



SCOPE OF ACCREDITATION

Laboratory Name :	ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK: DN, SECTOR-V, SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA				
Accreditation Standard	ISO/IEC 17025:2017				
Certificate Number	CC-2008	Page No	21 of 59		
Validity	21/01/2022 to 20/01/2024	Last Amended on	02/02/2022		

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)(±)
76	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Gauge L.C.: 0.01 mm	Using Dial Calibration Tester By Comparison Method	0 to 2 mm	6.3µm
77	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	10µm
78	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	6.0µm
79	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	0 to 25 mm	1.8µm
80	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	100 mm to 150 mm	3.0µm





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81	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	150 mm to 300 mm	5.0µm
82	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	25 mm to 50 mm	2.0µm
83	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	300 mm to 400 mm	6.0µm
84	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	50 mm to 75 mm	2.5µm
85	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer LC 0.001 mm	Using Slip Gauge Block Set/Long Gauge Block Set By Comparison Method	75 mm to 100 mm	2.8µm





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86	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Electronic comparator with stand By comparison method	0.01 mm to 1 mm	2.8µm
87	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge : Dial / Digital / Analog LC 0.01 mm	Using Gauge block, Long Gauge Block Set/Surface Plate By comparison method	0 mm to 1000 mm	15µm
88	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Internal Micrometer LC 0.001 mm	Using Gauge Block Set/ Gauge Block Accessories, Long Gauge Block Set By Comparison Method	50 mm to 500 mm	6.1µm
89	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial LC 0.01 mm	Using Dial Calibration Tester By comparison method	0 to 2 mm	Зµm
90	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Scale LC 1 mm	Using Scale & Tape Calibrator By comparison method	0 to 2000 mm	220 sqrt of (L) μm, where L in m





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91	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Tape LC 1 mm	Using Scale & Tape Calibrator By comparison method	0 to 10 m	220 sqrt of (L) μm, where L in m
92	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Standard / Length Bar	Using Long Gauge Block Set/Electronic Probe with DRO By Comparison Method	25 mm to 600 mm	8.0µm
93	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pie Tape	Using Scale & Tape Calibrator By comparison method	0 to 1200 mm	220 sqrt of (L) μm, where L in m
94	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Gauge Block Set/ Electronic Comparator By comparison method	10 mm to 100 mm	3.0µm
95	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Dial LC 0.01 mm	Using Dial Calibration Tester By Comparison method	0 to 25 mm	8.3µm





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96	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Sine Bar	Using Gauge Block Set/Angle Gauge, Dial Gauge By Comparison Method	300 mm to 500 mm	3.0 arc Sec
97	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Spirit Level Sensitivity 0.01 mm/m	Using Sine Bar & Gauge Block Set With Spirit level calibration Jig By comparison method	0 ± 0.100 mm / m	5.0 μm/m
98	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	13.5µm
99	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	25.0µm
100	MECHANICAL- DIMENSION (PRECISION INSTRUMENTS)	Gauge Block : Grade 0, I & II	Using Gauge Block Calibration Tester & Gauge Block Set K Grade By comparison Method	10 mm to 25 mm	0.30µm





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101	MECHANICAL- DIMENSION (PRECISION INSTRUMENTS)	Gauge Block : Grade 0, I & II	Using Gauge Block Calibration Tester & Gauge Block Set K Grade By comparison Method	25 mm to 50 mm	0.45µm
102	MECHANICAL- DIMENSION (PRECISION INSTRUMENTS)	Gauge Block : Grade 0, I & II	Using Gauge Block Calibration Tester & Gauge Block Set K Grade By comparison Method	0.5 mm to 10 mm	0.25µm
103	MECHANICAL- DIMENSION (PRECISION INSTRUMENTS)	Gauge Block : Grade 0,I & II	Using Gauge Block Calibration Tester & Gauge Block Set K Grade By comparison Method	50 mm to 100 mm	0.60µm
104	MECHANICAL- PRESSURE INDICATING DEVICES	(Hydraulic Medium) Pressure Gauges, Pressure Transmitters	Using Digital Pressure Calibrator and and 6.5 digit multimeter as per DKD R-6-1	0 to 700 bar	0.23bar
105	MECHANICAL- PRESSURE INDICATING DEVICES	Precision Gauges, Precision Transmitter (Pneumatic)	Using Digital Pressure Indicator ,Digital Pressure Calibrator and 6.5 digit multimeter as per DKD R-6-1	0 to 40 bar	0.021bar





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106	MECHANICAL- PRESSURE INDICATING DEVICES	Vacuum Gauges, Vacuum Transmitter	Using Digital Pressure Indicator & Digital Pressure Calibrator, 6.5 digit multimeter as per DKD R-6-1	0 to (-) 0.9 bar (g)	0.0042 bar
107	MECHANICAL- VOLUME	Measuring Cylinder & Flask	Using Standard Weights of Class E2, Precision Balance (d= 0.01 mg) & Distilled water of known density as per ISO 4787	0.1 ml to 25 ml	0.01 ml
108	MECHANICAL- VOLUME	Measuring Cylinder & Flask	Using Standard Weights of Class E2, Precision Balance (d=1.0 mg) & Distilled water of known density as per ISO 4787	100 ml to 1000 ml	0.03 ml
109	MECHANICAL- VOLUME	Measuring Cylinder & Flask	Using Standard Weights of Class E2, Balance (d=0.01 mg) & Distilled water of known density as per ISO 4787	25 ml to 100 ml	0.03ml





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110	MECHANICAL- VOLUME	Micro-pipette	Using Standard Weights of Class E2, Precision Balance (d= 0.01 mg) & Distilled water of known density as per ISO 8655-6	10 μl to 1000 μl	1.66 µl
111	MECHANICAL- VOLUME	Pipette / Burette	Using Standard Weights of Class E2, Precision Balance (d= 0.01 mg) & Distilled water of known density as per ISO 4787	1 ml to 50 ml	10.0 µl
112	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	1 g yo g	0.03 mg
113	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=1 mg As per OIML R-111-1	1 kg	1.0 mg





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114	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	10 g	0.05 mg
115	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	100 g	0.06 mg
116	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	100 mg	0.01 mg
117	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	2 g	0.04 mg





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118	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	20 mg	0.01 mg
119	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	20 g	0.06 mg
120	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	200 g	0.12 mg
121	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	200 mg	0.01 mg





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122	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	5 g	0.04 mg
123	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	50 g	0.06mg
124	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	50 mg	0.01 mg
125	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=1 mg As per OIML R-111-1	500 g	1.0 mg





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126	MECHANICAL- WEIGHTS	Calibration of Weights of Class F1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	500 mg	0.01 mg
127	MECHANICAL- WEIGHTS	Calibration of Weights of Class F2 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	1 mg	0.01 mg
128	MECHANICAL- WEIGHTS	Calibration of Weights of Class F2 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	10 mg	0.01 mg
129	MECHANICAL- WEIGHTS	Calibration of Weights of Class F2 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=10 mg As per OIML R-111-1	2 kg	10mg





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130	MECHANICAL- WEIGHTS	Calibration of Weights of Class F2 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	2 mg	0.01 mg
131	MECHANICAL- WEIGHTS	Calibration of Weights of Class F2 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=0.01 mg As per OIML R-111-1	5 mg	0.01 mg
132	MECHANICAL- WEIGHTS	Calibration of Weights of Class M1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=100 mg As per OIML R-111-1	10 kg	100mg
133	MECHANICAL- WEIGHTS	Calibration of Weights of Class M1 and coarser	Using Weights of Accuracy Class E2 and Electronic Balance with readability d=100 mg As per OIML R-111-1	5 kg	100mg
134	OPTICAL- OPTICAL	Colour Temperature	Using Standard Lamp by direct method	2856 K to 7000 K	72К





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135	OPTICAL- OPTICAL	Illuminance	Using Photometer by Comparison Method	100 lx to 2000 lx	2.7%
136	OPTICAL- OPTICAL	Optical Wavelength	Using Set of inductive voltage divider calibrated Spectral standard lamps ((1) He-Ne Laser , A 4302 (2) Kr, 6031 (3) Ne, 6032) and Optical Spectrum Analyzer.	400 nm to 1750 nm	1.5nm
137	OPTICAL- OPTICAL	x,y Colour coordinate	Using Standard Lamp (CFL/ TH) by Direct Method	x,y :0.001 to 1	0.049
138	THERMAL- SPECIFIC HEAT & HUMIDITY	Relative Humidity : RH Sensor, RH Indicator & Digital Hygrometer , Standard Hygrometer	Using Standard RH Meter Humidity Source (Chamber) RTD & Data Logger By Comparison Method	35 %RH to 95 %RH @25°C	2.5%RH
139	THERMAL- TEMPERATURE	Glass Thermometer	Using PRT, Liquid bath, Silicon oil bath, Black Stack by comparison method	-80 °C to 250 °C	0.08°C





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140	THERMAL- TEMPERATURE	Non -Contact Temperature : IR Thermometer, Optical Pyrometer, Radiation Thermometer	Using Black Body Radiation Source with emissivity1.0, IR Thermometer, Std. R Type Thermocouple with Meter By Comparison Method	600 °C to 1300 °C	4.6°C
141	THERMAL- TEMPERATURE	Temp. Gauge, Thermocouple & RTD with or without Indicator , Dry Well bath	Using Liquid Baths (silicon Oil Bath) , Dry Block Calibrator, SPRT, Std. PRT, Digital Indicator (Black Stack), 4 Channel Thermometer by Comparison Method	50°C to 250 °C	0.08°C
142	THERMAL- TEMPERATURE	Temp. Gauge, Thermocouple & RTD with or without Indicator of Dry Well bath	Using Liquid Baths (Liquid Bath) , Std. PRT, Digital Indicator (Black Stack), 4 Channel Thermometer by Comparison Method	-80 °C to 50 °C	0.08 °C





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143	THERMAL- TEMPERATURE	Temperature : Temp. Gauge, T/C with or without Indicator , Temp.Indicator of, Dry Well bath	Using Dry Block Calibrator, Digital Indicator (Black Stack), 4 Channel Thermometer (2 PRT, 2 T/C) Tube Furnace, Std. 'R' Type T/C by Comparison Method	550 °C to 1200 °C	2.0°C
144	THERMAL- TEMPERATURE	Temperature : Thermocouple with or without Inddicator, Indicator of Dry Well bath.	Using Digital Indicator (Black Stack),4 Channel Thermometer , Tube Furnace, Std. 'R' Type T/C by Comparison Method	1200 °C to 1300 °C	3.6°C
145	THERMAL- TEMPERATURE	Thermo Couple /RTD with or without Indicator, Dry Well Indicator & sensor	Using Dry Block Calibrator, SPRT, Digital Indicator (Black Stack), 4 Channel Thermometer by Comparison Method	250 °C to 550 °C	0.12°C