National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

ROOTS METROLOGY & TESTING LABORATORY (UNIT OF ROOTS INDUSTRIES INDIA PRIVATE LIMITED)

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

DOOR NO. 1/55, SURVEY NO. 25/9B2A & 9B3A,POONAMALLEE HIGH ROAD, VANAGARAM VILLAGE,, CHENNAI, THIRUVALLUR, TAMIL NADU, INDIA

in the field of

CALIBRATION

Certificate Number: CC-3939

Issue Date: 25/05/2024 **Valid Until:** 30/03/2025

This certificate supersedes the certificate number CC-3761 with issue date 20/11/2023 in view of change in premises of the laboratory.
This certificate supersedes the certificate number CC-2201 with issue date 31/03/2023 in view of change in legal entity of the laboratory.

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 thislaboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

SCOPE OF ACCREDITATION

Laboratory Name : ROOTS METROLOGY & TESTING LABORATORY (UNIT OF ROOTS INDUSTRIES INDIA PRIVATE LIMITED), DOOR NO. 1/55, SURVEY NO. 25/9B2A & 9B3A, POONAMALLEE HIGH ROAD, VANAGARAM VILLAGE,, CHENNAI, THIRUVALLUR, 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)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	0.1 mA to 1 mA	0.59 % to 0.34%
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.17 % to 0.21%
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 mA to 10 mA	0.34 % to 0.19 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	10 mA to 1 A	0.19 % to 0.17 %

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @50 Hz	Using High Voltage Probe with DMM by Direct Method	5 kV to 28 kV	2.89 % to 4.06 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage@50 Hz	Using High Voltage Probe with DMM by Direct Method	0.5 kV to 5 kV	3.52 % to 2.89%
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 mV to 10 mV	5.13 % to 0.57%
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @50 Hz	Using 6½ Digit Multimeter by Direct Method	10 V to 750 V	0.12 % to 0.08 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage@50 Hz	Using 6½ Digit Multimeter by Direct Method	1 V to 10 V	0.23 % to 0.12 %

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage@50 Hz	Using 6½ Digit Multimeter by Direct Method	10 mV to 1 V	0.57 % to 0.23 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz	Using Multi product calibrator with Current Coil by Direct Method	10 A to 100 A	0.79 % to 0.43 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz	Using Multi product calibrator with Current Coil by Direct Method	100 A to 1000 A	0.43 % to 0.38 %
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	1 mA to 100 mA	0.15 % to 0.07 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	10 A to 20 A	0.11 % to 0.21 %

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15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	100 µA to 1 mA	0.27 % to 0.15 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	100 mA to 10 A	0.07 % to 0.11 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	30 µA to 100 µA	0.53 % to 0.27 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.2 Lag) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	2.4 W to 960 W	1.93 % to 0.50 %
19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.5 Lag) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	6 W to 2.4 kW	1.09 % to 0.50 %
20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.8 Lead) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	9.6 W to 3.84 kW	0.34 % to 0.21 %

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21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @Unity) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	12 W to 4.8 kW	0.19 % to 0.22 %
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage (@50 Hz to 10 kHz)	Using Multi Product Calibrator by Direct Method	1 V to 10 V	0.06 % to 0.05%
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @50 Hz to 1 kHz	Using Multi Product Calibrator by Direct Method	100 V to 1000 V	0.076 % to 0.08%
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	10 V to 100 V	0.05 % to 0.076%
25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	1 mV to 10 mV	2.88 % to 1.012%
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	10 mV to 100 mV	1.012 % to 0.12%

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27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	100 mV to 1 V	0.12 % to 0.06 %
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	1 nF to 100 nF	1.74 % to 0.42 %
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	100 µF to 100 mF	0.65 % to 1.41%
30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	100 nF to 100 µF	0.42 % to 0.65 %
31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	330 pF to 1 nF	4.23 % to 1.74%
32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Power Factor at 50 Hz	Using Multi product calibrator by Direct Method	0.2 PF to 1 PF (Lag & Lead)	0.011 PF to 0.001 PF

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33	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 µA to 10 µA	2.95 % to 0.36 %
34	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.14 % to 0.19 %
35	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with 6½ Digit Multimeter by V-I Method	1 A to 100 A	0.02 % to 0.6 %
36	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 mA to 10 mA	0.07 % to 0.081 %
37	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	10 µA to 1 mA	0.36 % to 0.07 %
38	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	10 mA to 1 A	0.081 % to 0.14 %

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39	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using High Voltage Probe with DMM by Direct Method	0.5 kV to 5 kV	3.52 % to 3.52 %
40	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using High Voltage Probe with DMM by Direct Method	5 kV to 40 kV	3.52 % to 2.33 %
41	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	1 mV to 10 mV	0.502 % to 0.06 %
42	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	1 V to 10 V	0.03 % to 0.01 %
43	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	10 mV to 1 V	0.06 % to 0.03 %
44	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	10 V to 1000 V	0.01 % to 0.012 %

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45	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	0.10 Mohm to 1 Mohm	0.01 % to 0.026 %
46	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 kohm to 0.1 Mohm	0.02 % to 0.016 %
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 Mohm to 10 Mohm	0.026 % to 0.08 %
48	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 ohm to 10 ohm	0.51 % to 0.06 %
49	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	10 Mohm to 100 Mohm	0.08 % to 0.924 %
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	10 ohm to 1 kohm	0.06 % to 0.02 %

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51	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 µA to 10 µA	2.38 % to 0.13 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 A to 10 A	0.05 % to 0.08 %
53	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 mA to 100 mA	0.021 % to 0.02 %
54	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	10 µA to 100 µA	0.13 % to 0.047 %
55	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator with Current Coil by Direct Method	10 A to 1000 A	0.77 % to 0.33 %
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	10 A to 20 A	0.08 % to 0.13 %

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57	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 µA to 1 mA	0.047 % to 0.021 %
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 mA to 1 A	0.02 % to 0.05 %
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	0.5 mV to 1 mV	1.85 % to 0.36 %
60	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	1 mV to 10 mV	0.36 % to 0.1 %
61	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	10 mV to 100 mV	0.1 % to 0.013 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	100 mV to 100 V	0.013 % to 0.01 %

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63	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	100 V to 1000 V	0.01 % to 0.0071 %
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Inductance	Using Decade Inductance Box by Direct Method	100 µH to 10 H	1.16 %
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using 4 Wire Low Resistance Standard by Direct Method	1 mohm to 1 ohm	0.16 % to 0.14 %
66	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 ohm to 10 ohm	0.14 % to 0.13 %
67	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 kohm to 1 Mohm	0.01 % to 0.022 %
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 Mohm to 100 Mohm	0.022 % to 0.60 %

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69	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using High stability Decade Meg ohm Box By Direct Method	1 Gohm to 100 Gohm	1.80 % to 3.78 %
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	10 ohm to 1 kohm	0.13 % to 0.01 %
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using 4 Wire Low Resistance Standard by Direct Method	100 µohm to 1 mohm	0.52 % to 0.16 %
72	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using High stability Decade Meg ohm Box By Direct Method	100 Gohm to 0.95 Tohm	3.78 % to 7.37 %
73	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	100 Mohm to 1 Gohm	0.60 % to 1.80 %
74	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	B-Type Thermocouple	Using Multiproduct Calibrator by Direct Method	600 °C to 1800 °C	1.26 °C

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75	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1000 °C	0.24 °C
76	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1200 °C	0.24 °C
77	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1350 °C	0.24 °C
78	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	L -Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 900 °C	0.30 °C
79	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1300 °C	0.24 °C
80	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R-Type Thermocouple	Using Multi Product Calibrator by Direct Method	0 °C to 1750 °C	0.58 °C

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81	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD - PT100	Using Multi Product Calibrator by Direct Method	-200 °C to 800 °C	0.35 °C
82	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S-Type Thermocouple	Using Multi Product Calibrator by Direct Method	1 °C to 1750 °C	1.16 °C
83	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 400 °C	0.25 °C
84	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	U -Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 400 °C	0.24 °C
85	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B-Type Thermocouple	Using Multi Product calibrator by Direct Method	600 °C to 1800 °C	0.71 °C
86	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	E-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1000 °C	0.58 °C

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87	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J -Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1200 °C	0.32 °C
88	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1370 °C	0.46 °C
89	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	L-Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 900 °C	0.30 °C
90	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	N-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1300 °C	0.47 °C
91	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R-Type Thermocouple	Using Multi Product Calibrator by Direct Method	0 °C to 1750 °C	1.16 °C
92	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD - PT100	Using Multi Product Calibrator by Direct Method	-200 °C to 800 °C	0.27 °C

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93	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S-Type Thermocouple	Using Multi Product Calibrator by Direct Method	1 °C to 1750 °C	0.81 °C
94	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 400 °C	0.73 °C
95	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	U-Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 400 °C	0.35 °C
96	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using 6½ Digit Multimeter by Direct Method	10 Hz to 300 kHz	1.305 %
97	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	1 s to 60 s	0.27 s
98	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	3600 s to 86400 s	1.52 s to 5.08 s

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99	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	60 s to 3600 s	0.27 s to 1.52 s
100	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multi product calibrator by Direct Method	1 Hz to 1 MHz	0.13 %
101	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	100 rpm to 1000 rpm	1.08 rpm
102	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	1000 rpm to 10000 rpm	2.21 rpm
103	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10000 rpm to 30000 rpm	3.70 rpm
104	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.46 RPM

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105	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 12000 RPM	6.05 RPM
106	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	5.92 RPM
107	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10 rpm to 100 rpm	1.3 rpm
108	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.46 RPM
109	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	5.92 RPM
110	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 12000 RPM	6.05 RPM

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111	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers/ RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.86 RPM
112	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
113	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM
114	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.86 RPM
115	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM

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116	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
117	MECHANICAL-ACCELERATION AND SPEED	Mechanical/ Digital Tachometers/ RPM Indicators with sensor/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10 rpm to 100 rpm	0.86 rpm
118	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM
119	MECHANICAL-ACCELERATION AND SPEED	RPM Source - Centrifuge/Stirrers/RPM Indicators/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10 rpm to 100 rpm	0.87 rpm
120	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
121	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	100 RPM to 1000 RPM	1.86 RPM
122	MECHANICAL-ACOUSTICS	Noise/Sound Level Meter @ 1kHz	Using Sound Level Calibrator By Direct Method as per IS 15575 / OIML-R-58	94 dB and 114 dB	0.26 dB

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123	MECHANICAL-DENSITY AND VISCOSITY	Hydrometers	Using Hydrometer of resolution : 0.0005 g/ml and Appropriate liquid by Comparison Method as per Archimedes Principle based on IS 3104	0.600 g/ml to 1.600 g/ml	0.0021 g/ml
124	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bevel Protractor (Digital/Analog) (L.C: 1 Min)	Using Vision Measuring System by Comparison Method	0 ° to 360 °	52.65 arc s
125	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Gauge (Transmission only) (Span Diameter: 1.5mm to 600mm) (L.C: 0.001 mm)	Using Universal Length Measuring System by Comparison Method	Up to 1.5 mm	0.9 µm
126	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Micrometer - Three Point (Analog / Digital)	Using Master Setting Ring gauges which is calibrated by Universal Length Measuring System by Comparison Method	>100 mm to 150 mm	3.4 µm

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127	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Bore Micrometer - Three Point (Analog / Digital)	Using Master Setting Ring gauges which is calibrated by Universal Length Measuring System by Comparison Method	2.5 mm to 100 mm	3 µm
128	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 2000 mm	24.1 µm
129	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper (Vernier/Digital/Dial) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 1000 mm	12.7 µm
130	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper (Vernier/Digital/Dial) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 300 mm	7.2 µm
131	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper (Vernier/Digital/Dial) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 600 mm	9.12 µm

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132	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C: 0.1 µm)	Using Standard Foils by Comparison Method	10 µm to 100 µm	0.43 µm
133	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C: 1 µm)	Using Standard Foils by Comparison Method	>100 µm to 1800 µm	1.45 µm
134	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Foil	Using Universal Length Measuring System by Comparison Method	0.01 to 3.0 mm	0.4 µm
135	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Combination Set /Inclinometer/ Degree Protractor (L.C: 0.05°)	Using Vision Measuring System/ Angle Gauge Block by Comparison Method	0 ° to 180 °	35 arc s
136	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cube Mould (Linear)	Using Digital Caliper as per IS 10086 by Comparison Method	Up to 150 mm	40 µm

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137	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cylindrical Measuring Pins (Grade "0" and Coarser)	Using Universal Length Measuring System by Comparison Method	Up to 20 mm	0.33 µm
138	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cylindrical Setting Master (Diameter Only)	Using Universal Length Measuring System by Comparison Method	0 to 100 mm	0.85 µm
139	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Gauge (Vernier/Digital/Dial/ Hook) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 300 mm	7.4 µm
140	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Gauge (Vernier/Digital/Dial/ Hook) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 600 mm	9.3 µm
141	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer (Analog/Digital) (L.C: 0.001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 300 mm	2.4 µm

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142	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Calibration Tester (L.C: 0.0002 mm)	Using Universal Length Measuring System by Comparison Method	0 to 25 mm	1 µm
143	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Caliper Gauge (L.C: 0.01 mm)	Using Gauge Blocks by Comparison Method	2.5 mm to 100 mm	6.6 µm
144	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Electronic Probe/ LVDT System / Digital Indicator (L.C: 0.1 µm)	Using Universal Length Measuring System by Comparison Method	0 to 25 mm	0.51 µm
145	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Engineer's Square / Granite Square (Parallelism)	Using Height Measuring System by Comparison Method	0 to 600 mm	7 µm
146	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Engineer's Square / Granite Square (Squareness)	Using Height Measuring System by Comparison Method	0 to 600 mm	5.67 µm

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147	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C.: 0.001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	>100 mm to 300 mm	3.6 µm
148	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C.: 0.001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	>300 mm to 500 mm	6.14 µm
149	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C.: 0.001 mm)	Using Gauge Blocks by Comparison Method	0 to 100 mm	1.2 µm
150	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C: 0.001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	>500 mm to 1000 mm	9.6 µm
151	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	>1000 mm to 1200 mm	12 µm

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152	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Digital Micrometer by Comparison Method	Up to 1 mm	1.03 µm
153	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Fillet Gauge - Angular	Using Vision Measuring System by Comparison Method	0 ° to 360 °	13.2 arc s
154	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Fillet Gauge - Linear	Using Vision Measuring System by Comparison Method	Up to 200 mm	2 µm
155	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Flush Pin Gauge	Using Universal Length Measuring Machine by Comparison Method	0 to 70 mm	3 µm
156	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Gear Tooth Caliper (Vernier/Digital/Dial) L.C.: 0.01mm	Using Gauge Blocks by Comparison Method	0 to 50 mm	6.6 µm

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157	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 1000 mm	8.07 µm
158	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 600 mm	7.4 µm
159	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 300 mm	7.3 µm
160	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Inside/Groove Micrometer/ Caliper type Micrometer (L.C.: 0.01 mm)	Using Gauge Block and Gauge Block accessory by Comparison Method	5 mm to 100 mm	5.9 µm
161	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Type Dial Gauge (L.C.: 0.001 mm)	Using Universal Length Measuring System by Comparison Method	0 to 0.14 mm	0.7 µm

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162	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Type Dial Gauge (L.C.: 0.01 mm)	Using Universal Length Measuring System by Comparison Method	0 to 2.0 mm	5.8 µm
163	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever type Dial Gauge (L.C: 0.002mm and Coarser)	Using Universal Length Measuring System by Comparison method	0 to 0.2 mm	0.7 µm
164	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Limit Gauges - Angle	Using Electronic Height Gauge/ Vision Measuring System by Comparison method	0 ° to 360 °	37 arc s
165	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Limit Gauges - Height / Depth / Length / Width/ Radius	Using Electronic Height Gauge/ Universal Length Measuring System/ Vision Measuring system by Comparison Method	Up to 300 mm	3.4 µm
166	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Scale (L.C: 0.5 mm)	Using Tape & Scale Calibrator by Comparison Method	0 to 2000 mm	(289.3xsqrt(L)) µm; Where L in m

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167	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Tape (L.C: 0.5 mm)	Using Tape & Scale Calibrator by Comparison Method	0 to 30 m	(577.5xsqrt(L)) µm Where L in m
168	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Head (L.C.: 0.0001 mm)	Using Universal Length Measuring System by Comparison Method	0 to 25 mm	0.31 µm
169	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Rod	Using Universal Length Measuring System by Comparison Method	>100 mm to 500 mm	2.64 µm
170	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Rod	Using Universal Length Measuring System by Comparison Method	>500 mm to 1000 mm	7.2 µm
171	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Rod	Using Universal Length Measuring System by Comparison Method	25 mm to 100 mm	0.59 µm

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172	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pie Tape (L.C: 0.1 mm)	Using Tape & Scale Calibrator by comparison method	Up to 3 M	(577.5 x sqrt(L)) µm ; Where L in m
173	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Pistol Caliper/ OD Caliper/ OD Groove dial gauge (L.C: 0.1 mm)	Using Gauge Blocks by Comparison Method	0 to 100 mm	66.7 µm
174	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain / Setting Ring Gauge	Using Universal Length Measuring System by Comparison Method	>100 mm to 200 mm	1.4 µm
175	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain / Setting Ring Gauge	Using Universal Length Measuring System by Comparison Method	>200 mm to 300 mm	1.75 µm
176	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain / Setting Ring Gauge	Using Universal Length Measuring System by Comparison Method	3 mm to 100 mm	0.65 µm

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177	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain / Setting Ring Gauge	Using Universal Length Measuring System by Comparison Method	300 mm to 400 mm	2.3 µm
178	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Universal Length Measuring System by Comparison Method	>100 mm to 200 mm	1.3 µm
179	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Universal Length Measuring System by Comparison Method	>200 mm to 400 mm	2.2 µm
180	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Universal Length Measuring System by Comparison Method	1 mm to 100 mm	0.7 µm
181	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Type Dial/ Digital Gauge (L.C: 0.001 mm)	Using Universal Length Measuring System by Comparison Method	0 to 50 mm	0.76 µm

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182	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Type Dial/ Digital Gauge (L.C: 0.01 mm)	Using Universal Length Measuring System by Comparison Method	0 to 100 mm	5.9 µm
183	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Radius Gauge	Using Vision Measuring System by Comparison Method	Up to 40 mm	4.7 µm
184	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Sine Bar /Sine Centers (Centre Distance)	Using Angle Gauge Block/Electronic height Gauge by Comparison Method	50 mm to 200 mm	1.94 µm
185	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Sine Bar /Sine Centers (Angular)	Using Electronic height Gauge by Comparison Method	0° to 45°	2.97 Arc second
186	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Sine Bar /Sine Centers (Parallelism)	Using Angle Gauge Block/ Electronic Height Gauge by Comparison Method	50 mm to 200 mm	2.70 µm

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187	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Slip Gauge Accessories (Flatness only)	Using Optical Parallel by Comparison Method	Up to 300 mm	0.32 µm
188	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Gauge (Plain/ Adjustable)	Using Gauge Block Long and Gauge Block by Comparison Method	100 mm to 300 mm	3.1 µm
189	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Gauge (Plain/ Adjustable)	Using Gauge Block by Comparison Method	2 mm to 100 mm	1.7 µm
190	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Micrometer (L.C: 0.001 mm)	Using Gauge Block by Comparison Method	0 to 100 mm	1.2 µm
191	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Roughness Tester (Ra)	Using Surface Roughness Specimen by Comparison method	Up to 3.18 µm	6.3%

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192	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Roughness Specimen	Using Surface Roughness Tester & Master Specimen by Comparison Method	Up to 3.18 µm	5.6%
193	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Taper Scale	Using Vision Measuring System by Comparison Method	Up to 15 mm	6.02 µm
194	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Taper Thread Plug Gauge	Using Universal Length Measuring System by Comparison Method	Up to 100 mm	1.1 µm
195	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Taper Thread Ring Gauge (Effective Diameter)	Using Universal Length Measuring System by Comparison Method	7 mm to 100 mm	0.9 µm
196	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Vision Measuring System by Comparison Method	4 mm to 10 mm	3.73 µm

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197	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Vision Measuring System by Comparison Method	Up to 4 mm	2.72 µm
198	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves (Perforated Plate/ Wire Cloth)	Using Digital Caliper by comparison method	10 mm to 100 mm	20.4 µm
199	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thickness Gauge (Digital/Dial) (L.C: 0.001 mm)	Using Gauge Blocks by Comparison Method	0 to 25 mm	0.69 µm
200	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Measuring Cylinders	Using Universal Length Measuring System by Comparison Method	0.17 mm to 5 mm	0.5 µm
201	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Pitch Gauge	Using Vision Measuring System by Comparison Method	0.2 mm to 7.0 mm	3.70 µm

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202	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Plug Gauge (Major/ Effective diameter)	Using Universal Length Measuring System by Comparison Method	>200 mm to 400 mm	2.93 µm
203	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Plug Gauge (Major/Effective diameter)	Using Universal Length Measuring System by Comparison Method	>100 mm to 200 mm	1.33 µm
204	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Plug Gauge (Major/Effective diameter)	Using Universal Length Measuring System by Comparison Method	1 mm to 100 mm	1.1 µm
205	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Ring Gauge (Effective diameter)	Using Universal Length Measuring System by Comparison Method	>90 mm to 200 mm	1.4 µm
206	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Thread Ring Gauge (Effective diameter)	Using Universal Length Measuring System by Comparison Method	3 mm to 90 mm	0.9 µm

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207	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tubular /Stick Micrometer (L.C.: 0.01 mm)	Using Universal Length Measuring system/ Electronic Height Gauge/ Long Gauge block by Comparison Method	300 mm to 1000 mm	9.14 µm
208	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Tubular /Stick Micrometer (L.C: 0.01 mm)	Using Universal Length Measuring System/ Electronic Height Gauge by Comparison Method	25 mm to 300 mm	6.2 µm
209	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Ultrasonic Thickness Gauge (L.C: 0.01 mm)	Using Slip Gauges by Comparison Method	0 to 100 mm	18.4 µm
210	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	V-Block (Flatness & Perpendicularity)	Using Height measuring system & Mandrel by Comparison Method	0 to 300 mm	4.95 µm
211	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	V-Block (Parallelism)	Using Height measuring system & Mandrel by Comparison Method	0 to 300 mm	4.95 µm

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212	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	V-Block (Symmetry)	Using Height measuring system & Mandrel by Comparison Method	0 to 300 mm	4.95 µm
213	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Width/Gap Gauge	Using Universal Length Measuring System by Comparison Method	>100 mm to 300 mm	1.75 µm
214	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Width/Gap Gauge	Using Universal Length Measuring System by Comparison Method	Up to 100 mm	0.8 µm
215	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Angular Graticule	Using Vision measuring System by Comparison method	Up to 360 °	18.2 arc s
216	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Caliper Checker	Using Laser Interferometer with Electronic Height Gauge by Comparison Method	0 to 1000 mm	0.1 + (0.60 X L) µm , Where L in Meter

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217	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Caliper Checker	Using Height Measuring System and Long Slip Gauges by Comparison Method	0 to 600 mm	0.25 + (L/275) µm; where L in mm
218	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Co-Ordinate Measuring Machine (Resolution: 0.0001mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 1000 mm	0.85 + (L/200) µm, L in mm
219	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Glass Scale	Using Laser Interferometer and Vision measuring system by Comparison method	0 to 300 mm	0.39 + (0.93 x L) µm, Where L is in meter
220	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Height Measuring System (L.C.: 0.0001 mm)	Using Gauge Blocks, Long Gauge Blocks and Granite Square by Comparison Method	0 to 1000 mm	0.25 + (L/180) µm, L in mm
221	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Height Measuring System (L.C: 0.0001 mm)	Using Laser Interferometer and Granite Square by comparison method	0 to 1000 mm	0.20 +(0.20 X L) µm Where L in Meters
222	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Length Measuring Machine (L.C: 0.0001 mm)	Using Laser Interferometer by comparison method	0 to 3000 mm	0.15 + (0.15 X L) µm; Where L in Meters

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223	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Long Slip Gauge	Using Laser Interferometer with Universal Length Measuring system by comparison method	100 mm to 1000 mm	0.20 + (0.60 X L) µm; Where L in Meters
224	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System - Linear (L.C: 0.1µm)	Using Glass Calibration Grid by Comparison Method	400 mm to 400 mm	3.1 µm
225	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System-Angular (L.C: 1arc s)	Using Angle Graticule by Comparison Method	0 ° to 360 °	20.16 arc s
226	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System-Magnification	Using Glass Calibration Grid and Digital Vernier Caliper by Comparison Method	10 X to 100 X	0.25 %
227	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Vision Measuring System - Linear (L.C: 0.0001mm)	Using Laser Interferometer by comparison method	(400 x 400) mm	0.40 + (0.93 x L) µm; Where L in meter
228	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Scale & Tape Measuring Machine / Calibrator (L.C: 0.001 mm)	Using Slip Gauges & Long Slip Gauges By Comparison Method	0 to 1000 mm	0.66+(L/195) µm; Where L in mm

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229	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Scale & Tape Measuring Machine/ Calibrator (L.C: 0.001 mm)	Using Laser interferometer by comparison method	0 to 1000 mm	0.15 +(0.30 X L) µm; Where L in Meters
230	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Spirit Level (Sensitivity: 0.01 mm/m) (Type 1 & 2 &3)	Using Electronic Level by Comparison Method	300 mm	0.007 mm/m
231	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Surface Plate (Granite /Cast Iron)	Using Electronic Level by Comparison Method	3500 mm to 2600 mm	0.49 x Sqrt((L+W)/150) µm; where L& W in mm
232	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C : 0.00001mm)	Using Laser Interferometer by comparison method	0 to 3000 mm	0.10 +(0.10 X L) µm; Where L in Meters
233	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C: 0.0001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 100 mm	0.25 + (L/170) µm, Where L in mm
234	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C: 0.0001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	100 mm to 600 mm	0.85 + (L/225) µm; Where L in mm
235	MECHANICAL-DUROMETER	Durometers / Shore Hardness Tester, (Type A, B, C, D, E, M, O,): Spring Force Measurement Method	Using Durometer Calibrator (Load Cell Indicator with Fixture) as per ASTM D2240	0 to 100 Shore	0.78 Shore

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236	MECHANICAL-MOBILE FORCE MEASURING SYSTEM	Force Gauge/ Push Pull Gauge	Using Newtonian Weights and frame fixture as per VDI/VDE 2624-part2.1	10 N to 1000 N	0.2 N
237	MECHANICAL-PRESSURE INDICATING DEVICES	Absolute Pressure (Pneumatic) (Absolute Pressure Gauges/Barometers / Manometers)	Using Standard Digital Barometer by Comparison Method as per OIML-R-97	300 mbar to 1100 mbar	1.1 mbar
238	MECHANICAL-PRESSURE INDICATING DEVICES	Dial & Digital Vacuum Gauges, Transducers/ Transmitters, Switches	Using Standard Digital Vacuum Calibrator by Comparison Method as per DKD-R-6-1	-0.95 bar to 0 bar	0.0011 bar
239	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic:- Dial & Digital Pressure Gauges, Pressure Calibrators, Pressure Transmitters/Transducers	Using Standard Digital Pressure Calibrator with external sensor, 6.5 digit Multimeter by Comparison Method as per DKD-R-6-1	0 bar to 700 bar	0.12 bar
240	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Differential Pressure Gauge)	Using Differential Pressure Calibrator By Comparison Method as per DKD R-6-1	-10 kPa to 10 kPa	0.029 kPa

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241	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Differential Pressure Gauge)	Using Differential Pressure Calibrator By Comparison Method as per DKD R-6-1	-245 Pa to 245 Pa	0.96 Pa
242	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Pressure Transmitter, Transducer, Switch, Differential Pressure Gauge)	Using Standard Digital Pressure / Vacuum calibrator, Multimeter by Comparison Method as per DKD-R-6-1	-1 bar to 2 bar	1.3 mbar
243	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure/Vacuum Gauges) Calibrators	Using Standard Digital Pressure/ Vacuum calibrator by Comparison Method as per DKD-R-6-1	-700 mbar to 0 mbar	1.1 mbar
244	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic)- (Magnehelic Gauges, Manometer, Low Pressure Calibrators)	Using Standard Digital Pressure calibrator by Comparison Method as per DKD-R-6-1	0 to 700 mbar	0.93 mbar

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245	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic - Dial & Digital Pressure Gauges, Pressure Calibrators, Pressure Switches, Pressure Transmitters/Transducers	Using Standard Digital Pressure Calibrator, 6.5 digit Multimeter by Comparison Method as per DKD-R-6-1	0 bar to 20 bar	0.004 bar
246	MECHANICAL-TORQUE GENERATING DEVICES	Torque Generating Devices- Type I (Class: A,B,C,D,E) and Type II (Class: A,B,C,D,E)	Using Torque Transducer with indicator and Torque Wrench Calibrator as per IS 16906: 2018	10 Nm to 1000 Nm	1.25 %rdg.
247	MECHANICAL-TORQUE GENERATING DEVICES	Torque Generating Devices- Type I (Class: A,B,C,D,E) and Type II (Class: A,B,C,D,E)	Using Torque Transducer with indicator and Torque Wrench Calibrator as per IS 16906: 2018	1 Nm to 10 Nm	3.07 %rdg.
248	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	1 g	0.01 mg
249	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	10 g	0.012 mg

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250	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	100 g	0.10 mg
251	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	100 mg	0.01 mg
252	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E2 Class Standard Weight & Electronic Balance (Readability 1 mg)	1000 g	1 mg
253	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	2 g	0.01 mg

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254	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	20 g	0.014 mg
255	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	20 mg	0.01 mg
256	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	200 g	0.1 mg
257	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	200 mg	0.01 mg

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258	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	5 g	0.01 mg
259	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	50 g	0.02 mg
260	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	50 mg	0.01 mg
261	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E2 Class Standard Weight & Electronic Balance (Readability 1 mg)	500 g	1.03 mg

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262	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F1 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	500 mg	0.011 mg
263	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	1 mg	0.01 mg
264	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	10 mg	0.01 mg
265	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using F1 Class Standard Weight & Electronic Balance (Readability 10 mg)	2 kg	10 mg

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266	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	2 mg	0.01 mg
267	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using F1 Class Standard Weight & Electronic Balance (Readability 10 mg)	5 kg	10.08 mg
268	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class F2 & Coarser)	Using E1 Class Standard Weights and Electronic Weighing Balance (Readability: 0.01 mg upto 82 g / 0.1 mg above)	5 mg	0.01 mg
269	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class M1 & Coarser)	Using F1 Class Standard Weight & Electronic Balance (Readability 0.1g)	10 kg	100 mg
270	MECHANICAL-WEIGHTS	Mass - Weights (Accuracy Class M1 & Coarser)	Using F1 Class Standard Weight & Electronic Balance (Readability 0.1g)	20 kg	139.04 mg

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271	OPTICAL-EQUIPMENTS	DigitalLux Meter / Illuminance Meter	Using Digital Lux / Illuminance Meter, Light Source and Regulated Power Supply by Comparison Method	10 lux to 10000 lux	4.5 %
272	THERMAL-SPECIFIC HEAT & HUMIDITY	Thermo-Hygrometers (Analog/Digital), Humidity Indicator, Humidity Sensors, Humidity Data Loggers, Humidity Transmitters @ 50 %RH	Using Digital Temperature and Humidity indicator with sensor, Temperature & Humidity Generator, with 6½ DMM by Comparison Method	10 °C to 50 °C	0.49 °C
273	THERMAL-SPECIFIC HEAT & HUMIDITY	Thermo-Hygrometers (Analog/Digital), Humidity Indicator, Humidity Sensors, Hygrographs, Humidity Data Loggers, Humidity Transmitters (20°C to 50°C)	Using Digital Temperature & Humidity Indicator with Sensor, Temperature & Humidity Generator, 6½ DMM by Comparison method	20 %RH to 95 %RH	1.25 %RH

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274	THERMAL-TEMPERATURE	Indicator of Oven, Furnace, Dry Block Furnace, Dry Block Calibrators, Temperature Bath for industrial purpose only (Single Position)	Using S-Type Thermocouple with Indicator by Comparison Method	250 °C to 1200 °C	1.44 °C
275	THERMAL-TEMPERATURE	Indicator with sensor of Oven, Deep Freezer, Refrigerator, Fluid Bath, Low Temperature Bath, Dry Block Calibrators, Autoclave / incubator for industrial purpose only (Single Position)	Using 4-Wire RTD Sensor with Indicator by Comparison Method	50 °C to 250 °C	0.15 °C
276	THERMAL-TEMPERATURE	Indicator with sensor of Oven, Deep Freezer, Refrigerator, Fluid Bath, Low Temperature Bath, Dry Block Calibrators, Autoclave / incubator for industrial purpose only (Single Position)	Using 4-Wire RTD Sensor with Indicator by Comparison Method	-80 °C to 50 °C	0.14 °C

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277	THERMAL-TEMPERATURE	Liquid-In-Glass Thermometers	Using SSPRT Sensor with Multimeter indicator in Hot Bath by Comparison Method	50 °C to 250 °C	0.59 °C
278	THERMAL-TEMPERATURE	Liquid-In-Glass Thermometers	Using SSPRT Sensor with multimeter indicator in Cold Bath by Comparison Method	-80 °C to 50 °C	0.59 °C
279	THERMAL-TEMPERATURE	Non-Contact Type Thermometer (Infrared Thermometer / Digital Pyrometer /Thermal Imager)	Using Infrared Thermometer & Black Body Source (Emissivity: 0.95) By comparison method	50 °C to 500 °C	2.29 °C
280	THERMAL-TEMPERATURE	Non-Contact Type Thermometer (Infrared Thermometer / Digital Pyrometer)	Using Infrared Thermometer & Black Body Source (Emissivity: 0.95) By comparison method	0 °C to 100 °C	2.27 ° C

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281	THERMAL-TEMPERATURE	RTD’s, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicators	Using SSPRT Sensor with Multimeter indicator in Dry Block Calibrator by Comparison Method	250 °C to 650 °C	0.17 °C
282	THERMAL-TEMPERATURE	RTD’s, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Temperature Gauge, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicator	Using SSPRT Sensor with Multimeter indicator in Hot Bath by Comparison Method	50 °C to 250 °C	0.16 °C

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283	THERMAL-TEMPERATURE	RTD's, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Temperature Gauge, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicator	Using SSPRT Sensor with Multimeter indicator Cold Bath by Comparison Method	-80 °C to 50 °C	0.16 °C
284	THERMAL-TEMPERATURE	Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Data Logger With Sensor, Temperature Transmitter/ Switch, Temperature Transducer with Indicators	Using S-type Thermocouple with Multi Function Calibrator in Dry Block Calibrators by Comparison Method	650 °C to 1200 °C	1.37 °C

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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	0.1 mA to 1 mA	0.59 % to 0.34%
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.17 % to 0.21%
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 mA to 10 mA	0.34 % to 0.19 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @50 Hz	Using 6½ Digit Multimeter by Direct Method	10 mA to 1 A	0.19 % to 0.17 %

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage @50 Hz	Using High Voltage Probe with DMM by Direct Method	5 kV to 28 kV	2.89 % to 4.06 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC High Voltage@50 Hz	Using High Voltage Probe with DMM by Direct Method	0.5 kV to 5 kV	3.52 % to 2.89%
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @50 Hz	Using 6½ Digit Multimeter by Direct Method	1 mV to 10 mV	5.13 % to 0.57%
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @50 Hz	Using 6½ Digit Multimeter by Direct Method	10 V to 750 V	0.12 % to 0.08 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage@50 Hz	Using 6½ Digit Multimeter by Direct Method	1 V to 10 V	0.23 % to 0.12 %

SCOPE OF ACCREDITATION

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage@50 Hz	Using 6½ Digit Multimeter by Direct Method	10 mV to 1 V	0.57 % to 0.23 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz	Using Multi product calibrator with Current Coil by Direct Method	10 A to 100 A	0.79 % to 0.43 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz	Using Multi product calibrator with Current Coil by Direct Method	100 A to 1000 A	0.43 % to 0.38 %
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	1 mA to 100 mA	0.15 % to 0.07 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	10 A to 20 A	0.11 % to 0.21 %

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15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	100 µA to 1 mA	0.27 % to 0.15 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	100 mA to 10 A	0.07 % to 0.11 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50Hz to 1kHz	Using Multi Product Calibrator by Direct Method	30 µA to 100 µA	0.53 % to 0.27 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.2 Lag) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	2.4 W to 960 W	1.93 % to 0.50 %
19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.5 Lag) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	6 W to 2.4 kW	1.09 % to 0.50 %
20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @0.8 Lead) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	9.6 W to 3.84 kW	0.34 % to 0.21 %

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21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Power (50 Hz @Unity) Voltage: 120 V to 240 V, Current: 0.1A to 20 A	Using Multi product calibrator by Direct Method	12 W to 4.8 kW	0.19 % to 0.22 %
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage (@50 Hz to 10 kHz)	Using Multi Product Calibrator by Direct Method	1 V to 10 V	0.06 % to 0.05%
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @50 Hz to 1 kHz	Using Multi Product Calibrator by Direct Method	100 V to 1000 V	0.076 % to 0.08%
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	10 V to 100 V	0.05 % to 0.076%
25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	1 mV to 10 mV	2.88 % to 1.012%
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	10 mV to 100 mV	1.012 % to 0.12%

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27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage@50 Hz to 10 kHz	Using Multi Product Calibrator by Direct Method	100 mV to 1 V	0.12 % to 0.06 %
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	1 nF to 100 nF	1.74 % to 0.42 %
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	100 µF to 100 mF	0.65 % to 1.41%
30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	100 nF to 100 µF	0.42 % to 0.65 %
31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @1kHz	Using Multi Product Calibrator by Direct Method	330 pF to 1 nF	4.23 % to 1.74%
32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Power Factor at 50 Hz	Using Multi product calibrator by Direct Method	0.2 PF to 1 PF (Lag & Lead)	0.011 PF to 0.001 PF

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33	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 µA to 10 µA	2.95 % to 0.36 %
34	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 A to 10 A	0.14 % to 0.19 %
35	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using Shunt with 6½ Digit Multimeter by V-I Method	1 A to 100 A	0.02 % to 0.6 %
36	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	1 mA to 10 mA	0.07 % to 0.081 %
37	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	10 µA to 1 mA	0.36 % to 0.07 %
38	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digit Multimeter by Direct Method	10 mA to 1 A	0.081 % to 0.14 %

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39	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using High Voltage Probe with DMM by Direct Method	0.5 kV to 5 kV	3.52 % to 3.52 %
40	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC High Voltage	Using High Voltage Probe with DMM by Direct Method	5 kV to 40 kV	3.52 % to 2.33 %
41	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	1 mV to 10 mV	0.502 % to 0.06 %
42	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	1 V to 10 V	0.03 % to 0.01 %
43	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	10 mV to 1 V	0.06 % to 0.03 %
44	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digit Multimeter by Direct Method	10 V to 1000 V	0.01 % to 0.012 %

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45	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	0.10 Mohm to 1 Mohm	0.01 % to 0.026 %
46	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 kohm to 0.1 Mohm	0.02 % to 0.016 %
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 Mohm to 10 Mohm	0.026 % to 0.08 %
48	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	1 ohm to 10 ohm	0.51 % to 0.06 %
49	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	10 Mohm to 100 Mohm	0.08 % to 0.924 %
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance	Using 6½ Digit Multimeter by Direct Method	10 ohm to 1 kohm	0.06 % to 0.02 %

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51	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 µA to 10 µA	2.38 % to 0.13 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 A to 10 A	0.05 % to 0.08 %
53	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	1 mA to 100 mA	0.021 % to 0.02 %
54	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	10 µA to 100 µA	0.13 % to 0.047 %
55	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator with Current Coil by Direct Method	10 A to 1000 A	0.77 % to 0.33 %
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	10 A to 20 A	0.08 % to 0.13 %

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57	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 µA to 1 mA	0.047 % to 0.021 %
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multi Product Calibrator by Direct Method	100 mA to 1 A	0.02 % to 0.05 %
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	0.5 mV to 1 mV	1.85 % to 0.36 %
60	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	1 mV to 10 mV	0.36 % to 0.1 %
61	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	10 mV to 100 mV	0.1 % to 0.013 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	100 mV to 100 V	0.013 % to 0.01 %

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63	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multi Product Calibrator by Direct Method	100 V to 1000 V	0.01 % to 0.0071 %
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Inductance	Using Decade Inductance Box by Direct Method	100 µH to 10 H	1.16 %
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using 4 Wire Low Resistance Standard by Direct Method	1 mohm to 1 ohm	0.16 % to 0.14 %
66	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 ohm to 10 ohm	0.14 % to 0.13 %
67	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 kohm to 1 Mohm	0.01 % to 0.022 %
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	1 Mohm to 100 Mohm	0.022 % to 0.60 %

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69	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using High stability Decade Meg ohm Box By Direct Method	1 Gohm to 100 Gohm	1.80 % to 3.78 %
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	10 ohm to 1 kohm	0.13 % to 0.01 %
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using 4 Wire Low Resistance Standard by Direct Method	100 µohm to 1 mohm	0.52 % to 0.16 %
72	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using High stability Decade Meg ohm Box By Direct Method	100 Gohm to 0.95 Tohm	3.78 % to 7.37 %
73	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance	Using Multi Product Calibrator By Direct Method	100 Mohm to 1 Gohm	0.60 % to 1.80 %
74	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	B-Type Thermocouple	Using Multiproduct Calibrator by Direct Method	600 °C to 1800 °C	1.26 °C

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75	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1000 °C	0.24 °C
76	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1200 °C	0.24 °C
77	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1350 °C	0.24 °C
78	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	L -Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 900 °C	0.30 °C
79	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1300 °C	0.24 °C
80	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R-Type Thermocouple	Using Multi Product Calibrator by Direct Method	0 °C to 1750 °C	0.58 °C

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81	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD - PT100	Using Multi Product Calibrator by Direct Method	-200 °C to 800 °C	0.35 °C
82	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S-Type Thermocouple	Using Multi Product Calibrator by Direct Method	1 °C to 1750 °C	1.16 °C
83	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 400 °C	0.25 °C
84	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	U -Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 400 °C	0.24 °C
85	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B-Type Thermocouple	Using Multi Product calibrator by Direct Method	600 °C to 1800 °C	0.71 °C
86	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	E-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1000 °C	0.58 °C

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87	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J -Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1200 °C	0.32 °C
88	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1370 °C	0.46 °C
89	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	L-Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 900 °C	0.30 °C
90	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	N-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 1300 °C	0.47 °C
91	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R-Type Thermocouple	Using Multi Product Calibrator by Direct Method	0 °C to 1750 °C	1.16 °C
92	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD - PT100	Using Multi Product Calibrator by Direct Method	-200 °C to 800 °C	0.27 °C

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93	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S-Type Thermocouple	Using Multi Product Calibrator by Direct Method	1 °C to 1750 °C	0.81 °C
94	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T-Type Thermocouple	Using Multi Product Calibrator by Direct Method	-200 °C to 400 °C	0.73 °C
95	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	U-Type Thermocouple	Using Multi Function Calibrator by Direct Method	-200 °C to 400 °C	0.35 °C
96	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using 6½ Digit Multimeter by Direct Method	10 Hz to 300 kHz	1.305 %
97	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	1 s to 60 s	0.27 s
98	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	3600 s to 86400 s	1.52 s to 5.08 s

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99	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Time Interval Meter By Comparison Method	60 s to 3600 s	0.27 s to 1.52 s
100	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multi product calibrator by Direct Method	1 Hz to 1 MHz	0.13 %
101	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	100 rpm to 1000 rpm	1.08 rpm
102	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	1000 rpm to 10000 rpm	2.21 rpm
103	MECHANICAL-ACCELERATION AND SPEED	Centrifuge/ Stirrers/RPM Indicators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10000 rpm to 30000 rpm	3.70 rpm
104	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.46 RPM

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105	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 12000 RPM	6.05 RPM
106	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	5.92 RPM
107	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10 rpm to 100 rpm	1.3 rpm
108	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.46 RPM
109	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	5.92 RPM
110	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers (Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 12000 RPM	6.05 RPM

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111	MECHANICAL-ACCELERATION AND SPEED	Mechanical / Digital Tachometers/ RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.86 RPM
112	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
113	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM
114	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	100 RPM to 1000 RPM	1.86 RPM
115	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM

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116	MECHANICAL-ACCELERATION AND SPEED	Mechanical /Digital Tachometers/RPM Indicators/RPM Source/Calibrators/Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
117	MECHANICAL-ACCELERATION AND SPEED	Mechanical/ Digital Tachometers/ RPM Indicators with sensor/ Stroboscope (Non Contact Type)	Using Digital Tachometer and Tachometer calibrator By Comparison Method	10 rpm to 100 rpm	0.86 rpm
118	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	1000 RPM to 10000 RPM	2.23 RPM
119	MECHANICAL-ACCELERATION AND SPEED	RPM Source - Centrifuge/Stirrers/RPM Indicators/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10 rpm to 100 rpm	0.87 rpm
120	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	10000 RPM to 90000 RPM	4.71 RPM
121	MECHANICAL-ACCELERATION AND SPEED	RPM Source/ Calibrators (Non Contact Type)	Using Digital Tachometer By Comparison Method	100 RPM to 1000 RPM	1.86 RPM

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122	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 2000 mm	24.1 µm
123	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cube Mould (Linear)	Using Digital Caliper as per IS 10086 by Comparison Method	Up to 150 mm	40 µm
124	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (Mechanical/Digital) (L.C: 0.01 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	>1000 mm to 1200 mm	12 µm
125	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 1000 mm	8.07 µm
126	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C.: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 600 mm	7.4 µm

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127	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (Vernier/Digital/Dial) (L.C: 0.01 mm)	Using Electronic Height Gauge and Long Gauge Blocks by Comparison Method	0 to 300 mm	7.3 µm
128	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Surface Roughness Tester (Ra)	Using Surface Roughness Specimen by Comparison method	Up to 3.18 µm	6.3%
129	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	CNC Machine Tools (Positioning Accuracy - Linear, Angular, Pitch & Yaw)	Using Laser Interferometer by comparison method	0 to 10000 mm	0.91 + (2.13 x L) µm, L in Meter
130	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Co-Ordinate Measuring Machine (Resolution: 0.0001mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 1000 mm	0.85 + (L/200) µm, L in mm
131	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Height Measuring System (L.C.: 0.0001 mm)	Using Gauge Blocks, Long Gauge Blocks and Granite Square by Comparison Method	0 to 1000 mm	0.25 + (L/180) µm, L in mm
132	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Height Measuring System (L.C: 0.0001 mm)	Using Laser Interferometer and Granite Square by comparison method	0 to 1000 mm	0.20 +(0.20 X L) µm Where L in Meters

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133	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Length Measuring Machine (L.C: 0.0001 mm)	Using Laser Interferometer by comparison method	0 to 3000 mm	0.15 + (0.15 X L) µm; Where L in Meters
134	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System - Linear (L.C: 0.1µm)	Using Glass Calibration Grid by Comparison Method	400 mm to 400 mm	3.1 µm
135	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System-Angular (L.C: 1arc s)	Using Angle Graticule by Comparison Method	0 ° to 360 °	20.16 arc s
136	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Tool Maker Microscope/ Vision Measuring System-Magnification	Using Glass Calibration Grid and Digital Vernier Caliper by Comparison Method	10 X to 100 X	0.25 %
137	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Profile Projector/ Vision Measuring System - Linear (L.C: 0.0001mm)	Using Laser Interferometer by comparison method	(400 x 400) mm	0.40 + (0.93 x L) µm; Where L in meter
138	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Scale & Tape Measuring Machine / Calibrator (L.C: 0.001 mm)	Using Slip Gauges & Long Slip Gauges By Comparison Method	0 to 1000 mm	0.66+(L/195) µm; Where L in mm

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139	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Scale & Tape Measuring Machine/ Calibrator (L.C: 0.001 mm)	Using Laser interferometer by comparison method	0 to 1000 mm	0.15 +(0.30 X L) µm; Where L in Meters
140	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Surface Plate (Granite /Cast Iron)	Using Electronic Level by Comparison Method	3500 mm to 2600 mm	0.49 x Sqrt((L+W)/150) µm; where L& W in mm
141	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C : 0.00001mm)	Using Laser Interferometer by comparison method	0 to 3000 mm	0.10 +(0.10 X L) µm; Where L in Meters
142	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C: 0.0001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	0 to 100 mm	0.25 + (L/170) µm, Where L in mm
143	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Universal Length Measuring System (L.C: 0.0001 mm)	Using Gauge Blocks and Long Gauge Blocks by Comparison Method	100 mm to 600 mm	0.85 + (L/225) µm; Where L in mm
144	MECHANICAL-PRESSURE INDICATING DEVICES	Dial & Digital Vacuum Gauges, Transducers/ Transmitters, Switches	Using Standard Digital Vacuum Calibrator by Comparison Method as per DKD-R-6-1	-0.95 bar to 0 bar	0.0011 bar

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145	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic:- Dial & Digital Pressure Gauges, Pressure Calibrators, Pressure Transmitters/Transducers	Using Standard Digital Pressure Calibrator with external sensor, 6.5 digit Multimeter by Comparison Method as per DKD-R-6-1	0 bar to 700 bar	0.12 bar
146	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Differential Pressure Gauge)	Using Differential Pressure Calibrator By Comparison Method as per DKD R-6-1	-10 kPa to 10 kPa	0.029 kPa
147	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Differential Pressure Gauge)	Using Differential Pressure Calibrator By Comparison Method as per DKD R-6-1	-245 Pa to 245 Pa	0.96 Pa

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148	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure Gauges/Vacuum, Calibrators, Pressure Transmitter, Transducer, Switch, Differential Pressure Gauge)	Using Standard Digital Pressure / Vacuum calibrator, Multimeter by Comparison Method as per DKD-R-6-1	-1 bar to 2 bar	1.3 mbar
149	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic) (Magnehelic Gauges, Manometer, Low Pressure/Vacuum Gauges) Calibrators	Using Standard Digital Pressure/ Vacuum calibrator by Comparison Method as per DKD-R-6-1	-700 mbar to 0 mbar	1.1 mbar
150	MECHANICAL-PRESSURE INDICATING DEVICES	Low Pressure (Pneumatic)- (Magnehelic Gauges, Manometer, Low Pressure Calibrators)	Using Standard Digital Pressure calibrator by Comparison Method as per DKD-R-6-1	0 to 700 mbar	0.93 mbar
151	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic - Dial & Digital Pressure Gauges, Pressure Calibrators, Pressure Switches, Pressure Transmitters/Transducers	Using Standard Digital Pressure Calibrator, 6.5 digit Multimeter by Comparison Method as per DKD-R-6-1	0 bar to 20 bar	0.004 bar

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152	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Compression / Compression Testing Machine (CTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	1 kN to 10 kN	0.20 %
153	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Compression / Compression Testing Machine (CTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	10 kN to 100 kN	0.24 %
154	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Compression / Compression Testing Machine (CTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	100 kN to 500 kN	0.21 %
155	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Compression / Compression Testing Machine (CTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	100 N to 1 kN	0.30 %
156	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Tension / Tensile Testing Machine (TTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	1 kN to 10 kN	0.20 %

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157	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Tension / Tensile Testing Machine (TTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	10 kN to 100 kN	0.24 %
158	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Tension / Tensile Testing Machine (TTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	100 kN to 500 kN	0.3 %
159	MECHANICAL-UTM, TENSION CREEP AND TORSION TESTING MACHINE	Universal Testing Machine in Tension / Tensile Testing Machine (TTM)	Using Master Load Cell As per IS 1828 (Part -1)/ ISO 7500	100 N to 1 kN	0.31 %
160	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class I and Coarser, d = 0.01 mg and Coarser)	Using Standard Weights (E1 Class) & Calibration of Electronic Weighing Balance of Class I and Coarser as per OIML R-76-1	1 mg to 80 g	0.02 mg

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161	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class I and Coarser, d = 0.1 mg and Coarser)	Using Standard Weights (E1 Class) & Calibration of Electronic Weighing Balance of Class I and Coarser as per OIML R-76-1	10 mg to 220 g	0.1 mg
162	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class II and Coarser, d = 1 g and Coarser)	Using F1 Class Standard Weights as per OIML R 76	1 g to 35 kg	1 g
163	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class II and Coarser, d = 10 mg and Coarser)	Using E2 Class Standard Weights as per OIML R 76	10 mg to 1 kg	7.35 mg
164	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class III and Coarser, d = 100 mg and Coarser)	Using F1 Class Standard Weights as per OIML R 76	100 mg to 6.1 kg	76 mg
165	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class IV and Coarser, d = 100 g and Coarser)	Using M1 Class Standard Weights as per OIML R 76	500 g to 1000 kg	100 g
166	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class IV and Coarser, d = 200 g and Coarser)	Using M1 Class Standard Weights as per OIML R 76	1 kg to 3000 kg	326.6 g

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167	MECHANICAL-WEIGHING SCALE AND BALANCE	Electronic Weighing Balance (Class IV and Coarser, d = 50 g and Coarser)	Using M1 Class Standard Weights as per OIML R 76	500 g to 300 kg	30.56 g
168	THERMAL-SPECIFIC HEAT & HUMIDITY	Humidity & Temperature Chamber/ Environmental Chamber/ Climatic Chamber (Multiposition calibration) @25 °C	Using Humidity Transmitter with Paperless Recorder by Comparison method with minimum 9 sensors	20 %RH to 95 %RH	1.98 %RH
169	THERMAL-SPECIFIC HEAT & HUMIDITY	Indicator with sensor of Humidity & Temperature Chamber/ Environmental Chamber/Climatic Chamber/ Temperature & Humidity Indicators (20 °C to 50 °C)-Single Position	Using Digital Temperature & Humidity Indicator with Sensor by Comparison method	20 %RH to 95 %RH	1.26 %RH
170	THERMAL-TEMPERATURE	Indicator of Oven, Furnace, Dry Block Furnace, Dry Block Calibrators, Temperature Bath for industrial purpose only (Single Position)	Using S-Type Thermocouple with Indicator by Comparison Method	250 °C to 1200 °C	1.44 °C

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171	THERMAL-TEMPERATURE	Indicator with sensor of Oven, Deep Freezer, Refrigerator, Fluid Bath, Low Temperature Bath, Dry Block Calibrators, Autoclave / incubator for industrial purpose only (Single Position)	Using 4-Wire RTD Sensor with Indicator by Comparison Method	50 °C to 250 °C	0.15 °C
172	THERMAL-TEMPERATURE	Indicator with sensor of Oven, Deep Freezer, Refrigerator, Fluid Bath, Low Temperature Bath, Dry Block Calibrators, Autoclave / incubator for industrial purpose only (Single Position)	Using 4-Wire RTD Sensor with Indicator by Comparison Method	-80 °C to 50 °C	0.14 °C
173	THERMAL-TEMPERATURE	Non-Contact Type Thermometer (Infrared Thermometer / Digital Pyrometer /Thermal Imager)	Using Infrared Thermometer & Black Body Source (Emissivity: 0.95) By comparison method	50 °C to 500 °C	2.29 °C

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174	THERMAL-TEMPERATURE	Non-Contact Type Thermometer (Infrared Thermometer / Digital Pyrometer)	Using Infrared Thermometer & Black Body Source (Emissivity: 0.95) By comparison method	0 °C to 100 °C	2.27 ° C
175	THERMAL-TEMPERATURE	RTD’s, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicators	Using SSPRT Sensor with Multimeter indicator in Dry Block Calibrator by Comparison Method	250 °C to 650 °C	0.17 °C

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176	THERMAL-TEMPERATURE	RTD’s, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Temperature Gauge, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicator	Using SSPRT Sensor with Multimeter indicator in Hot Bath by Comparison Method	50 °C to 250 °C	0.16 °C
177	THERMAL-TEMPERATURE	RTD’s, Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Temperature Gauge, Data Logger With Sensor, Temperature Transmitter/Switch, Temperature Transducer with Indicator	Using SSPRT Sensor with Multimeter indicator Cold Bath by Comparison Method	-80 °C to 50 °C	0.16 °C

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178	THERMAL-TEMPERATURE	Thermal Chamber, Furnace, Oven (Multi position calibration)	Using Multiple N-Type Thermocouple (Minimum 9 Sensors) with Paperless Recorder by Comparison Method	250 °C to 1200 °C	3.65 °C
179	THERMAL-TEMPERATURE	Thermal Chamber/ Oven/ Fluid Bath/ Refrigerator/ Deep Freezer/Cold Room, Autoclave / incubator for industrial purpose only (Multiposition calibration)	Using Multiple RTD Sensors with Paperless Recorder by Comparison Method	-80 °C to 250 °C	1.75 °C
180	THERMAL-TEMPERATURE	Thermocouple With & Without indicator/ Controllers, Temperature Indicator With Sensor, Data Logger With Sensor, Temperature Transmitter/ Switch, Temperature Transducer with Indicators	Using S-type Thermocouple with Multi Function Calibrator in Dry Block Calibrators by Comparison Method	650 °C to 1200 °C	1.37 °C

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