Mohm to 1 Gohm | 0.116 % to 2.37 % |
| 31 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - High Resistance | Using high resistance box by direct method | 1 Gohm to 1000 Gohm | 2.5 % to 8.45 % |
| 32 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - Low Resistance | Using Micro resistance box by direct method | 100 µohm to 1 ohm | 6.75 % to 0.24 % |

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|---|---|---|---|---|---|
| 33 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | J-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1370 °C | 0.3°C |
| 34 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | K-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1370 °C | 0.7°C |
| 35 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | N-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1300 °C | 0.22°C |
| 36 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | R-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |
| 37 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | RTD - Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 800 °C | 0.2°C |

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|---|---|---|---|---|---|
| 38 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | S-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1760 °C | 0.8°C |
| 39 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | T-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 399 °C | 0.9°C |
| 40 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | J-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 750 °C | 0.1°C |
| 41 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | K-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 1350 °C | 0.7°C |
| 42 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | N-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -200 °C to 1300 °C | 0.2°C |

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|---|---|---|---|---|---|
| 43 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | R-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |
| 44 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | RTD - Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 800 °C | 0.12°C |
| 45 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | S-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | 0 °C to 1750 °C | 0.7°C |
| 46 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | T-Type Thermocouple (Indicator / Controller / Recorder/ Data Logger / Scanner) | Using Universal Calibrator by Simulation Method | -150 °C to 399.9 °C | 0.3°C |
| 47 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using 6½ Digital Multimeter by Direct method | 45 Hz to 1000 Hz | 0.13 % to 0.013 % |

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|---|---|---|---|---|---|
| 48 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Timer/Stopwatch (Mechanical/Digital) | Using Digital Timer by Comparison Method | 1 s to 86400 s | 0.4 s to 10 s |
| 49 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multi function Calibrator 5½ Digit by Direct Method | 45 Hz to 999.9 Hz | 0.31 % to 0.065 % |
| 50 | FLUID FLOW-FLOW MEASURING DEVICES | Air Flow rate( High Volume Sampler / Respirable Dust Sampler / PM10 Sampler) Medium Air | Using Top loading calibrator by comparison method | 0.6 $m^3$/min to 1.5 $m^3$/min | 3.1% |
| 51 | FLUID FLOW-FLOW MEASURING DEVICES | Volume Flow rate (Flow Meter / Rotameter / Dry Gas Meter / Flow Calibrator) Medium Air | Using Air flow calibrator by comparison method | 0.5 lpm to 100 lpm | 2.4% |
| 52 | FLUID FLOW-FLOW MEASURING DEVICES | Volume Flow rate of flow measuring devices like (Flow Meter / Rotameter / Dry Gas Meter / Flow Calibrator) Medium Air | Using Air flow calibrator by comparison method | 1 cc/min to 500 cc/min | 2.2% |

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|---|---|---|---|---|---|
| 53 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 10 rpm to 100 rpm | 0.36rpm |
| 54 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 100 rpm to 1000 rpm | 2.24 rpm |
| 55 | MECHANICAL-ACCELERATION AND SPEED | Centrifuge/rpm source (Non-contact) | Using Tachometer by comparison method | 1000 rpm to 8000 rpm | 3.15 rpm |
| 56 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter / Centrifuge (Non-Contact) | Using tachometer by comparison method | 8000 rpm to 90000 rpm | 13.6rpm |
| 57 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 10 rpm to 100 rpm | 0.36 rpm |
| 58 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 100 rpm to 1000 rpm | 2.22 rpm |
| 59 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Contact) | Using RPM source & Master Tachometer by Comparison Method | 1000 rpm to 8000 rpm | 3.33 rpm |
| 60 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 10 rpm to 100 rpm | 0.36 rpm |

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|---|---|---|---|---|---|
| 61 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 100 rpm to 1000 rpm | 2.22 rpm |
| 62 | MECHANICAL-ACCELERATION AND SPEED | Tachometer (Non Contact) | Using RPM source & Master Tachometer by Comparison Method | 1000 rpm to 8000 rpm | 3.15 rpm |
| 63 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Extensometer - Mechanical & Electrical (L.C.: 0.001 mm) | Using extensometer fixture and Dig plunger Gauge as per by comparison method | 0 to 25 mm | 4 µm |
| 64 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using long slip gauge set & surface plate by comparison method | 0 to 1000 mm | 14µm |
| 65 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Surface Plate | Using Spirit Level & Dial by Comparison Method | 3000 mm x 3000 mm | 1.6 sqrt {(L+W)/125}µm, 'L' & 'W' in mm |

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| 66 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Tape & Scale Calibrator (L.C.: 0.001 mm) | Using Slip Gauge Set & long Slip gauges by comparison method | 0 to 1000 mm | 16µm |
| 67 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Microscope | Using glass scale by comparison method | Up to 1000 x | 1.1% |
| 68 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Angular - (L..C.: 1 sec) | Using angular scale by comparison method | 0 ° to 360 ° | 3 min |
| 69 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Linear measurement - (L.C: 0.001 mm) | Using glass scale by comparison method | 0 to 200 mm | 3µm |
| 70 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile projector / Video measuring machine Magnification | Using glass scale & Caliper by comparison method | 10 X to 100 X | 0.3 % |
| 71 | MECHANICAL-HARDNESS TESTING MACHINES | Indentation Measuring system of Brinell / Vickers Hardness Tester | Using glass scale as per IS 1500 Part 2 : 2021, IS 1501 Part 2 : 2020, ASTM E-10 : 2018 ASTM-92: 2017 | 0 to 7 mm | 6.05 µm |

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| 72 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Brinell Hardness Testing Machine | Using Standard Hardness Testing Blocks as Per IS 1500-2: 2021, & ASTM E-10: 2018 | HBW 10/3000 | 1.7% |
| 73 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Brinell Hardness Testing Machine | Using Standard Hardness Testing Blocks as Per IS 1500-2: 2021, & ASTM E-10: 2018 | HBW 2.5/187.5 | 2% |
| 74 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Brinell Hardness Testing Machine | Using Standard Hardness Testing Blocks as Per IS 1500-2: 2021, & ASTM E-10: 2018 | HBW 5/750 | 1.7% |
| 75 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Rockwell Hardness Testing Machine | Using Standard Hardness Testing Blocks As Per IS 1586-2:2018, & ASTM E-18 :2022 | HRA | 0.83HRA |
| 76 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Rockwell Hardness Testing Machine | Using Standard Hardness Testing Blocks As Per IS 1586-2:2018, & ASTM E-18 :2022 | HRBW | 1.13HRBW |
| 77 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Rockwell Hardness Testing Machine | Using Standard Hardness Testing Blocks As Per IS 1586-2:2018, & ASTM E-18 :2022 | HRC | 0.71HRC |

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| 78 | MECHANICAL-HARDNESS TESTING MACHINES | Verification of Test Force Measurement of Hardness machines Rockwell, Rockwell superficial,brinell,vickers& micro vickers | Using load cell with indicator AS Per IS 1586-2 : 2018, ISO 6508-2 : 2015 & IS 1500-2:2021, ISO 6506-2:2017 & IS 1501-2:2020, ISO 6507-2:2018 | 5 N to 29421 N | 0.51% |
| 79 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Vickers Hardness Testing Machine | Using Standard Hardness Testing Blocks As Per IS 1501-2:2020 , & ASTM E-92: 2017 | HV 10 | 2.7% |
| 80 | MECHANICAL-HARDNESS TESTING MACHINES | Verification Of Vickers Hardness Testing Machine | Using Standard Hardness Testing Blocks As Per IS 1501-2:2020 , & ASTM E-92: 2017 | HV 30 | 2.1 % |
| 81 | MECHANICAL-IMPACT TESTING MACHINE | Verification of Charpy Impact Testing Machine | Using Impact Testing Kit As Per IS 3766, ISO 148-2 & ASTM E-23. (Direct Method) | 0 J to 400 J | 0.60 % |
| 82 | MECHANICAL-IMPACT TESTING MACHINE | Verification of Charpy Plastic Impact Testing Machine | Using Impact Testing Kit As Per ISO 13802 & ASTM D6110 (Direct Method) | 0 J to 50 J | 0.50 % |

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|---|---|---|---|---|---|
| 83 | MECHANICAL-IMPACT TESTING MACHINE | Verification of Charpy / Izod Impact Testing Machine | Using Impact Testing Kit As Per IS 3766, ISO 148-2 , ASTM E-23 & BS 131 P -4 (Indirect Method) | 0 J to 400 J | 7.88 % |
| 84 | MECHANICAL-IMPACT TESTING MACHINE | Verification of Izod Impact Testing Machine | Using Impact Testing Kit As Per BS 131 Part 4 (Direct method) | 0 J to 400 J | 0.60 % |
| 85 | MECHANICAL-IMPACT TESTING MACHINE | Verification of Izod Plastic Impact Testing Machine | Using Impact Testing Kit As Per ISO 13802 & ASTM D256 (Direct Method) | 0 J to 50 J | 0.50 % |
| 86 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 70 bar | 0.25 bar |
| 87 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 700 bar | 0.25 bar |

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|---|---|---|---|---|---|
| 88 | MECHANICAL-PRESSURE INDICATING DEVICES | Hydraulic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Comparator Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 bar to 1000 bar | 0.61bar |
| 89 | MECHANICAL-PRESSURE INDICATING DEVICES | Low pressure (Manometer / Magnehalic gauge / Pressure gaue (analog / Digital) / Trasmitter | Using Digital Pressure Gauge, MFC & Pressure Pump as per DKD R-6-1 by Comparison Method | 0 to 50 mbar | 0.05mbar |
| 90 | MECHANICAL-PRESSURE INDICATING DEVICES | Low pressure (Manometer / Magnehalic gauge / Pressure gauge (analog / Digital) / Transmitterr | Using Digital Pressure Gauge, MFC & Pressure Pump as per DKD R-6-1 by Comparison Method | -50 mbar to 0 mbar | 0.05mbar |
| 91 | MECHANICAL-PRESSURE INDICATING DEVICES | Pneumatic Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter,Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Pump, Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 0 to 35 bar | 0.014 bar |

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|---|---|---|---|---|---|
| 92 | MECHANICAL-PRESSURE INDICATING DEVICES | Pressure Gauge (Absolute), Barometers, Manometers, Transmitter - Analog/Digital | Using Digital Pressure Gauge & Pressure Pump Universal calibrator/Digital multimeter as per DKD R-6-1 by Comparison Method | 300 mbar A to 1164 mbar A | 0.57mbar |
| 93 | MECHANICAL-PRESSURE INDICATING DEVICES | Vaccum Pressure/ Pressure Gauge (Digital / Analog) Pressure Transmitter, Pressure Transducer (with Display), Pressure Switch | Using Digital Pressure Gauge & Pressure Pump Universal calibrator/Digital multimeter as per DKD R-6-2 by Comparison Method | -0.85 bar to 0 bar | 0.012 bar |
| 94 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine - UTM, CTM, (Compression Mode) | Using Load Cell with Indicators as per IS 1828 (Part -1):2022 | 200 N to 2000 kN | 0.40% |
| 95 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine - UTM, TTM (Tension Mode) | Using Load Cell with Indicators as per IS 1828 (Part -1):2022 | 200 N to 50 kN | 0.5% |

# SCOPE OF ACCREDITATION

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| 96 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine / UTM, CTM, (Compression Mode) | Using Load Cell with Indicators as per ASTM E4 | 2 kN to 1000 kN | 0.50% |
| 97 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine / UTM, CTM, (Compression Mode) | Using Load Cell with Indicators as per IS 1828 (Part -1):2022 | 5 N to 200 N | 0.50% |
| 98 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine / UTM, CTM,(Compression Mode) | Using Load Cell with Indicators as per IS 1828 (Part -1):2022 | 2000 kN to 3000 kN | 0.51% |
| 99 | MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE | Uni-axial Static Testing Machine / UTM, TTM (Tension Mode) | Using Load Cell with Indicators as per IS 1828 (Part -1):2022 | 5 N to 200 N | 0.54% |
| 100 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 0.0001 mg), Class I | Using Standard Weights of E1 Accuracy Class as per OIML R 76–1 | Up to 6.1 g | 0.006mg |

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|---|---|---|---|---|---|
| 101 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 0.001 mg), Class I | Using Standard Weights of E1 Accuracy Class as per OIML R 76–1 | 6 g to 100 g | 0.021mg |
| 102 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 0.01 mg), Class I | Using Standard Weights of E1 Accuracy Class as per OIML R 76–1 | Up to 200 g | 0.06mg |
| 103 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 1 g), Class III | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 30 kg to 50 kg | 2.4 g |
| 104 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 1 mg), Class II | Using Standard Weights of E2 & F1 Accuracy Class as per OIML R 76–1 | 200 g to 1000 g | 2.4mg |
| 105 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 10 mg), Class II | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 1 kg to 6 kg | 14 mg |
| 106 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 100 mg), Class III | Using Standard Weights of F1 Accuracy Class as per OIML R 76–1 | 6 kg to 30 kg | 100mg |
| 107 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability: 5 g ), Class IV | Using Standard Weights of F1/F2 Accuracy Class as per OIML R 76–1 | 50 kg to 100 kg | 12.3 g |

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| 108 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability:20 g), Class IV | Using Standard Weights of M1 Accuracy Class as per OIML R 76–1 | 100 kg to 200 Kg | 47g |
| 109 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Weighing Balance (Readability:50 g), Class IV | Using Standard Weights of M1 Accuracy Class as per OIML R 76–1 | 200 kg to 500 kg | 63 g |
| 110 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using Temp.+RH Sensor with Indicator (Single Position Calibration) by comparison method | 10 °C to 50 °C @ 50 %rh | 0.5°C |
| 111 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using Temp.+RH Sensor with Indicator (Single Position Calibration) by comparison method | 20 % rh to 95 % rh @25°C | 1.2 %rh |
| 112 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator, Data Logger, Thermo-hygrometer, Temp-Humidity Sensor, Dry & Wet thermometer | Using Temp.+RH Sensor with Indicator & Humidity Generator with Chamber by comparison method | 10 °C to 50 °C | 0.4°C |

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|---|---|---|---|---|---|
| 113 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator, Humidity Transmitter, Data Logger, Thermo-hygrometer, Humidity Sensor | Using Temp.+RH Sensor with Indicator & Humidity Generator with Chamber by comparison method | 20 %rh to 95 %rh @ 25°C | 0.98 %rh |
| 114 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity sensor with Indicator, Humidity Transmitter, Data Logger with sensor, Thermo-hygrometer with Sensor,Dry & Wet thermometer | Using PT-100 Sensor with Indicator & Temp -Humidity Generator with Chamber by comparison method | 0 °C to 50 °C @ 50% RH | 0.32°C |
| 115 | THERMAL-SPECIFIC HEAT & HUMIDITY | Indicator with Sensor of Humidity Calibrator / Generator Chamber | Using PT-100 Sensor with Indicator by comparison method | 0 °C to 50 °C @ 50% RH | 0.32 °C |
| 116 | THERMAL-TEMPERATURE | Deep Freezer, Refrigerator, chamber, Generator | Using 9 RTD Sensors with Multi Channel Data Logger by Comparison Method | -80 °C to 0 °C | 2.0°C |
| 117 | THERMAL-TEMPERATURE | Liquid in Glass Thermometer | Using 4 wire RTD with Indicator & Liquid Bath by comparison method | 50 °C to 250 °C | 0.34°C |

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| 118 | THERMAL-TEMPERATURE | Non Contact Thermometry & Infrared Thermometers, Pyrometers, Thermal Imagers | Using Pyrometer with Black Body Source by comparison method | 50 °C to 500 °C | 3.0°C |
| 119 | THERMAL-TEMPERATURE | Oven, Furnace, Incubator, Chamber, Autoclave, BOD | Using 9 RTD Sensors with Multi Channel Data Logger by Comparison Method | 0 °C to 300 °C | 2.5°C |
| 120 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge, Datalogger with sensor & without sensor, Transducer, Transmitter | Using 4 Wire PT 100 with indicator using dry Bath by comparison method | -35 °C to 50 °C | 0.11°C |
| 121 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge, Transducer, Transmitter | Using SSPRT Sensor with Indicator & Liquid Nitrogen Bath by Comparison Method | -196 °C | 0.19°C |

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|---|---|---|---|---|---|
| 122 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without indicator/ Recorder / Controller, Digital Thermometer, Temperature Gauge | Using 4 Wire RTD with indicator, oil bath by comparison method | 50 °C to 250 °C | 0.19°C |
| 123 | THERMAL-TEMPERATURE | RTD / Thermocouple with or without indicator/ Recorder / Controller, Digital Thermometer, Temperature Gauge, Transducer, Transmitter | Using 4 wire RTD with indicator & dry bath by comparison method | 250 °C to 400 °C | 0.4 °C |
| 124 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Chamber / Dry Block / Deep Freezer / Refrigerator | Using 4 wire RTD with Indicator by comparison method | -80 °C to 0 °C | 0.19°C |
| 125 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Chamber / Industrial Incubator/ Liquid Bath / Dry Block / Oven / Autoclave / Refrigerator/oil bath / COD/ BOD | Using 4 wire RTD with Indicator by comparison method | 0 °C to 300 °C | 0.16°C |

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| 126 | THERMAL-TEMPERATURE | Temperature Indicator with Sensor of Furnace / Oven / Muffle Furnace | Using S-type Thermocouple with Temperature Indicator (Single Position Calibration) by comparison method | 300 °C to 1200 °C | 2.3°C |
| 127 | THERMAL-TEMPERATURE | Thermocouple with or without Indicator / Recorder / Controller, Digital Thermometer, Temperature Gauge | Using S-type thermocouple with indicator & dry block furnace by comparison method | 400 °C to 1200 °C | 2.02°C |

*** CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.**