



National Accreditation Board for
Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

THERMO ELECTRONICS ENGINEERING

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

1-33/1, BALIDIH INDUSTRIAL AREA, BOKARO, JHARKHAND, INDIA

in the field of

CALIBRATION

Certificate Number: CC-3729

Issue Date: 10/10/2025

Valid Until: 09/10/2029

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 Entity: THERMO ELECTRONICS ENGINEERING

Signed for and on behalf of NABL



Anita Rani
Director

Chakravarthy T. Kannan
Chief Executive Officer



National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :

THERMO ELECTRONICS ENGINEERING, 1-33/1, BALIDIH INDUSTRIAL
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Validity

10/10/2025 to 09/10/2029

Last Amended on 25/10/2025

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 & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	1 mA to 10 mA	0.61 % to 0.8 %
2	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	10 mA to 10 A	0.8 % to 0.4 %
3	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Voltage (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	1 mV to 100 mV	4.75 % to 0.5 %
4	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Voltage (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	100 mV to 1000 V	0.5 % to 0.6 %
5	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current (50 Hz & 1 kHz)	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.3 % to 0.22 %
6	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current (50 Hz & 1 kHz)	Using Multifunction Calibrator with Current Coil by Direct Method	10 A to 1000 A	1.73 % to 0.96 %



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7	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz & 1 kHz)	Using Calibrator by Direct Method	1 mV to 1000 V	2.66 % to 0.39 %
8	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Digital Multimeter by Direct Method	1 mA to 100 mA	0.62 % to 0.80 %
9	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Digital Multimeter by Direct Method	100 mA to 10 A	0.8 % to 0.5 %
10	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Digital Multimeter by Direct Method	1 mV to 100 mV	0.44 % to 0.36 %
11	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Digital Multimeter by Direct Method	100 mV to 1000 V	0.36 % to 0.48 %
12	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	1 Mohm to 20 Mohm	1.04 %
13	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	100 Ohm to 1 Mohm	0.15 % to 1.04 %



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14	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	20 Mohm to 1000 Mohm	1.04 % to 2.37 %
15	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	1 Ohm to 100 Ohm	0.36 % to 0.15 %
16	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.65 % to 0.82 %
17	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator with Current Coil by Direct Method	10 A to 1000 A	1.98 % to 1 %
18	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Calibrator by Direct Method	1 mV to 1000 V	1.4 % to 0.5 %
19	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	1 kohm to 10 kohm	0.12 %
20	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	1 Mohm to 10 Mohm	0.13 % to 1.12 %



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21	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	10 kohm to 100 kohm	0.12 %
22	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	10 Mohm to 100 Mohm	1.12 % to 1.05 % %
23	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	100 kohm to 1000 kohm	0.12 % to 0.13 % %
24	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	100 Mohm to 1000 Mohm	1.05 % to 2.6 %
25	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	1 Gohm	2.47 %
26	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	100 Gohm	3.2 %
27	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	2 Gohm	2.4 %



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28	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	5 Gohm	2.4 %
29	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	50 Gohm	3.2 %
30	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 wire)	Using Precision Decade Resistance Box by Direct Method	1 mohm to 10 mohm	5.83 % to 2.92 %
31	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	1 Ohm to 10 Ohm	0.23 % to 0.12 %
32	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Precision Decade Resistance Box by Direct Method	10 mohm to 100 mohm	2.91 % to 1.74 %
33	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	10 Ohm to 100 Ohm	0.12 %
34	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Precision Decade Resistance Box by Direct Method	100 mohm to 1000 mohm	1.74 % to 0.25 %



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35	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	100 Ohm to 1000 Ohm	0.12 %
36	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.5 °C
37	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.51 °C
38	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.54 °C
39	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.17 °C
40	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	(-)200 °C to 600 °C	0.63 °C
41	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	600 °C to 800 °C	0.6 °C



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42	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.16 °C
43	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J Type Thermocouple	Using Universal Calibrator by Direct Method	(-)-200 °C to 1200 °C	1.35 °C
44	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K Type Thermocouple	Using Universal Calibrator by Direct Method	(-)-200 °C to 1200 °C	1.3 °C
45	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R Type thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.96 °C
46	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	(-)-200 °C to 800 °C	0.73 °C
47	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	2.04 °C
48	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using Multimeter by Direct Method	10 Hz to 10 kHz	0.04 %



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49	ELECTRO- TECHNICAL- TIME & FREQUENCY (Source)	Frequency	Using Calibrator by Direct Method	45 Hz to 1000 Hz	0.32 % to 0.18 %
50	MECHANICAL- ACCELERATION AND SPEED	Non Contact type (RPM Indicator with Sensor of Rotating Device (Non medical Devices only)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	50000 RPM to 90000 RPM	56 RPM
51	MECHANICAL- ACCELERATION AND SPEED	Non-Contact type (RPM Indicator with sensor of rotating Devices) (Non medical Devices only)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	10000 RPM to 50000 RPM	45 RPM
52	MECHANICAL- ACCELERATION AND SPEED	Non-Contact type (RPM indicator with sensor of Rotating devices, Centrifuge, Tachometer calibrator)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	100 RPM to 10000 RPM	16.7 RPM
53	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Angle Protactor (L.C: 1 °)	Using Profile Projector By Comparison Method	1 ° to 180 °	35 minutes of arc
54	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Beam Mould / Round Mould / Fixture / Aggregate Impact Mould / Bulk Density Mould / Plain Work Piece / Jig Fixture and Mould	Using Digital Caliper By Comparison Method	0 to 750 mm	141 µm



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55	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness gauge (L.C: 1 µm)	Using Standard Foils By Comparison Method	50 µm to 5000 µm	5.2 µm
56	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Core Cutter (Inside Diameter, Outside Diameter, Height)	Using Digital Caliper By Comparison Method	100 mm to 130 mm	72.10 µm
57	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cube Mould (Length)	Using Digi Caliper By Comparison Method	50 mm to 200 mm	112 µm
58	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Digital External Micrometer (L.C: 0.001 mm)	Using Micrometer Check set, by Comparison Method	0 to 25 mm	2 µm
59	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Elongation Gauge	Using Digicaliper by Comparision method	Upto 100 mm	46.2 µm
60	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C: 0.01 mm)	Using Slip gauge set By Comparison Method	0 to 50 mm	13.60 µm



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61	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C: 0.01 mm)	Using Micrometer Check Set, Slip Gauge, Length Bar by Comparison Method	50 mm to 1000 mm	45 µm
62	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Digital Micrometer by comparison method	0.05 mm to 1 mm	2.39 µm
63	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Flakiness Gauge (Aperture Diameter)	Digital Caliper by Comparison Method	Upto 100 mm	42.63 µm
64	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Form Gauges (Diameter)	Using Profile Projector by comparison method	Upto 100 mm	10.5 µm
65	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Form Gauges (Length)	Using Profile Projector by comparison method	Upto 100 mm	24 µm
66	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside Micrometer (L.C: 0.01mm)	Using Slip Gauge & Accessories, Dial Gauge and Comparator stand by Comparison method	25 mm to 500 mm	22 µm



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67	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Rod (Length & Parallelism)	Using Slip Gauge Set, Length Bar Set and Inductive Probe by Comparison Method	50 mm to 375 mm	19 µm
68	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Mould cup of Vicat Apparatus	Using Digital Caliper By comparison method	Upto 100 mm	54.2 µm
69	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pistol Caliper (L.C.: 0.1 mm)	Using Slip Gauge and Length Bar set	0 to 200 mm	65 µm
70	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug gauge	Using Slip gauge and comparator stand, LVDT By comparison Method	10 mm to 50 mm	5 µm
71	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Dial Gauge (L.C: 0.01 mm)	Using Dial Calibration Tester by Comparison Method	0 to 25 mm	9 µm
72	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Type Dial Gauge (L.C: 0.001 mm)	Using Dial Calibration Tester By Comparison Method	0 to 12 mm	5 µm



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73	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Radius Gauge	Using Profile Projector by comparison method	1 mm to 25 mm	14.7 μm
74	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Scale of Vicat Apparatus	Using Scale & Tape Calibration Unit by comparison method	Upto 50 mm	350.55 μm
75	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Slump Cone (Length)	Using Digi Caliper By Comparison Method	100 mm to 300 mm	146.75 μm
76	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap gauge	Using Slip gauge By comparison method	5 mm to 100 mm	5 μm
77	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Scale (L.C: 0.5 mm and coarser)	Using Scale & Tape Calibration Unit by Comparison Method	0 to 1000 mm	350 .55 μm
78	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Steel Tape/Measuring tape /Pie Tape (L.C: 1 mm)	Using Steel Scale & Tape Calibrator by comparison method	0 to 50 m	(386 sqrt L/ 1000) μm



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79	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Taper Scale	Using Profile Projector by Comparison Method	Upto 15 mm	43.5 µm
80	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Foil	Using LVDT Probe by Direct Method	50 µm to 2000 µm	5.5 µm
81	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Profile Projector By Comparison Method	0.05 mm to 4 mm	10 µm
82	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Digital Caliper by comparison method	4 mm to 75 mm	57.2 µm
83	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Digital Caliper By Comparison Method	75 mm to 125 mm	76.5 µm
84	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Ultrasonic Thickness Gauge (L.C: 0.1 mm)	Using Slip Gauge Set By Comparison Method	1 mm to 100 mm	170.9 µm



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85	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper (L.C: 0.01 mm)	Using slip gauge and length bar By Comparison Method	0 to 1000 mm	22 µm
86	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper (L.C: 0.01 mm)	Using slip gauge and length bar By Comparison Method	0 to 300 mm	15.89 µm
87	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Depth Gauge	Using slip gauge and Length bars by Comparison method	0 to 300 mm	19.9 µm
88	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Height Gauge (L.C.: 0.02 mm)	Using Slip Gauges and Length Bar Set	0 to 600 mm	47 µm
89	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Welding Gauge (Angle)	Using Profile Projector by comparison method	Upto 60 °	34.7 minutes of arc
90	MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Welding Gauge/ Hi Lo gauge/ Weld fillet gauge /Bridge Cam Gauge (Length) (L.C: 1 mm)	Using Steel Scale & Tape Calibrator	Upto 200 mm	290.3 µm



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91	MECHANICAL-PRESSURE INDICATING DEVICES	Digital / Dial Pressure Gauge (Hydraulic)	Using Digital Pressure Gauge with Comparator Pump by Comparison Method as per DKD R6-1	0 to 1000 bar	4.2 bar
92	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Pressure Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	0 to 2 bar	0.0041 bar
93	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Pressure Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	0 to 20 bar	0.81 bar
94	MECHANICAL-PRESSURE INDICATING DEVICES	Vacuum Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Vacuum Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	(-)0.85 bar to 0	0.011 bar
95	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.001 kg)	Using F1 Class Weights based on OIML R 76	3 kg to 30 kg	800 mg
96	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.01 g)	Using F1 Class Weights based on OIML R 76	0 to 200 g	6.91 mg
97	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.1 g)	Using F1 Class Weight based on OIML R 76	200 g to 3000 g	677 mg



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98	MECHANICAL- WEIGHTS	Accuracy Class M1 & Coarser	Using F1 Class Standard weights and Digital Weighing Balance (readability : 1 mg) by ABBA Method as per OIML R 111-1: 2004	200 g	2.2 mg
99	MECHANICAL- WEIGHTS	Accuracy Class M1 & Coarser	Using F1 Class Standard weights and Digital Weighing Balance (readability : 0.01 g) by ABBA Method as per OIML R 111-1: 2004	5 kg	54 mg
100	MECHANICAL- WEIGHTS	Accuracy Class M2 & coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 0.01 g) by ABBA Method as per OIML R 111-1: 2004	1 kg	34 mg
101	MECHANICAL- WEIGHTS	Accuracy Class M2 & Coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 1 mg) by ABBA Method as per OIML R 111-1: 2004	100 g	2.2 mg
102	MECHANICAL- WEIGHTS	Accuracy Class M2 & Coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 0.01 g) by ABBA Method as per OIML R 111-1: 2004	2 kg	54 mg



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103	MECHANICAL- WEIGHTS	Accuracy Class M2 & Coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 0.1 g) by ABBA Method as per OIML R 111-1: 2004	20 kg	0.9 g
104	MECHANICAL- WEIGHTS	Accuracy Class M3 & coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 1 mg) by ABBA Method as per OIML R 111-1: 2004	1 g	1.7 mg
105	MECHANICAL- WEIGHTS	Accuracy Class M3 & Coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 0.1 g) by ABBA Method as per OIML R 111-1: 2004	10 kg	0.9 g
106	MECHANICAL- WEIGHTS	Accuracy Class M3 & coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 1 mg) by ABBA Method as per OIML R 111-1: 2004	2 g	2.2 mg
107	MECHANICAL- WEIGHTS	Accuracy class M3 & coarser	Using F1 Class Standard Weights and Digital Weighing Balance (readability : 1 mg by ABBA Method as per OIML R 111-1: 2004	50 g	5.7 mg



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108	MECHANICAL-WEIGHTS	Accuracy class M3 & coarser	Using F1 Class Standard weights and Digital Weighing Balance capacity (readability : 0.01 g) by ABBA Method as per OIML R 111-1: 2004	500 g	28 mg
109	THERMAL-TEMPERATURE	Liquid in Glass Thermometer	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Silicon Oil Bath by Comparison Method	50 °C to 245 °C	2.4 °C
110	THERMAL-TEMPERATURE	RTD / Thermocouple with Indicator / Recorder / Data Logger / Digital Thermometer, Dial Thermometer, Temperature Gauge	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Dry Block Calibrator by Comparison Method	(-)15 °C to 50 °C	0.6 °C
111	THERMAL-TEMPERATURE	RTD Sensor / Thermocouple with Indicator / Recorder / Data Logger / Digital / Dial Thermometer, Temperature Gauge	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Silicon Oil Bath by Comparison Method	50 °C to 250 °C	2.4 °C
112	THERMAL-TEMPERATURE	Temperature Indicator With Sensor Of Furnace, Muffle Furnace, Dry Block Furnace (Single Position)	Using S-Type Thermocouple with Temp Indicator by Comparison Method	250 °C to 1000 °C	3.1 °C



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113	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Oven, Chamber, Incubator (non Medical Purpose only), Liquid Bath, Dry Block Furnace - Single Position Calibration	Using 4 Wire RTD (Pt 100) with Temperature Indicator by Comparison Method	(-)15 °C to 250 °C	0.9 °C
114	THERMAL-TEMPERATURE	Thermocouple with Indicator / Recorder / Data Logger	Using S-Type Thermocouple with Temperature Indicator and Dry Block Calibrator by Comparison Method	>250 °C to 1000 °C	3.2 °C



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Site Facility					
1	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	1 mA to 10 mA	0.61 % to 0.8 %
2	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Current (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	10 mA to 10 A	0.8 % to 0.4 %
3	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Voltage (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	1 mV to 100 mV	4.75 % to 0.5 %
4	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Measure)	AC Voltage (50 Hz & 1 kHz)	Using 6½ Digit Digital Multimeter by Direct Method	100 mV to 1000 V	0.5 % to 0.6 %
5	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current (50 Hz & 1 kHz)	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.3 % to 0.22 %
6	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Current (50 Hz & 1 kHz)	Using Multifunction Calibrator with Current Coil by Direct Method	10 A to 1000 A	1.73 % to 0.96 %



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7	ELECTRO- TECHNICAL- Alternating Current (< 1 GHz) (Source)	AC Voltage (50 Hz & 1 kHz)	Using Calibrator by Direct Method	1 mV to 1000 V	2.66 % to 0.39 %
8	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Digital Multimeter by Direct Method	1 mA to 100 mA	0.62 % to 0.80 %
9	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Digital Multimeter by Direct Method	100 mA to 10 A	0.8 % to 0.5 %
10	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Digital Multimeter by Direct Method	1 mV to 100 mV	0.44 % to 0.36 %
11	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Digital Multimeter by Direct Method	100 mV to 1000 V	0.36 % to 0.48 %
12	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	1 Mohm to 20 Mohm	1.04 %
13	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	100 Ohm to 1 Mohm	0.15 % to 1.04 %



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14	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	20 Mohm to 1000 Mohm	1.04 % to 2.37 %
15	ELECTRO- TECHNICAL- DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 6½ Digit Digital Multimeter by Direct Method	1 Ohm to 100 Ohm	0.36 % to 0.15 %
16	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.65 % to 0.82 %
17	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator with Current Coil by Direct Method	10 A to 1000 A	1.98 % to 1 %
18	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	DC Voltage	Using Calibrator by Direct Method	1 mV to 1000 V	1.4 % to 0.5 %
19	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	1 kohm to 10 kohm	0.12 %
20	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	1 Mohm to 10 Mohm	0.13 % to 1.12 %



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21	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	10 kohm to 100 kohm	0.12 %
22	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	10 Mohm to 100 Mohm	1.12 % to 1.05 % %
23	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	100 kohm to 1000 kohm	0.12 % to 0.13 % %
24	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire)	Using Decade Resistance Box by Direct Method	100 Mohm to 1000 Mohm	1.05 % to 2.6 %
25	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	1 Gohm	2.47 %
26	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	100 Gohm	3.2 %
27	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	2 Gohm	2.4 %



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28	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	5 Gohm	2.4 %
29	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (2 Wire) @ 1000 V	Using High Resistance Box by Direct Method	50 Gohm	3.2 %
30	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 wire)	Using Precision Decade Resistance Box by Direct Method	1 mohm to 10 mohm	5.83 % to 2.92 %
31	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	1 Ohm to 10 Ohm	0.23 % to 0.12 %
32	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Precision Decade Resistance Box by Direct Method	10 mohm to 100 mohm	2.91 % to 1.74 %
33	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	10 Ohm to 100 Ohm	0.12 %
34	ELECTRO- TECHNICAL- DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Precision Decade Resistance Box by Direct Method	100 mohm to 1000 mohm	1.74 % to 0.25 %



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35	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (4 Wire)	Using Decade Resistance Box by Direct Method	100 Ohm to 1000 Ohm	0.12 %
36	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.5 °C
37	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.51 °C
38	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N Type Thermocouple	Using Temperature Calibrator by Direct Method	(-)200 °C to 1200 °C	0.54 °C
39	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.17 °C
40	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	(-)200 °C to 600 °C	0.63 °C
41	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	600 °C to 800 °C	0.6 °C



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42	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Measure)	S Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.16 °C
43	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	J Type Thermocouple	Using Universal Calibrator by Direct Method	(-)-200 °C to 1200 °C	1.35 °C
44	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	K Type Thermocouple	Using Universal Calibrator by Direct Method	(-)-200 °C to 1200 °C	1.3 °C
45	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	R Type thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	1.96 °C
46	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	RTD (Pt 100)	Using Universal Calibrator by Direct Method	(-)-200 °C to 800 °C	0.73 °C
47	ELECTRO- TECHNICAL- TEMPERATURE SIMULATION (Source)	S Type Thermocouple	Using Universal Calibrator by Direct Method	50 °C to 1700 °C	2.04 °C
48	ELECTRO- TECHNICAL- TIME & FREQUENCY (Measure)	Frequency	Using Multimeter by Direct Method	10 Hz to 10 kHz	0.04 %



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49	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Calibrator by Direct Method	45 Hz to 1000 Hz	0.32 % to 0.18 %
50	MECHANICAL-ACCELERATION AND SPEED	Non Contact type (RPM Indicator with Sensor of Rotating Device (Non medical Devices only)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	50000 RPM to 90000 RPM	56 RPM
51	MECHANICAL-ACCELERATION AND SPEED	Non-Contact type (RPM Indicator with sensor of rotating Devices) (Non medical Devices only)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	10000 RPM to 50000 RPM	45 RPM
52	MECHANICAL-ACCELERATION AND SPEED	Non-Contact type (RPM indicator with sensor of Rotating devices, Centrifuge, Tachometer calibrator)	Using Standard Digital Tachometer & Tachometer Calibrator by Comparison Method	100 RPM to 10000 RPM	16.7 RPM
53	MECHANICAL-PRESSURE INDICATING DEVICES	Digital / Dial Pressure Gauge (Hydraulic)	Using Digital Pressure Gauge with Comparator Pump by Comparison Method as per DKD R6-1	0 to 1000 bar	4.2 bar
54	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Pressure Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	0 to 2 bar	0.0041 bar



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55	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Pressure Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	0 to 20 bar	0.81 bar
56	MECHANICAL-PRESSURE INDICATING DEVICES	Vacuum Gauge & Transducer / Transmitter / Differential Pressure Transmitter with Indicator	Using Pneumatic Pump, Standard Vacuum Gauge and 6½ Digit Digital Multimeter by DKD-R6-1	(-)0.85 bar to 0	0.011 bar
57	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Test Machine (L.C: 0.05 kN and coarser, Class 1 and Coarser) (Compression Mode)	Using Force Proving Instrument by Comparison Method as per IS 1828:2022 (Part 1)	5 kN to 50 kN	0.51 %
58	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Test Machine (L.C: 1 kN and coarser, Class 1 and Coarser) (Compression Mode)	Using force proving Ring by Comparison Method as per IS 1828:2022 (Part 1)	50 kN to 500 kN	0.56 %
59	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Test Machine (L.C: 1 kN and coarser, Class 1 and Coarser) (Compression Mode)	Using force proving Ring by Comparison Method as per IS 1828:2022 (Part 1)	500 kN to 2000 kN	0.72 %
60	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.001 kg)	Using F1 Class Weights based on OIML R 76	3 kg to 30 kg	800 mg



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Accreditation Standard

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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)(±)
61	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.01 g)	Using F1 Class Weights based on OIML R 76	0 to 200 g	6.91 mg
62	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Class II & Coarser (Readability : 0.1 g)	Using F1 Class Weight based on OIML R 76	200 g to 3000 g	677 mg
63	THERMAL-TEMPERATURE	Liquid in Glass Thermometer	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Silicon Oil Bath by Comparison Method	50 °C to 245 °C	2.4 °C
64	THERMAL-TEMPERATURE	RTD / Thermocouple with Indicator / Recorder / Data Logger / Digital Thermometer, Dial Thermometer, Temperature Gauge	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Dry Block Calibrator by Comparison Method	(-)15 °C to 50 °C	0.6 °C
65	THERMAL-TEMPERATURE	RTD Sensor / Thermocouple with Indicator / Recorder / Data Logger / Digital / Dial Thermometer, Temperature Gauge	Using 4 Wire RTD (Pt 100) with Temperature Indicator and Silicon Oil Bath by Comparison Method	50 °C to 250 °C	2.4 °C
66	THERMAL-TEMPERATURE	Temperature Indicator With Sensor Of Furnace, Muffle Furnace, Dry Block Furnace (Single Position)	Using S-Type Thermocouple with Temp Indicator by Comparison Method	250 °C to 1000 °C	3.1 °C



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67	THERMAL- TEMPERATURE	Temperature Indicator with sensor of Oven, Chamber, Incubator (non Medical Purpose only), Liquid Bath, Dry Block Furnace - Single Position Calibration	Using 4 Wire RTD (Pt 100) with Temperature Indicator by Comparison Method	(-)15 °C to 250 °C	0.9 °C
68	THERMAL- TEMPERATURE	Thermocouple with Indicator / Recorder / Data Logger	Using S-Type Thermocouple with Temperature Indicator and Dry Block Calibrator by Comparison Method	>250 °C to 1000 °C	3.2 °C

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