National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : MSIR INDIA PRIVATE LIMITED, #40, 2ND FLOOR, 2ND STREET, PADMAVATHI NAGAR, CHROMEPET, CHENNAI, KANCHIPURAM, TAMIL NADU, 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)(±)
Permanent Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	3 Phase 4 Wire AC Active Energy @ 50 Hz (63.5 V to 220 V, 0.5 A to 5 A,0.5 Lead / Lag to UPF)	Using Standard Energy Meter and Three Phase Energy Source By Comparison Method	15.875 Wh to 3.33 kWh	0.25 % to 0.26 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.3 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 6½ Digit Multimeter and Multi Product Calibrator by Comparison Method	1 A to 10 A	0.3 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mA to 100 mA	0.14 % to 0.2 %
5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 mA to 100 mA	0.14 % to 0.2 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 µA to 100 µA	0.53 % to 0.2 %

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7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 µA to 100 µA	0.53 % to 0.2 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 µA to 1 mA	0.13 % to 0.14 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 µA to 1 mA	0.13 % to 0.14 %
10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 mA to 1 A	0.2 % to 0.21 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 mA to 1 A	0.2 % to 0.21 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using Shunt With Multimeter by Direct Method	10 A to 30 A	0.07 % to 0.08 %

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13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50Hz	Using Shunt With Multimeter by Direct Method	30 A to 100 A	0.08 % to 0.25 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 mV to 10 mV	0.5 % to 0.38 %
15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mV to 10 mV	0.5 % to 0.63 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 V to 10 V	0.02 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 V to 10 V	0.02 % to 0.01 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 mV to 1 V	0.05 % to 0.02 %

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19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 mV to 1 V	0.63 % to 0.02 %
20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 V to 100 V	0.01 % to 0.04 %
21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 V to 100 V	0.02 % to 0.04 %
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 V to 750 V	0.03 % to 0.05 %
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 V to 750 V	0.04 % to 0.05 %
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 A to 20 A	0.08 % to 0.31 %

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25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 mA to 1 A	0.14 % to 0.08 %
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	100 µA to 1 mA	0.31 % to 0.14 %
27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	30 µA to 100 µA	1.58 % to 0.31 %
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC High Current @ 50 Hz	Using Multiproduct Calibrator with Current Coil by Direct Method	20 A to 1000 A	0.45 % to 0.31 %
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power @ 50 Hz (60 V to 240 V, 0.1 A to 20 A, Lead / Lag 0.5 to UPF)	Using Multiproduct Calibrator by Direct Method	6 W to 4.8 kW	0.2 %
30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power Factor @ 50 Hz	Using Multiproduct Calibrator by Direct Method	0.2 (Lead / Lag) to UPF	0.0036 PF
31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 1 kHz to 100 kHz	Using Multiproduct Calibrator by Direct Method	1 mV to 10 mV	2.56 % to 0.56 %

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32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 1 kHz to 100 kHz	Using Multiproduct Calibrator by Direct Method	10 mV to 300 mV	0.56 % to 0.12 %
33	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 mV to 10 mV	2.37 % to 0.11 %
34	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	10 mV to 300 mV	0.11 % to 0.03 %
35	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 10 kHz	Using Multiproduct Calibrator by Direct Method	300 mV to 1000 V	0.05 % to 0.04 %
36	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 100 kHz	Using Multiproduct Calibrator by Direct Method	300 mV to 100 V	0.11 % to 0.30 %
37	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	0.22 nF to 1 nF	2.84 %
38	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	1 µF to 100 µF	0.5 %

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39	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	1 nF to 1 µF	0.6 % to 0.5 %
40	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Inductance @ 1 kHz	Using Standard Inductance Box by Direct Method	0.1 mH to 10 H	2.43 %
41	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	1 µA to 10 µA	0.7 % to 0.074 %
42	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 µA to 10 µA	0.7 % to 0.074 %
43	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.02 % to 0.025 %
44	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter, Multiproduct Calibrator by Comparison Method	1 A to 10 A	0.02 % to 0.025 %
45	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 µA to 10 mA	0.074 % to 0.006 %

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46	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	10 µA to 10 mA	0.074 % to 0.006 %
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with Multimeter by V/I Method	10 A to 30 A	0.025 % to 0.29 %
48	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 mA to 1 A	0.006 % to 0.02 %
49	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	10 mA to 1 A	0.006 % to 0.02 %
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with Multimeter by Direct Method	30 A to 100 A	0.29 % to 0.30 %
51	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mV to 1 V	0.063 % to 0.0008 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	1 mV to 1 V	0.063 % to 0.0008 %

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53	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter , Multiproduct Calibrator by Comparison Method	1 V to 100 V	0.0008 % to 0.0009 %
54	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	1 V to 100 V	0.0008 % to 0.0009 %
55	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	100 V to 1000 V	0.0009 % to 0.0011 %
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 V to 1000 V	0.0009 % to 0.0012 %
57	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 Mohm to 10 Mohm	0.003 % to 0.12 %
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 8½ Digit Multimeter by Direct Method	1 Mohm to 10 Mohm	0.003 % to 0.12 %
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter by Direct Method	10 Mohm to 1 Gohm	0.12 % to 0.62 %

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60	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 Mohm to 1 Gohm	0.12 % to 0.65 %
61	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 8½ Digit Multimeter by Direct Method	1 kohm to 1 Mohm	0.008 % to 0.002 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 kohm to 1 Mohm	0.008 % to 0.003 %
63	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter by Direct Method	1 Ohm to 1 kohm	0.002 % to 0.008 %
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 Ohm to 1 kohm	0.01 % to 0.008 %
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 8½ Digit Multimeter by Direct Method	100 mohm to 1 Ohm	0.12 % to 0.01 %
66	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter, Multiproduct Calibrator by Comparison Method	100 mohm to 1 ohm	0.12 % to 0.01 %

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67	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	10 µA to 100 µA	0.26 % to 0.05 %
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	100 µA to 329 mA	0.05 % to 0.014 %
69	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	2.99 A to 20 A	0.05 % to 0.31 %
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	329 mA to 2.99 A	0.014 % to 0.05 %
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC High Current	Using Multiproduct Calibrator and clamp coil adaptor by Direct Method	20 A to 1000 A	0.55 % to 0.32 %
72	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Power (1 V to 1000 V, 0.1 A to 20 A)	Using Multiproduct Calibrator by Direct Method	0.1 W to 1 W	0.6 % to 0.12 %
73	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Power (1 V to 1000 V, 0.1 A to 20 A)	Using Multiproduct Calibrator by Direct Method	1 W to 20 kW	0.12 % to 0.06 %

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74	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire / 4 wire)	Using Multiproduct Calibrator by Direct Method	10 Ohm to 1 Mohm	0.006 % to 0.0043 %
75	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	1 Mohm to 10 Mohm	0.0043 % to 0.61 %
76	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	10 Gohm	3.5 %
77	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	10 Mohm to 100 Mohm	0.61 %
78	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	100 Mohm to 1 Gohm	0.61 % to 1.78 %
79	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	2 Gohm	3.5 %
80	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	20 Gohm	3.5 %

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81	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	1 mohm	1.54 %
82	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 Wire)	Using Multiproduct Calibrator by Direct Method	1 Ohm to 10 Ohm	0.022 % to 0.006 %
83	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	10 mohm	1.24 %
84	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	100 µohm	1.39 %
85	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Multiproduct Calibrator by Direct Method	100 mohm to 1 Ohm	0.61 % to 0.022 %
86	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance - (2 Wire @ 1000 V)	Using Standard Meg Ohm Box By Direct Method	200 Gohm	3.5 %
87	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance - (2 Wire @ 1000 V)	Using Standard Meg Ohm Box By Direct Method	50 Gohm	3.5 %

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88	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	1 mV to 329 mV	0.18 % to 0.0041 %
89	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	3.29 V to 1000 V	0.0014 % to 0.0024 %
90	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	329 mV to 3.29 V	0.0041 % to 0.0015 %
91	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Amplitude (vertical Axis Deflection Factor) AC 1 kHz Square Wave	Using Multiproduct Calibrator by Direct Method	1 mVpp to 130 Vpp	1.5 % to 0.18 %
92	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Bandwidth	Using Multiproduct Calibrator by Direct Method	50 kHz to 1.1 GHz	3.8 % to 6.1 %
93	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Time base	Using Multiproduct Calibrator by Direct Method	1 ns to 5 s	0.2 % to 0.1 %
94	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD	Using 6 ½ Digit Multimeter By Direct Method	(-)190 °C to 600 °C	0.3 °C

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95	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple B Type	Using Multiproduct Calibrator by Direct Method	600 °C to 1800 °C	0.87°C
96	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple E Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1000 °C	0.6°C
97	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple J Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1200 °C	0.32 °C
98	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple K Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
99	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple N Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
100	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple R Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.94°C
101	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple S Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.94°C

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102	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple T Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 400 °C	0.69°C
103	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 800 °C	0.27°C
104	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple B Type	Using Multiproduct Calibrator by Direct Method	600°C to 1800°C	0.53°C
105	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple E Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1000 °C	0.6 °C
106	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple J Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1200 °C	0.32 °C
107	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple K Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
108	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple N Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1300 °C	0.47°C

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109	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple R Type	Using Multiproduct Calibrator by Direct Method	0°C to 1750°C	0.67°C
110	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple S Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.55°C
111	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple T Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 400 °C	0.63°C
112	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using Frequency Counter By Direct Method	1 Hz to 200 MHz	0.006 % to 0.0012 %
113	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Timer Calibrator By Comparison Method	1 s to 60 s	0.11 s
114	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Timer Calibrator By Comparison Method	60 s to 24 Hr	0.11 s to 1.61 s
115	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct Method	1 Hz to 10 Hz	0.06 % to 0.016 %

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116	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Signal Generator by Direct Method	1 MHz to 1 GHz	0.006 % to 0.06 %
117	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct Method	10 Hz to 1 MHz	0.016 % to 0.006 %
118	FLUID FLOW-FLOW MEASURING DEVICES	Hot Wire Anemometer / Air Velocity Meter	Using Hot Wire Anemometer and Wind Tunnel by Comparison Method	> 3 m/s to 17.5 m/s	5.19 %
119	FLUID FLOW-FLOW MEASURING DEVICES	Hot Wire Anemometer / Air Velocity Meter	Using Hot Wire Anemometer and Wind Tunnel by Comparison Method	1 m/s to 3 m/s	6 %
120	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow Measuring Device	Using Standard Gas Flow Meter by Comparison Method	10 LPM to 80 LPM	2.15 %
121	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow Measuring Device	Using Standard Gas Flow Meter by Comparison Method	2 LPM to 10 LPM	5.33 %

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122	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow measuring Device	Using Standard Gas Flow Meter by Comparison Method	80 LPM to 500 LPM	2.05 %
123	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Contact mode)	Using Digital Tachometer and RPM Source By Comparison Method	1000 rpm to 6000 rpm	9.6 rpm
124	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Contact mode)	Using Digital Tachometer and RPM Source by Comparison Method	12 rpm to 1000 rpm	1.1 rpm
125	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non-Contact)	Using Digital Tachometer and RPM Source by Comparison Method	1000 rpm to 10000 rpm	8.5 rpm
126	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non-Contact)	Using Digital Tachometer and RPM Source by Comparison Method	10000 rpm to 90000 rpm	58 rpm
127	MECHANICAL-ACCELERATION AND SPEED	Tachometer (Non-Contact)	Using Digital Tachometer and RPM Source By Comparison Method	12 rpm to 1000 rpm	2.4 rpm
128	MECHANICAL-ACOUSTICS	Sound Level Meter @ 1 kHz	Using Sound Level Calibrator by Direct Method	114 dB	0.62 dB
129	MECHANICAL-ACOUSTICS	Sound Level Meter @ 1 kHz	Using Sound Level Calibrator by Direct Method	94 dB	0.62 dB

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130	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Analog / Dial / Digimatic Vernier Caliper (L.C.: 0.01 mm)	Using Slip Gauge Set Grade '0', Caliper Checker & Length bar by Comparison Method	0 to 1000 mm	14.6 µm
131	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Analog / Dial / Digital / Height Gauge (L.C.: 0.01 mm)	Using Slip Gauge Set Grade '0', Caliper Checker, Length bar & Surface Plate by Comparison Method	0 to 1000 mm	15.6 µm
132	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bevel Protractor (L.C.: 5 minute of arc)	Using Angle Gauge Set, Profile Projector by Direct Method	0 ° to 90 °	6.7 minute of arc
133	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C.: 0.001 mm)	Using Standard Thickness Foils by Comparison Method	0.009 mm to 0.1 mm	1.35 µm
134	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C.: 0.001 mm)	Using Standard Thickness Foils by Comparison Method	0.1 mm to 1 mm	7.9 µm
135	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C.: 0.001 mm)	Using Standard Thickness Foils by Comparison Method	1 mm to 2 mm	13.6 µm

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136	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Comparator Stand (For Flatness)	Using Lever Dial Gauge By Comparison Method	50 mm X 50 mm to 300 mm X 200 mm	4.2 µm
137	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer (L.C.: 0.01 mm)	Using Slip Gauge Grade '0' by Direct Method	0 to 100 mm	14.71 µm
138	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial / Digital Thickness gauge (L.C. : 0.01 mm)	Using Slip Gauge Set Grade ‘ 0’ by direct method	0 to 10 mm	6.6 µm
139	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Bore Gauge / Bore Gauge (For Transmission) (L.C.: 0.01 mm)	Using Dial Calibration Tester & Dial Indicator By Direct Method	0 to 1.2 mm	3.3 µm
140	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm)	Using Slip Gauge Set Grade '0', Optical Flat & Length bar by Direct Method	0 to 300 mm	2.41 µm
141	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Digimatic Micrometer By Direct Method	0.05 mm to 1 mm	4.2 µm

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142	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Flakiness / Elongation Gauge	Using Profile Projector by Comparison Method	4 mm to 100 mm	10 µm
143	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Foils	Using Electronic Probe, Comparator Stand by Comparison Method	0.009 mm to 0.1 mm	1.07 µm
144	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Foils	Using Electronic Probe, Comparator Stand by comparison method	0.1 mm to 1.89 mm	4.7 µm
145	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Industrial Gauge Plain Work Piece (Angle)	Using Profile Projector by Comparison Method	0 ° to 360 °	35 minute of arc
146	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Industrial Gauge Plain Work Piece (Length)	Using Profile Projector by Comparison Method	0 to 200 mm	20 µm
147	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Internal Micrometer-Stick Type (L.C.: 0.001 mm)	Using Slip Gauges, Long Slip Gauges & Slip Gauge Accessories by Comparison Method	0 to 300 mm	4.5 µm

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148	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial Indicator (L.C. : 0.01 mm)	Using Dial Calibration Tester & Electronic Comparator by Direct Method	0 to 0.8 mm	5.8 µm
149	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Pin	Using Slip Gauge set Grade '0' & Electronic comparator By Comparison Method	0.05 mm to 20 mm	4.2 µm
150	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Steel Rule / Steel Scale (L.C.: 1 mm)	Using Tape & Scale Measuring Machine by Comparison method	0 to 2000 mm	289 x Sqrt(L/1000) µm, L in mm
151	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Tape / Pie Tape (L.C.: 1 mm)	Using Tape & Scale Measuring Machine by Comparison method	0 to 50 m	477 *Sqrt(L/1000)µm, L in mm
152	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pitch Gauge (Angle)	Using Profile Projector by Comparison Method	0 ° to 60 °	6 minute of arc
153	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pitch Gauge (Linear)	Using Profile Projector by Comparison Method	0 to 7 mm	10 µm

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154	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Slip Gauge Set Grade '0' & Electronic Comparator By Comparison Method	2 mm to 100 mm	5.6 µm
155	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Dial / Digital Indicator (L.C. : 0.001 mm)	Using Dial Calibration Tester, Electronic Comparator ' by Direct Method	0 to 25 mm	2.0 µm
156	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Dial /Digital Indicator (L.C.: 0.001 mm)	Using Dial Calibration Tester, Electronic Comparator by Direct Method	0 to 50 mm	5 µm
157	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Radius Gauge	Using Profile Projector by Comparison Method	0 to 25 mm	9.4 µm
158	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Gauge / Gap Gauge	Using Slip Gauge Set Grade ' 0' By Direct Method	3 mm to 150 mm	5.5 µm
159	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Standard Wire Gauge	Using Profile Projector by Comparison Method	0 to 10 mm	21 µm

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160	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Taper Scale	Using Profile Projector by Comparison Method	0 to 150 mm	58.11 µm
161	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Template (Length, Width, Thickness)	Using Slip Gauge set Grade '0', Electronic Comparator Stand By Direct Method	2.5 mm X 2.5 mm X 1 mm to 200 mm X 200 mm X 10 mm	19.4 µm
162	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Digital Caliper By Comparison method	20 mm to 125 mm	90 µm
163	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieve	Using Profile Projector by Comparison Method	32 µm to 20 mm	6.9 µm
164	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Ultrasonic Thickness Gauge (L.C.: 0.01 mm)	Using Steel Slip Gauges by Comparison Method	0.5 mm to 100 mm	20.21 µm
165	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Depth Gauge / Depth Vernier (L.C: 0.01mm)	Using Slip Gauge set grade 0 by direct method	0 to 150 mm	10 µm

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166	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Weld Filet Gauge (Radius)	Using Profile Projector by Comparison Method	0 to 15 mm	90 µm
167	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	DIAL CALIBRATION TESTER / MICROMETER HEAD L.C : 0.0001 mm	Using Electronic Comparator By Direct Method	0 to 25 mm	1.1 µm
168	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Electronic Probe / LVDT Probe (L.C.: 0.0001 mm)	Using Grade '0' Gauge Blocks by Comparison Method	0 to 25 mm	3.5 µm
169	MECHANICAL-DUROMETER	Rubber Hardness Tester - Shore A, B, E, O	Using Load Cell With Indicator (Spring Force Method) as per ASTM D2240	0 to 100 Shore	0.66 Shore
170	MECHANICAL-DUROMETER	Rubber Hardness Tester - Shore C, D, DO	Using Load Cell with Indicator (Spring Force Method) as per ASTM D2240	0 to 100 Shore	0.6 Shore
171	MECHANICAL-MOBILE FORCE MEASURING SYSTEM	Push Pull Gauge	Using Newton Weights by Direct Method as per VDI / VDE 2624	10 N to 1000 N	0.53 %
172	MECHANICAL-PRESSURE INDICATING DEVICES	Absolute Pressure Gauge, Barometer, Manometer, Absolute Pressure Calibrator, Pressure Switch, Pressure Transducer, Transmitters (Medium: Pneumatic)	Using Barometer, Absolute Pressure Calibrator, 5½ DMM by Comparison Method as per DKD R6-1	200 mbar to 1050 mbar	1.6 mbar

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173	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure Dial / Digital Pressure Gauge, Magnehelic Gauge (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump & 5½ DMM By Comparison Method as Per DKD R-6-1	(-) 137 mbar to 137 mbar	0.3 mbar
174	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure Dial / Digital Pressure Gauge, Magnehelic Gauge (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump By Comparison Method as Per DKD R-6-1	(-) 20 mbar to 20 mbar	0.078 mbar
175	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter (Medium: Hydraulic)	Using Digital Pressure Gauge and Hydraulic Pump & 5½ DMM by Comparison Method as Per DKD R-6-1	0 to 700 bar	0.3 bar
176	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump & 5½ DMM By Comparison Method as per DKD R-6-1	0 to 20 bar	0.017 bar
177	MECHANICAL-PRESSURE INDICATING DEVICES	Vacuum Pressure: Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter	Using Digital Pressure Gauge, Pneumatic Pump, Electric Vacuum Pump & 5 ½ DMM By Comparison Method as per ISO 3567 & ISO 27893	(-) 1 bar to 0	0.011 bar
178	MECHANICAL-TORQUE GENERATING DEVICES	Torque Wrench (Type I - Class B, C, Type II - Class A, B), Torque Screw Driver (Type I - Class D, E, Type II - Class D, E)	Using Torque Sensors and Motorized Torque Calibration System as per ISO 6789: 2017	0.2 Nm to 2 Nm	1.13 %

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179	MECHANICAL-TORQUE GENERATING DEVICES	Torque Wrench (Type I - Class B, C, Type II - Class A, B), Torque Screw Driver (Type I - Class D, E, Type II - Class D, E)	Using Torque Sensors and Motorised Torque Calibration System as per ISO 6789: 2017	2 Nm to 20 Nm	1.2 %
180	MECHANICAL-TORQUE GENERATING DEVICES	Torque Wrench (Type I - Class B, C, Type II - Class A, B), Torque Screw Driver (Type I - Class D, E, Type II - Class D, E)	Using Torque Sensors and Motorised Torque Calibration System as per ISO 6789: 2017	20 Nm to 200 Nm	1.2 %
181	MECHANICAL-TORQUE GENERATING DEVICES	Torque Wrench (Type I- Class B, C, Type II - Class A, B), Torque Screw Driver (Type I - Class D, E, Type II - Class D, E)	Using Torque Sensors and Motorised Torque Calibration System as per ISO 6789: 2017	200 Nm to 2000 Nm	1 %
182	MECHANICAL-VOLUME	Burette, Pipette, Dispenser	Using Weighing Balance (Readability :0.01 mg) by Gravimetric Method based on ISO 4787:2021	1 ml to 10 ml	8 µl
183	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask, Graduated Jar, Dispenser	Using Weighing Balance (readability: 0.01 mg) by Gravimetric method based on ISO 4787:2021	10 ml to 100 ml	10 µl
184	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask, Graduated Jar, Dispenser	Using Weighing Balance (Readability: 1 mg) by Gravimetric Method based on ISO 4787:2021	100 ml to 1000 ml	0.07 ml

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185	MECHANICAL-VOLUME	Measuring Cylinder, Volumetric Flask, Graduated Jar, Dispenser	Using Weighing Balance (Readability: 100 mg) by Gravimetric Method based on ISO 4787:2021	1000 ml to 10000 ml	3 ml
186	MECHANICAL-VOLUME	Micropipette	Using Digital Balance (Readability: 0.001 mg) by Gravimetric Method based on ISO 8655 (Part 6):2022	>10 µl to 100 µl	0.08 µl
187	MECHANICAL-VOLUME	Micropipette	Using Digital Balance (Readability: 0.01 mg) by Gravimetric Method based on ISO 8655 (Part 6):2022	>100 µl to 1000 µl	1.51 µl
188	MECHANICAL-VOLUME	Micropipette	Using Digital Balance (Readability: 0.001 mg) by Gravimetric method based on ISO 8655 (Part 6):2022	1 µl to 10 µl	0.03 µl
189	MECHANICAL-VOLUME	Micropipette	Using Precision Balance (Readability: 0.1 mg) by Gravimetric Method based on ISO 8655 (Part 6):2022	1000 µl to 10000 µl	50 µl

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190	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser (Readability : 0.01 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	1 mg to 100 g	0.021 mg
191	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser (Readability : 0.1 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 220 g	0.3 mg
192	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser) (Readability : 0.001 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	1 mg to 5 g	0.06 mg
193	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class II & Coarser (Readability : 10 mg)	Using E1 and F1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 1000 g	16 mg
194	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class III & Coarser (Readability : 100 mg)	Using F1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 3 kg	67.89 mg
195	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class III & Coarser (Readability: 1 g)	Using F1 and M1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 20 kg	0.58 g
196	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class IIII & Coarser (Readability: 100 g)	Using F1 and M1 Accuracy Class Standard Weights as per OIML-R 76-1	0 to 300 kg	66.33 g

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197	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.001 mg) by ABBA Method as per OIML-R 111	1 g	0.0041 mg
198	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weights and Digital Balance (Readability : 0.001 mg) by ABBA Method as per OIML-R 111	1 mg	0.0015 mg
199	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	10 g	0.016 mg
200	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability:0.001 mg) by ABBA Method as per OIML-R 111	10 mg	0.0015 mg
201	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	100 g	0.02 mg

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202	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.001 mg) by ABBA Method as per OIML-R 111	100 mg	0.0025 mg
203	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	2 g	0.0097 mg
204	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.001 mg) by ABBA Method as per OIML-R 111	2 mg	0.0014 mg
205	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	20 g	0.017 mg
206	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability:0.001 mg) by ABBA Method as per OIML-R 111	20 mg	0.0015 mg

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207	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.1 mg) by ABBA Method as per OIML-R 111	200 g	0.095 mg
208	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability:0.001 mg) by ABBA Method as per OIML-R 111	200 mg	0.0016 mg
209	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	5 g	0.011 mg
210	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability:0.001 mg) by ABBA Method as per OIML-R 111	5 mg	0.0019 mg
211	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.01 mg) by ABBA Method as per OIML-R 111	50 g	0.014 mg

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212	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability: 0.001 mg) by ABBA Method as per OIML-R 111	50 mg	0.0025 mg
213	MECHANICAL-WEIGHTS	Accuracy class E2 & coarser	Using E1 Class Weight and Digital Balance (Readability:0.001 mg) by ABBA Method as per OIML-R 111	500 mg	0.0020 mg
214	MECHANICAL-WEIGHTS	Accuracy class F2 & Coarser	Using F1 Class Weight and Digital Balance (Readability: 1 mg) by ABBA Method as per OIML-R 111	1 kg	1.21 mg
215	MECHANICAL-WEIGHTS	Accuracy class F2 & Coarser	Using F1 Class Weight and Digital Balance (Readability: 0.01 g) by ABBA Method as per OIML-R 111	2 kg	9.2 mg
216	MECHANICAL-WEIGHTS	Accuracy class F2 & Coarser	Using F1 Class Weight and Digital Balance (Readability: 1 mg) by ABBA Method as per OIML-R 111	500 g	1.2 mg
217	MECHANICAL-WEIGHTS	Accuracy class M1 & Coarser	Using F1 Class Weight and Digital Balance (Readability: 0.1 g) by ABBA Method as per OIML-R 111	10 kg	0.14 g

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218	MECHANICAL-WEIGHTS	Accuracy class M1 & coarser	Using F1 Class Weight and Digital Balance (Readability: 0.1 g) by ABBA Method as per OIML-R 111:	20 kg	0.14 g
219	MECHANICAL-WEIGHTS	Accuracy class M2 & Coarser	Using F1 Class Weight and Digital Balance (Readability: 0.1 g) by ABBA Method as per OIML-R 111	5 kg	0.105 g
220	THERMAL-SPECIFIC HEAT & HUMIDITY	Temperature & Humidity Indicator with Sensor, Humidity Transmitter, Thermo Hygrometer	Using Humidity Chamber, Digital Temperature and Humidity Indicator with Sensor, 5½ DMM by Comparison Method	5 °C to 60 °C @ 50 %RH	0.35 °C
221	THERMAL-SPECIFIC HEAT & HUMIDITY	Temperature & Humidity Indicator with Sensor, Temperature & Humidity Transmitter, Thermo Hygrometer	Using Humidity Chamber, Digital Temperature and Humidity Indicator with Sensor, 5 1/2 DMM by Comparison Method	10 %RH to 95 %RH @ 25 °C	1.35 %RH
222	THERMAL-TEMPERATURE	Infrared / Non-Contact Thermometer (for non medical purpose only)	Using Non-Contact Pyrometer (emissivity : 0.95) and Black Body Source by Comparison Method	25 °C to 250 °C	3.94 °C
223	THERMAL-TEMPERATURE	Liquid In Glass Thermometer	Using Master RTD (Pt-100) with Indicator and Liquid Bath by Comparison Method	(-)80 °C to 50 °C	0.94 °C

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224	THERMAL-TEMPERATURE	Liquid In Glass Thermometer	Using Master RTD (Pt-100) With Indicator and Oil Bath by Comparison Method	50 °C to 250 °C	0.94 °C
225	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using RTD (Class 1/10 Din) With Indicator, Liquid Bath, 5½ DMM by Comparison Method	(-)80 °C to 0 °C	0.27 °C
226	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using Class-A RTD With Indicator, Dry Bath and 5½ DMM by Comparison Method	0 °C to 400 °C	0.35 °C
227	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using S Type Thermocouple With Indicator, Dry Bath and 5½ DMM by Comparison Method	400 °C to 1200 °C	1.92 °C
228	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Black Body Source	Using IR Pyrometer (emissivity: 0.95) by Comparison Method	25 °C to 250 °C	3.95 °C
229	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Black Body Source	Using IR Pyrometer (emissivity: 0.99) by Comparison Method	250 °C to 1200 °C	3.95 °C
230	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Temperature Bath / Dry Block Calibrator	Using RTD (PT 100) With Indicator by Comparison Method	(-)80 °C to 250 °C	0.27 °C

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231	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Temperature Bath / Dry Block Calibrator	Using Thermocouple Type S With Indicator by Comparison Method	250 °C to 600 °C	1.41 °C
232	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Temperature Bath / Dry Block Calibrator - Single Position Calibration	Using Thermocouple S type With Indicator by Comparison Method	600 °C to 1200 °C	2.03 °C

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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	3 Phase 4 Wire AC Active Energy @ 50 Hz (63.5 V to 220 V, 0.5 A to 5 A,0.5 Lead / Lag to UPF)	Using Standard Energy Meter and Three Phase Energy Source By Comparison Method	15.875 Wh to 3.33 kWh	0.25 % to 0.26 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.3 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 6½ Digit Multimeter and Multi Product Calibrator by Comparison Method	1 A to 10 A	0.3 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mA to 100 mA	0.14 % to 0.2 %
5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 mA to 100 mA	0.14 % to 0.2 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 µA to 100 µA	0.53 % to 0.2 %

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7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 µA to 100 µA	0.53 % to 0.2 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 µA to 1 mA	0.13 % to 0.14 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 µA to 1 mA	0.13 % to 0.14 %
10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 mA to 1 A	0.2 % to 0.21 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 mA to 1 A	0.2 % to 0.21 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using Shunt With Multimeter by Direct Method	10 A to 30 A	0.07 % to 0.08 %

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13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50Hz	Using Shunt With Multimeter by Direct Method	30 A to 100 A	0.08 % to 0.25 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @ 50 Hz	Using HV Probe with DMM by Direct Method	1 kV to 10 kV	5.82 %
15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @ 50 Hz	Using HV Probe with DMM by Direct Method	10 kV to 28 kV	6.92 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 mV to 10 mV	0.5 % to 0.38 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mV to 10 mV	0.5 % to 0.63 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 V to 10 V	0.02 %

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19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	1 V to 10 V	0.02 % to 0.01 %
20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 mV to 1 V	0.05 % to 0.02 %
21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 mV to 1 V	0.63 % to 0.02 %
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	10 V to 100 V	0.01 % to 0.04 %
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 V to 100 V	0.02 % to 0.04 %
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter by Direct Method	100 V to 750 V	0.03 % to 0.05 %

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25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 45 Hz to 1 kHz	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 V to 750 V	0.04 % to 0.05 %
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 A to 20 A	0.08 % to 0.31 %
27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 mA to 1 A	0.14 % to 0.08 %
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	100 µA to 1 mA	0.31 % to 0.14 %
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	30 µA to 100 µA	1.58 % to 0.31 %
30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC High Current @ 50 Hz	Using Multiproduct Calibrator with Current Coil by Direct Method	20 A to 1000 A	0.45 % to 0.31 %
31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power @ 50 Hz (60 V to 240 V, 0.1 A to 20 A, Lead / Lag 0.5 to UPF)	Using Multiproduct Calibrator by Direct Method	6 W to 4.8 kW	0.2 %

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32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power Factor @ 50 Hz	Using Multiproduct Calibrator by Direct Method	0.2 (Lead / Lag) to UPF	0.0036 PF
33	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 1 kHz to 100 kHz	Using Multiproduct Calibrator by Direct Method	1 mV to 10 mV	2.56 % to 0.56 %
34	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 1 kHz to 100 kHz	Using Multiproduct Calibrator by Direct Method	10 mV to 300 mV	0.56 % to 0.12 %
35	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	1 mV to 10 mV	2.37 % to 0.11 %
36	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 1 kHz	Using Multiproduct Calibrator by Direct Method	10 mV to 300 mV	0.11 % to 0.03 %
37	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 10 kHz	Using Multiproduct Calibrator by Direct Method	300 mV to 1000 V	0.05 % to 0.04 %
38	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 45 Hz to 100 kHz	Using Multiproduct Calibrator by Direct Method	300 mV to 100 V	0.11 % to 0.30 %

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39	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	0.22 nF to 1 nF	2.84 %
40	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	1 µF to 100 µF	0.5 %
41	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Multiproduct Calibrator by Direct Method	1 nF to 1 µF	0.6 % to 0.5 %
42	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Inductance @ 1 kHz	Using Standard Inductance Box by Direct Method	0.1 mH to 10 H	2.43 %
43	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	1 µA to 10 µA	0.7 % to 0.074 %
44	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 µA to 10 µA	0.7 % to 0.074 %
45	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.02 % to 0.025 %

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46	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter, Multiproduct Calibrator by Comparison Method	1 A to 10 A	0.02 % to 0.025 %
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 µA to 10 mA	0.074 % to 0.006 %
48	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	10 µA to 10 mA	0.074 % to 0.006 %
49	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with Multimeter by V/I Method	10 A to 30 A	0.025 % to 0.29 %
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 mA to 1 A	0.006 % to 0.02 %
51	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 8½ Digit Multimeter by Direct Method	10 mA to 1 A	0.006 % to 0.02 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with Multimeter by Direct Method	30 A to 100 A	0.29 % to 0.30 %

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53	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using HV Probe With DMM by direct method	1 kV to 10 kV	2.36 % to 3.52 %
54	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using HV Probe With DMM by Direct Method	10 kV to 40 kV	3.52 %
55	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 mV to 1 V	0.063 % to 0.0008 %
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	1 mV to 1 V	0.063 % to 0.0008 %
57	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter , Multiproduct Calibrator by Comparison Method	1 V to 100 V	0.0008 % to 0.0009 %
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	1 V to 100 V	0.0008 % to 0.0009 %
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter by Direct Method	100 V to 1000 V	0.0009 % to 0.0011 %

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60	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	100 V to 1000 V	0.0009 % to 0.0012 %
61	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 Mohm to 10 Mohm	0.003 % to 0.12 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 Wire)	Using 8½ Digit Multimeter by Direct Method	1 Mohm to 10 Mohm	0.003 % to 0.12 %
63	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter by Direct Method	10 Mohm to 1 Gohm	0.12 % to 0.62 %
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	10 Mohm to 1 Gohm	0.12 % to 0.65 %
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 8½ Digit Multimeter by Direct Method	1 kohm to 1 Mohm	0.008 % to 0.002 %
66	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 kohm to 1 Mohm	0.008 % to 0.003 %

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67	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter by Direct Method	1 Ohm to 1 kohm	0.002 % to 0.008 %
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter and Multiproduct Calibrator by Comparison Method	1 Ohm to 1 kohm	0.01 % to 0.008 %
69	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 Wire)	Using 8½ Digit Multimeter by Direct Method	100 mohm to 1 Ohm	0.12 % to 0.01 %
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 8½ Digit Multimeter, Multiproduct Calibrator by Comparison Method	100 mohm to 1 ohm	0.12 % to 0.01 %
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	10 µA to 100 µA	0.26 % to 0.05 %
72	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	100 µA to 329 mA	0.05 % to 0.014 %
73	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	2.99 A to 20 A	0.05 % to 0.31 %

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74	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multiproduct Calibrator by Direct Method	329 mA to 2.99 A	0.014 % to 0.05 %
75	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC High Current	Using Multiproduct Calibrator and clamp coil adaptor by Direct Method	20 A to 1000 A	0.55 % to 0.32 %
76	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Power (1 V to 1000 V, 0.1 A to 20 A)	Using Multiproduct Calibrator by Direct Method	0.1 W to 1 W	0.6 % to 0.12 %
77	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Power (1 V to 1000 V, 0.1 A to 20 A)	Using Multiproduct Calibrator by Direct Method	1 W to 20 kW	0.12 % to 0.06 %
78	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire / 4 wire)	Using Multiproduct Calibrator by Direct Method	10 Ohm to 1 Mohm	0.006 % to 0.0043 %
79	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	1 Mohm to 10 Mohm	0.0043 % to 0.61 %
80	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	10 Gohm	3.5 %

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81	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	10 Mohm to 100 Mohm	0.61 %
82	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Multiproduct Calibrator by Direct Method	100 Mohm to 1 Gohm	0.61 % to 1.78 %
83	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	2 Gohm	3.5 %
84	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (2 wire)	Using Standard Meg Ohm Box By Direct Method	20 Gohm	3.5 %
85	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	1 mohm	1.54 %
86	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 Wire)	Using Multiproduct Calibrator by Direct Method	1 Ohm to 10 Ohm	0.022 % to 0.006 %
87	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	10 mohm	1.24 %

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88	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Low Resistance Box by Direct Method	100 µohm	1.39 %
89	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance (4 wire)	Using Multiproduct Calibrator by Direct Method	100 mohm to 1 Ohm	0.61 % to 0.022 %
90	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance - (2 Wire @ 1000 V)	Using Standard Meg Ohm Box By Direct Method	200 Gohm	3.5 %
91	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Resistance - (2 Wire @ 1000 V)	Using Standard Meg Ohm Box By Direct Method	50 Gohm	3.5 %
92	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	1 mV to 329 mV	0.18 % to 0.0041 %
93	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	3.29 V to 1000 V	0.0014 % to 0.0024 %
94	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multiproduct Calibrator by Direct Method	329 mV to 3.29 V	0.0041 % to 0.0015 %

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95	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Amplitude (vertical Axis Deflection Factor) AC 1 kHz Square Wave	Using Multiproduct Calibrator by Direct Method	1 mVpp to 130 Vpp	1.5 % to 0.18 %
96	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Bandwidth	Using Multiproduct Calibrator by Direct Method	50 kHz to 1.1 GHz	3.8 % to 6.1 %
97	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	Oscilloscope - Time base	Using Multiproduct Calibrator by Direct Method	1 ns to 5 s	0.2 % to 0.1 %
98	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD	Using 6 ½ Digit Multimeter By Direct Method	(-)190 °C to 600 °C	0.3 °C
99	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple B Type	Using Multiproduct Calibrator by Direct Method	600 °C to 1800 °C	0.87°C
100	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple E Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1000 °C	0.6°C
101	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple J Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1200 °C	0.32 °C

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102	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple K Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
103	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple N Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
104	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple R Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.94°C
105	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple S Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.94°C
106	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	Thermocouple T Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 400 °C	0.69°C
107	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 800 °C	0.27°C
108	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple B Type	Using Multiproduct Calibrator by Direct Method	600°C to 1800°C	0.53°C

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109	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple E Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1000 °C	0.6 °C
110	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple J Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1200 °C	0.32 °C
111	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple K Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1350 °C	0.47°C
112	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple N Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 1300 °C	0.47°C
113	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple R Type	Using Multiproduct Calibrator by Direct Method	0°C to 1750°C	0.67°C
114	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple S Type	Using Multiproduct Calibrator by Direct Method	0 °C to 1750 °C	0.55°C
115	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple T Type	Using Multiproduct Calibrator by Direct Method	(-)200 °C to 400 °C	0.63°C

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116	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using Frequency Counter By Direct Method	1 Hz to 200 MHz	0.006 % to 0.0012 %
117	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Timer Calibrator By Comparison Method	1 s to 60 s	0.11 s
118	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Timer Calibrator By Comparison Method	60 s to 24 Hr	0.11 s to 1.61 s
119	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct Method	1 Hz to 10 Hz	0.06 % to 0.016 %
120	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Signal Generator by Direct Method	1 MHz to 1 GHz	0.006 % to 0.06 %
121	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multiproduct Calibrator by Direct Method	10 Hz to 1 MHz	0.016 % to 0.006 %
122	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (meadium : Water)	Using Ultrasonic Liquid Flow Meter (Clamp on type) by Comparison Method	1 m^3/hr to 246 m^3/hr	2.1 %

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123	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow Measuring Device	Using Standard Gas Flow Meter by Comparison Method	10 LPM to 80 LPM	2.15 %
124	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow Measuring Device	Using Standard Gas Flow Meter by Comparison Method	2 LPM to 10 LPM	5.33 %
125	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow Rate (Medium : Air) - Analog & Digital Flow Meter, Rotameter, Dry Gas Meter, PM2.5 Sampler and Flow measuring Device	Using Standard Gas Flow Meter by Comparison Method	80 LPM to 500 LPM	2.05 %
126	FLUID FLOW-FLOW MEASURING DEVICES	Volume Flow rate (medium : water)	Using Ultrasonic Liquid Flow Meter (Clamp on type) by Comparison Method	246 m^3/hr to 700 m^3/hr	2.1 %
127	MECHANICAL-ACCELERATION AND SPEED	Centrifuge / RPM Source (Non-Contact)	Using Digital Tachometer by Comparison Method	1000 rpm to 10000 rpm	8.3 rpm
128	MECHANICAL-ACCELERATION AND SPEED	Centrifuge / RPM Source (Non-Contact)	Using Digital Tachometer by Comparison Method	10000 rpm to 50000 rpm	31 rpm
129	MECHANICAL-ACCELERATION AND SPEED	Centrifuge / RPM Source (Non-Contact)	Using Digital Tachometer by Comparison Method	12 rpm to 1000 rpm	2.4 rpm

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130	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bench Center (Coaxiality)	Using Cylindrical test Mandrel, Mandrel with taper shank Lever dial gauge by Comparison method	150 mm to 300 mm	9 µm
131	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bench Center (Parallelism)	Using Cylindrical test Mandrel, Mandrel with taper shank Lever dial gauge by Comparison method	150 mm to 300 mm	9 µm
132	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Plate (Flatness)	Using Spirit Level (L.C : 0.01mm/m) by Comparison method	630 mm X 630 mm to 2000 mm X 2000 mm	3.81 * Sqrt/((L+W)/150 µm Where L,W in mm
133	MECHANICAL-PRESSURE INDICATING DEVICES	Absolute Pressure Gauge, Barometer, Manometer, Absolute Pressure Calibrator, Pressure Switch, Pressure Transducer, Transmitters (Medium: Pneumatic)	Using Barometer, Absolute Pressure Calibrator, 5½ DMM by Comparison Method as per DKD R6-1	200 mbar to 1050 mbar	1.6 mbar
134	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure Dial / Digital Pressure Gauge, Magnehelic Gauge (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump & 5½ DMM By Comparison Method as Per DKD R-6-1	(-) 137 mbar to 137 mbar	0.3 mbar

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135	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure Dial / Digital Pressure Gauge, Magnehelic Gauge (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump By Comparison Method as Per DKD R-6-1	(-) 20 mbar to 20 mbar	0.078 mbar
136	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter (Medium: Hydraulic)	Using Digital Pressure Gauge and Hydraulic Pump & 5½ DMM by Comparison Method as Per DKD R-6-1	0 to 700 bar	0.3 bar
137	MECHANICAL-PRESSURE INDICATING DEVICES	Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter (Medium: Pneumatic)	Using Digital Pressure Gauge and Pneumatic Pump & 5½ DMM By Comparison Method as per DKD R-6-1	0 to 20 bar	0.017 bar
138	MECHANICAL-PRESSURE INDICATING DEVICES	Vacuum Pressure: Pressure Gauge, Pressure Calibrator, Pressure Switch, Pressure Transmitter	Using Digital Pressure Gauge, Pneumatic Pump, Electric Vacuum Pump & 5 ½ DMM By Comparison Method as per ISO 3567 & ISO 27893	(-) 1 bar to 0	0.011 bar
139	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Material Testing Machine - Displacement	Using Height Gauge By Comparison Method as per ATSM E 2309M-20	5 mm to 600 mm	0.22 mm
140	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Material Testing Machine - Speed	Using Height Gauge and Stop Watch by Comparison Method as per ATSM E 2309-05	0.5 mm/min to 600 mm/min	0.3 mm/min

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141	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Testing Machine (Tension & Compression Mode)	Using Load Cell with Indicator by Comparison Method as per IS 1828 (Part-1):2022, ISO 7500-1:2018	5000 N to 50000 N	0.3 %
142	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Testing Machine (Tension & Compression Mode) Class I and Coarser	Using Load Cell with Indicator by Comparison Method as per IS 1828 (Part-1):2022, ISO 7500-1:2018	5 N to 50 N	0.3 %
143	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Testing Machine (Tension & Compression Mode) Class I and Coarser	Using Load Cell with Indicator by Comparison Method as per IS 1828 (Part-1):2022, ISO 7500-1:2018	50 N to 500 N	0.3 %
144	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Uniaxial Testing Machine (Tension & Compression Mode) Class I and Coarser	Using Load Cell with Indicator by Comparison Method as per IS 1828 (Part-1):2022, ISO 7500-1:2018	500 N to 5000 N	0.3 %
145	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser (Readability : 0.01 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	1 mg to 100 g	0.021 mg
146	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser (Readability : 0.1 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 220 g	0.3 mg

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147	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class I & Coarser) (Readability : 0.001 mg)	Using E1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	1 mg to 5 g	0.06 mg
148	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class II & Coarser (Readability : 10 mg)	Using E1 and F1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 1000 g	16 mg
149	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class III & Coarser (Readability : 100 mg)	Using F1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 3 kg	67.89 mg
150	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class III & Coarser (Readability: 1 g)	Using F1 and M1 Accuracy Class Standard Weights and Procedure based on OIML-R 76-1	0 to 20 kg	0.58 g
151	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance - Accuracy Class IIII & Coarser (Readability: 100 g)	Using F1 and M1 Accuracy Class Standard Weights as per OIML-R 76-1	0 to 300 kg	66.33 g
152	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity Chamber - Multiposition Calibration	Using Digital Temperature and Humidity Indicator with sensor (Minimum 9) by Comparison Method	10 %RH to 95 %RH @ 25 °C	2.24 %RH

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153	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity Chamber - Multiposition Calibration	Using Digital Temperature and Humidity Indicator with sensor (Minimum 9) by Comparison Method	5 °C to 60 °C @ 50 %RH	1.39 °C
154	THERMAL-SPECIFIC HEAT & HUMIDITY	Indicator with Sensor of Humidity Chamber (Single Position)	Using Digital Temperature and Humidity Indicator with sensor by Comparison Method	10 %RH to 95 %RH @ 25 °C	1.84 %RH
155	THERMAL-SPECIFIC HEAT & HUMIDITY	Indicator with Sensor of Humidity Chamber (Single Position)	Using Digital Temperature and Humidity Indicator with sensor by Comparison Method	5 °C to 60 °C @ 50 %RH	0.65 °C
156	THERMAL-TEMPERATURE	Deep Freezer, Freezer, Incubator (non Medical purpose), Autoclave (non Medical purpose), Water Bath, Refrigerator, Chamber, Hot Air Oven - Multi-Position Calibration	Using Master RTD (Pt-100) with Multi Channel Data Logger (minimum 9 sensors) by Comparison Method	(-)80 °C to 200°C	1.35°C
157	THERMAL-TEMPERATURE	Furnace - Multi-Position Calibration	Using N type Thermocouple with Multi Channel Data Logger (minimum 9 sensors) by Comparison Method	200 °C to 1200 °C	3.03 °C
158	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using RTD (Class 1/10 Din) With Indicator, Liquid Bath, 5½ DMM by Comparison Method	(-)80 °C to 0 °C	0.27 °C

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159	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using Class-A RTD With Indicator, Dry Bath and 5½ DMM by Comparison Method	0 °C to 400 °C	0.35 °C
160	THERMAL-TEMPERATURE	RTD, Thermocouple, Temperature Gauge, Temperature Transmitter	Using S Type Thermocouple With Indicator, Dry Bath and 5½ DMM by Comparison Method	400 °C to 1200 °C	1.92 °C
161	THERMAL-TEMPERATURE	Temperature Indicator with sensor Deep freezer, Freezer, Incubator, (Non Medical purpose), Water bath, Autoclave (Non Medical purpose), Chamber, Hot Air Oven & Muffle Furnace (Single Position)	Using RTD (pt100) With Indicator By Comparison Method	(-)80 °C to 200 °C	0.32 °C
162	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Black Body Source	Using IR Pyrometer (emissivity: 0.95) by Comparison Method	25 °C to 250 °C	3.95 °C
163	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Black Body Source	Using IR Pyrometer (emissivity: 0.99) by Comparison Method	250 °C to 1200 °C	3.95 °C
164	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Muffle Furnace - Single Position Calibration	Using Thermocouple Type S With Indicator by Comparison Method	200 °C to 1200 °C	2.49 °C

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165	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Temperature Bath / Dry Block Calibrator	Using RTD (PT 100) With Indicator by Comparison Method	(-)80 °C to 250 °C	0.27 °C
166	THERMAL-TEMPERATURE	Temperature Indicator with sensor of Temperature Bath / Dry Block Calibrator	Using Thermocouple Type S With Indicator by Comparison Method	250 °C to 600 °C	1.41 °C
167	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Temperature Bath / Dry Block Calibrator - Single Position Calibration	Using Thermocouple S type With Indicator by Comparison Method	600 °C to 1200 °C	2.03 °C

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