



| Laboratory Name : | ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK DN 63, SECTOR V, SALT LAKE, KOLKATA, WEST BENGAL, INDIA | | |
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| 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)(±) |
|------|---|---|--|--|--|
| 120 | MECHANICAL- ACCELERATION AND SPEED | Tachometer (Contact Type) | Using Precision Tachometer & RPM Generator by Comparison method | 100 rpm to 6000 rpm | 0.84 % |
| 121 | MECHANICAL- ACCELERATION AND SPEED | Tachometer (Non Contact type) | Using Precision Tachometer & standard Stroboscope by Comparison method | 30 rpm to 70000 rpm | 1.5 % to 0.1 % |
| 122 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Bevel Protractor (L.C.: 1 minute) | Using Angle Gauge Set By comparison method | 0° to 360° | 37 s |
| 123 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Depth Micrometer (L.C.: 0.01 mm) | Using Gauge Block Set/ Surface Plate By Comparison Method | 0 to 300 mm | 10 µm |
| 124 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Dial Thickness Gauge (L.C.: 0.01 mm) | Using Gauge Block Set By comparison method | 0 to 10 mm | 6.0 μm |





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| 125 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 0 to 25 mm | 1.8 μm |
| 126 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 100 mm to 150 mm | 3.0 μm |
| 127 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 150 mm to 300 mm | 5.0 μm |
| 128 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 25 mm to 50 mm | 2.0 μm |
| 129 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 300 mm to 400 mm | 6.0 μm |





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| 130 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 50 mm to 75 mm | 2.5 μm |
| 131 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method | 75 mm to 100 mm | 2.8 μm |
| 132 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Feeler Gauge | Using Electronic comparator with stand By comparison method | 0.01 mm to 1 mm | 2.8 μm |
| 133 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge- Dial / Digital / Analog (L.C.: 0.01 mm) | Using Gauge block, Long Gauge Block Set/Surface Plate By comparison method | 0 to 1000 mm | 15 µm |
| 134 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Internal Micrometer (L.C.: 0.001 mm) | Using Gauge Block Set/ Gauge Block Accessories, Long Gauge Block Set By Comparison Method | 50 mm to 500 mm | 6.1 μm |





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| 135 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Length Bar | Using Long Gauge Block Set/Electronic Probe with DRO By Comparison Method | 25 mm to 600 mm | 8.0 μm |
| 136 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Lever Dial (L.C.: 0.01 mm) | Using Dial Calibration Tester By comparison method | 0 to 2 mm | 3 μm |
| 137 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Measuring Scale (L.C.: 1 mm) | Using Scale & Tape Calibrator By comparison method | 0 to 2000 mm | 220 sqrt of (L) μm, where L in m |
| 138 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Measuring Tape (L.C.: 1 mm) | Using Scale & Tape Calibrator By comparison method | 0 to 10 m | 220 sqrt of (L) μm, where L in m |
| 139 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Pie Tape (L.C.: 0.5 mm) | Using Scale & Tape Calibrator By comparison method | 0 to 1200 mm | 220 sqrt of (L) μm, where L in m |





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| 140 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Plunger Dial (L.C: 0.01 mm) | Using Dial Calibration Tester By Comparison method | 0 to 25 mm | 8.3 μm | |
| 141 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Test Sieves | Using Profile Projector by Comparison method | 0.032 mm to 15 mm | 4.48 μm | |
| 142 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Test Sieves | Using Digital Vernier Caliper by Comparison method | 15 mm to 25 mm | 17.36 µm | |
| 143 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Vernier Caliper - Dial/Digital/Analog (L.C.: 0.01 mm) | Using Gauge Block Set/Accessory Set By Comparison Method | 300 mm to 1000 mm | 25.0 μm | |
| 144 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Vernier Caliper - Dial/Digital/Analog (L.C: 0.01 mm) | Using Gauge Block Set/Accessory Set By Comparison Method | 0 to 300 mm | 13.5 µm | |





SCOPE OF ACCREDITATION

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| 145 | MECHANICAL- PRESSURE INDICATING DEVICES | Hydraulic Pressure Gauge, Pressure Transmitter | Using Digital Pressure Indicator, Digital Pressure Calibrator and digital multimeter by comparison method as per DKD R-6-1 | 0 bar to 700 bar | 0.23 bar |
| 146 | MECHANICAL- PRESSURE INDICATING DEVICES | Hydraulic Pressure Gauge, Pressure Transmitter & Sensors | Using Dead Weight Tester and digital multimeter by direct method as per DKD R-6-1 | 6 bar to 700 bar | 0.02 % |
| 147 | MECHANICAL- PRESSURE INDICATING DEVICES | Pneumatic Precision Gauges, Precision Transmitter | Using Digital Pressure Indicator, Digital Pressure Calibrator and digital multimeter by comparison method as per DKD R-6-1 | 0 bar to 40 bar | 0.021 bar |
| 148 | MECHANICAL- PRESSURE INDICATING DEVICES | Vacuum Gauges, Vacuum Transmitter | Using Digital Pressure Indicator, Digital Pressure Calibrator and digital multimeter by comparison method as per DKD R-6-1 | 0 bar to (-) 0.9 bar | 0.0042 bar |
| 149 | OPTICAL- OPTICAL | Colour Temperature | Using Standard Lamp by direct method | 2856 K to 7000 K | 30 K |





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| 150 | OPTICAL- OPTICAL | Illuminance | Using Photometer by Comparison Method | 10 lx to 5000 lx | 2.7 % |
| 151 | OPTICAL- OPTICAL | Optical Attenuation (1310 nm, 1550 nm, 1625 nm) | Using Optical Power meter by direct method | 5 dB to 30 dB | 2.09 % |
| 152 | OPTICAL- OPTICAL | Optical Power (850 nm, 1300 nm, 1310 nm, 1550 nm, 1625 nm) | Using Optical power meter & optical attenuator by comparison method | -10 dBm to -40 dBm | 2.09 % |
| 153 | OPTICAL- OPTICAL | Optical Wavelength | Using Set of inductive voltage divider, Spectral standard lamps ((1) He-Ne Laser, A 4302 (2) Kr, 6031 (3) Ne, 6032) and Optical Spectrum Analyzer by direct method | 400 nm to 1750 nm | 1.2 nm |
| 154 | OPTICAL- OPTICAL | X, Y Colour coordinate | Using Standard Lamp (TH) by Direct Method | X, Y: 0.001 to 1 | 0.0427 |
| 155 | THERMAL- TEMPERATURE | IR Thermometer, Optical Pyrometer and Radiation Thermometer | Using Black Body Radiation Source, Reference IR Thermometer by Comparison Method | 200 °C to 1200 °C | 3.5 °C |





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| 156 | THERMAL- TEMPERATURE | Liquid In Glass Thermometer | Using SPRT, Liquid Bath and Temperature Indicator by comparison method | (-)80 °C to 90 °C | 0.08 °C |
| 157 | THERMAL- TEMPERATURE | Liquid in Glass Thermometer | Using SPRT, Silicon bath and Temperature Indicator by comparison method | 90 °C to 250 °C | 0.08 °C |
| 158 | THERMAL- TEMPERATURE | RTD/ PRT, Temperature Gauge, Thermocouple with or without Indicator | Using Liquid Baths, Dry Block Calibrator, SPRT & Temperature Indicator by Comparison Method | (-) 80 °C to 250 °C | 0.08 °C |
| 159 | THERMAL- TEMPERATURE | RTD/ PRT, Temperature Gauge, Thermocouple with or without Indicator | Using SPRT, Dry Block Calibrator & Temperature Indicator by Comparison Method | 250 °C to 550 °C | 0.12 °C |
| 160 | THERMAL- TEMPERATURE | Temperature Indicator with Sensor of Dry Block Calibrator, Temperature Furnace | Using R- Type Thermocouple & Temperature Indicator by Comparison Method | 1200 °C to 1300 °C | 3.5 °C |





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| 161 | THERMAL- TEMPERATURE | Temperature Indicator with Sensor of Dry Block Calibrator, Temperature Furnace (Single Position) | Using R-Type Thermocouple & Temperature Indicator by Comparison Method | 550 °C to 1200 °C | 2.0 °C |
| 162 | THERMAL- TEMPERATURE | Temperature Indicator with Sensor of Liquid Bath, Dry Block Calibrators, Temperature Furnace (Single Position) | Using SPRT & Temperature Indicator by Comparison Method | 250 °C to 550 °C | 0.12 °C |
| 163 | THERMAL- TEMPERATURE | Temperature Indicator with Sensor of Liquid Baths, Dry Block Calibrators (Single Position) | Using SPRT & Temperature Indicator by Comparison Method | (-)80 °C to 250 °C | 0.08 °C |
| 164 | THERMAL- TEMPERATURE | Thermocouple with or without Indicator, Temperature Recorder With Sensor | Using R-Type Thermocouple, Temperature Indicator & Tube Furnace by Comparison Method | 1200 °C to 1300 °C | 3.6 °C |





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| 165 | THERMAL- TEMPERATURE | Thermocouple with or without Indicator, Temperature Recorder With Sensor | Using R-Type Thermocouple, Dry Block Calibrator & Temperature Indicator by Comparison Method | 550 °C to 1200 °C | 2 °C |

