



# National Accreditation Board for Testing and Calibration Laboratories

## SCOPE OF ACCREDITATION

**Laboratory Name :**

CALZYS SERVICES PRIVATE LIMITED, 5A / 27, 2ND FLOOR, KAMARAJ NAGAR,  
2ND STREET, KORATTUR, CHENNAI, TAMIL NADU, INDIA

**Accreditation Standard**

ISO/IEC 17025:2017

**Certificate Number**

CC-4064

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**Validity**

01/10/2024 to 30/09/2028

**Last Amended on**

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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 Digital Multimeter by Direct Method	1 mA to 200 mA	0.43 % to 0.17 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	200 mA to 10 A	0.17 % to 0.33 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	1 mV to 100 mV	1.18 % to 0.17 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	100 mV to 750 V	0.17 % to 0.13 %
5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	2.43 % to 0.45 %



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6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator with 100 turns Current Coil by Direct Method	10 A to 810 A	0.77 % to 1.2 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	10 mV to 200 mV	0.75 % to 0.19 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	200 mV to 1000 V	0.19 % to 0.2 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Decade Capacitance Box by Direct Method	1 nF to 100 µF	1.4 % to 1.2 %
10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Inductance @ 1 kHz	Using Decade Inductance Box by Direct Method	10 mH to 10 H	1.25 % to 1.3 %
11	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Capacitance	Using 6½ Digital Multimeter by Direct Method	1 nF to 100 µF	8.81 % to 3.15 %



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12	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digital Multimeter by Direct Method	1 mA to 200 mA	0.12 % to 0.06 %
13	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digital Multimeter by Direct Method	200 mA to 10 A	0.06 % to 0.27 %
14	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digital Multimeter by Direct Method	1 mV to 10 V	0.59 % to 0.007 %
15	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digital Multimeter by Direct Method	10 V to 1000 V	0.007 % to 0.008 %
16	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 6½ Digital Multimeter by Direct Method	20 kohm to 100 Mohm	0.003 % to 1.07 %
17	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 6½ Digital Multimeter by Direct Method	1 ohm to 20 kohm	0.01 % to 0.003 %





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18	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.27 % to 0.18 %
19	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator with 100 turns Current Coil by Direct Method	10 A to 1000 A	0.31 % to 0.88 %
20	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct Method	1 mV to 1000 V	1.4 % to 0.14 %
21	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	100 kohm to 1000 Mohm	0.12 % to 0.6 %
22	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (4 wire)	Using Decade Resistance Box by Direct Method	1 ohm to 100 kohm	0.26 % to 0.12 %
23	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	B Type Thermocouple	Using Multifunction Calibrator by Direct Method	600 °C to 1800 °C	0.77 °C



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24	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1000 °C	0.24 °C
25	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1200 °C	0.3 °C
26	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1370 °C	0.52 °C
27	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1300 °C	0.47 °C
28	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R Type Thermocouple	Using Multifunction Calibrator by Direct Method	300 °C to 1750 °C	0.76 °C
29	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (PT 100)	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 800 °C	0.27 °C



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30	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1750 °C	0.5 °C
31	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 400 °C	0.16 °C
32	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B Type Thermocouple	Using Multifunction Calibrator by Direct Method	600 °C to 1800 °C	0.7 °C
33	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	E Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1000 °C	0.24 °C
34	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1200 °C	0.3 °C
35	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1370 °C	0.52 °C





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36	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	N Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1300 °C	0.52 °C
37	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R Type Thermocouple	Using Multifunction Calibrator by Direct Method	300 °C to 1750 °C	0.71 °C
38	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD (PT-100)	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 800 °C	0.28 °C
39	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1750 °C	0.51 °C
40	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 400 °C	0.16 °C
41	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using 6½ Digital Multimeter by Direct Method	10 Hz to 10 kHz	0.11 %



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42	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Time Interval Meter by Comparison Method	1 s to 3600 s	0.14 s to 0.94 s
43	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Time Interval Meter by Comparison Method	3600 s to 86400 s	0.94 s to 15.8 s
44	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multifunction Calibrator by Direct Method	45 Hz to 1 kHz	0.18 % to 1.61 %
45	MECHANICAL-ACCELERATION AND SPEED	Tachometer - Contact Type	Using Digital Tachometer & RPM Calibrator by Comparison Method	10 rpm to 100 rpm	5.3 %
46	MECHANICAL-ACCELERATION AND SPEED	Tachometer - Contact Type	Using Digital Tachometer & RPM Calibrator by Comparison Method	100 rpm to 8000 rpm	0.7 %
47	MECHANICAL-ACCELERATION AND SPEED	Tachometer - Non Contact Type	Using Digital Tachometer & RPM Calibrator by Comparison Method	10 rpm to 100 rpm	5.3 %





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48	MECHANICAL-ACCELERATION AND SPEED	Tachometer - Non Contact Type	Using Digital Tachometer & RPM Calibrator by Comparison Method	100 rpm to 10000 rpm	0.74 %
49	MECHANICAL-ACCELERATION AND SPEED	Tachometer - Non Contact Type	Using Digital Tachometer & RPM Calibrator by Comparison Method	10000 rpm to 90000 rpm	0.11 %
50	MECHANICAL-ACOUSTICS	Sound Level Meter @ 1 kHz	Using Sound Level Calibrator by Direct method	94 dB	0.42 dB
51	MECHANICAL-ACOUSTICS	Sound Level Meter @ 1 kHz	Using Sound Level Calibrator by Direct method	114 dB	0.42 dB
52	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm and Coarser)	Using Caliper Checker and Slip Gauges by Comparison Method	0 to 300 mm	9.9 µm
53	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm and Coarser)	Using Caliper Checker by Comparison Method	0 to 600 mm	14.7 µm



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54	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Foil	Using Plunger Dial Indicator with Comparator Stand by Comparison Method	0.009 mm to 2.85 mm	1.71 µm
55	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Coating Thickness Gauge (L.C: 0.001 mm and Coarser)	Using Thickness Foils by Comparison Method	9 µm to 2000 µm	2.97 µm
56	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Caliper (L.C.: 0.01 mm and Coarser)	Using Slip Gauges and Length Bars by Comparison Method	0 to 200 mm	10.1 µm
57	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Micrometer (L.C.: 0.01 mm and Coarser)	Using Slip Gauges and Length Bars by Comparison Method	0 to 200 mm	7.42 µm
58	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial Thickness Gauge (L.C.: 0.01 mm and Coarser)	Using Slip Gauges by Comparison Method	0 to 10 mm	6.7 µm



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59	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm and Coarser)	Using Slip Gauges and Length Bars by Comparison Method	0 to 100 mm	3.73 $\mu$ m
60	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm and Coarser)	Using Slip Gauges by Comparison Method	0 to 25 mm	1.82 $\mu$ m
61	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.01 mm and Coarser)	Using Slip Gauges and Length Bars by Comparison Method	100 mm to 600 mm	11.6 $\mu$ m
62	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler Gauge	Using Slip Gauges, Plunger Dial Indicator by Comparison Method	0.03 mm to 1 mm	1.7 $\mu$ m
63	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (L.C.: 0.01 mm and Coarser)	Using Caliper Checker by Comparison Method	0 to 600 mm	12.5 $\mu$ m





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64	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial Gauge (L.C.: 0.01 mm and Coarser)	Using Dial Calibration Tester by Comparison Method	0 to 0.8 mm	5.81 $\mu$ m
65	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Dial Indicator (L.C.: 0.001 mm)	Using Dial Calibration Tester by Comparison Method	0 to 0.14 mm	1.1 $\mu$ m
66	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Measuring Pin	Using Slip Gauges, Plunger Dial Indicator and Comparator Stand by Comparison Method	0.2 mm to 20 mm	2.43 $\mu$ m
67	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Standard	Using Slip gauges, Length Bars, Plunger Dial Indicator and Surface Plate by Comparison Method	100 mm to 300 mm	5.6 $\mu$ m
68	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Standard	Using Slip Gauges, Length Bars, Plunger Dial Indicator and Surface Plate by Comparison Method	300 mm to 575 mm	12.5 $\mu$ m



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69	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Standard	Using Slip Gauges, Length Bars, Plunger Dial Indicator and Surface Plate by Comparison Method	50 mm to 100 mm	1.62 $\mu$ m
70	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Using Slip Gauges, Plunger Dial Indicator with Comparator Stand by Comparison Method	3 mm to 100 mm	1.28 $\mu$ m
71	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Dial Gauge (L.C.: 0.001 mm and Coarser)	Using Slip Gauges and Dial Calibration Tester by Comparison Method	0 to 25 mm	1.5 $\mu$ m
72	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Snap Gauge	Using Slip Gauges by Comparison Method	2 mm to 200 mm	3.9 $\mu$ m
73	MECHANICAL-DIMENSION (PRECISION INSTRUMENTS)	Dial Calibration Tester (L.C.: 0.0002 mm)	Using Plunger Dial Indicator (L.C.: 0.0001 mm) by Comparison Method	0 to 25 mm	1.94 $\mu$ m



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74	MECHANICAL-PRESSURE INDICATING DEVICES	-Pneumatic Pressure - Pressure gauge(Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	0 to 20 bar	0.016 bar
75	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure - Pressure gauge (Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD-R-6-1	0 to 1000 bar	0.6 bar





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76	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure - Pressure gauge (Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	0 to 700 bar	0.42 bar
77	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Manometer, Pressure gauge (Analog / Digital), Magnehelic Gauge, Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Digital Manometer, Digital Multimeter & Screw pump by Comparison Method as per DKD R 6 - 1	0 to 100 mbar	1.85 mbar



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78	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Pressure gauge (Analog / Digital), Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R6 - 1	0 to 1 bar	0.0019 bar
79	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Vacuum gauge (Analog / Digital) Vacuum Transducer / Transmitter, Vacuum Switch, Vacuum Module, Vacuum Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	(-) 0.95 bar to 0	0.0019 bar
80	MECHANICAL-VOLUME	Volumetric Flask, Graduated Jar, Beaker, Dispenser, Conical Flask, Measuring Cylinder, Standard Flask, Syringe (Non Medical Purpose only)	Using Electronic Balance of Readability 0.001 g and Distilled Water by Gravimetric Method as per ISO 4787 : 2021	1 ml to 2000 ml	0.14 ml



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81	MECHANICAL-VOLUME	Volumetric Flask, Graduated Jar, Beaker, Dispenser, Conical Flask, Measuring Cylinder, Standard Flask, Syringe (Non Medical Purpose only)	Using Electronic Balance of Readability 0.1 g and Distilled Water by Gravimetric Method as per ISO 4787:2021	2000 ml to 5000 ml	1.1 ml
82	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance Accuracy Class II, Readability:0.01 g and Coarser	Using E1, E2 & F2 Class Standard Weights by Comparison Method as per OIML R 76 - 1	0 to 10.1 kg	34 mg
83	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance Accuracy Class II, Readability:0.01 g and Coarser	Using E1, E2 & F2 Class Standard Weights by Comparison Method as per OIML R 76 - 1	0 to 30 kg	0.12
84	MECHANICAL-WEIGHTS	Accuracy class F1 & Coarser	Using E2 Class Standard Weights & Digital Weighing Balance (Readability 0.001 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	1 kg	1 mg





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85	MECHANICAL-WEIGHTS	Accuracy class F1 & Coarser	Using E2 Class Standard Weights & Digital Weighing Balance (Readability 0.001 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	2 kg	1.6 mg
86	MECHANICAL-WEIGHTS	Accuracy class F1 & Coarser	Using E2 Class Standard Weights & Digital Weighing Balance (Readability 0.001 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	500 g	0.9 mg
87	MECHANICAL-WEIGHTS	Accuracy class F2 & Coarser	Using E2 Class Standard Weights & Digital Weighing Balance (Readability 0.01 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	5 kg	12 mg



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88	MECHANICAL-WEIGHTS	Accuracy class M1 & Coarser	Using F2 Class Standard Weights & Digital Weighing Balance (Readability 0.01 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	10 kg	19 mg
89	MECHANICAL-WEIGHTS	Accuracy class M1 & Coarser	Using F2 Class Standard Weights & Digital Weighing Balance (Readability 0.1 g) by Substitution Method (ABBA Cycle) as per OIML R 111 - 1	20 kg	86 mg
90	THERMAL-SPECIFIC HEAT & HUMIDITY	Thermo Hygrometer (Analog / Digital), Humidity Sensor with Indicator, Humidity Datalogger with Internal / External Sensor, Humidity Transmitter with indicator	Using Temperature Humidity Indicator with Probe & Humidity Calibrator by Comparison Method	10 °C to 55 °C @ 50 % rh	0.19 °C



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91	THERMAL-SPECIFIC HEAT & HUMIDITY	Thermo Hygrometer (Analog / Digital), Humidity Sensor with Indicator, Humidity Datalogger with Internal / External Sensor, Humidity Transmitter with indicator	Using Temperature Humidity Indicator with Probe & Humidity Calibrator by Comparison Method	20 % rh to 95 % rh @ 25 °C	1.46 % rh
92	THERMAL-TEMPERATURE	IR Thermometer, Non contact Thermometer, Pyrometer	Using IR Thermometer and Black Body Source (Emissivity: 0.95) by Comparison Method	50 °C to 500 °C	2.91 °C
93	THERMAL-TEMPERATURE	Liquid in Glass Thermometer	Using RTD Sensor with Indicator & Liquid Bath by Comparison Method	(-) 60 °C to 250 °C	0.72 °C
94	THERMAL-TEMPERATURE	RTD / Thermocouple With or Without Indicator, Datalogger / Recorder / Transmitter with Sensor, Temperature Indicator with Sensor, Temperature Gauge	Using RTD Sensor with Indicator, DMM & Liquid Bath by Comparison Method	(-) 60 °C to 30 °C	0.5 °C





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95	THERMAL-TEMPERATURE	RTD / Thermocouple With or Without Indicator, Datalogger / Recorder / Transmitter with Sensor, Temperature Indicator with Sensor, Temperature Gauge	Using RTD Sensor with Indicator, DMM & Dry Block Calibrator by Comparison Method	30 °C to 400 °C	0.96 °C
96	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Bath, Dry Block Calibrator, Oven, Furnace - Single Position Calibration	Using S Type Thermocouple with Indicator by Comparison Method	250 °C to 1200 °C	2.4 °C
97	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Bath, Low Temperature Bath, Oil Bath, Dry Block Calibrator, Deep Freezer, Refrigerator, Cryogenic Bath, BOD Incubator (Non Medical Purpose Only), Oven - Single Position Calibration	Using RTD Sensor with Indicator by Comparison Method	(-) 80 °C to 250 °C	0.4 °C



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98	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Black Body Source	Using IR Thermometer (Emissivity:0.95) by Comparison Method	50 °C to 500 °C	2.91 °C
99	THERMAL-TEMPERATURE	Thermocouple With or Without Indicator, Thermometer with Sensor, Datalogger / Recorder / Transmitter with Sensor, Temperature Gauge, Temperature Indicator / Controller with Sensor	Using S Type Thermocouple with Indicator & Dry block Calibrator by Comparison Method	400 °C to 1200 °C	2 °C



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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	1 mA to 200 mA	0.43 % to 0.17 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Current @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	200 mA to 10 A	0.17 % to 0.33 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	1 mV to 100 mV	1.18 % to 0.17 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC Voltage @ 50 Hz	Using 6½ Digital Multimeter by Direct Method	100 mV to 750 V	0.17 % to 0.13 %
5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	2.43 % to 0.45 %





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6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Current @ 50 Hz	Using Multifunction Calibrator with 100 turns Current Coil by Direct Method	10 A to 810 A	0.77 % to 1.2 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	10 mV to 200 mV	0.75 % to 0.19 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Voltage @ 50 Hz	Using Multifunction Calibrator by Direct Method	200 mV to 1000 V	0.19 % to 0.2 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Capacitance @ 1 kHz	Using Decade Capacitance Box by Direct Method	1 nF to 100 $\mu$ F	1.4 % to 1.2 %
10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	Inductance @ 1 kHz	Using Decade Inductance Box by Direct Method	10 mH to 10 H	1.25 % to 1.3 %
11	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Capacitance	Using 6½ Digital Multimeter by Direct Method	1 nF to 100 $\mu$ F	8.81 % to 3.15 %



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12	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digital Multimeter by Direct Method	1 mA to 200 mA	0.12 % to 0.06 %
13	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 6½ Digital Multimeter by Direct Method	200 mA to 10 A	0.06 % to 0.27 %
14	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digital Multimeter by Direct Method	1 mV to 10 V	0.59 % to 0.007 %
15	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 6½ Digital Multimeter by Direct Method	10 V to 1000 V	0.007 % to 0.008 %
16	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 6½ Digital Multimeter by Direct Method	20 kohm to 100 Mohm	0.003 % to 1.07 %
17	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (4 wire)	Using 6½ Digital Multimeter by Direct Method	1 ohm to 20 kohm	0.01 % to 0.003 %



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18	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator by Direct Method	1 mA to 10 A	0.27 % to 0.18 %
19	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Current	Using Multifunction Calibrator with 100 turns Current Coil by Direct Method	10 A to 1000 A	0.31 % to 0.88 %
20	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC Voltage	Using Multifunction Calibrator by Direct Method	1 mV to 1000 V	1.4 % to 0.14 %
21	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	100 kohm to 1000 Mohm	0.12 % to 0.6 %
22	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (4 wire)	Using Decade Resistance Box by Direct Method	1 ohm to 100 kohm	0.26 % to 0.12 %
23	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	B Type Thermocouple	Using Multifunction Calibrator by Direct Method	600 °C to 1800 °C	0.77 °C





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24	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	E Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1000 °C	0.24 °C
25	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	J Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1200 °C	0.3 °C
26	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	K Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1370 °C	0.52 °C
27	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	N Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1300 °C	0.47 °C
28	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	R Type Thermocouple	Using Multifunction Calibrator by Direct Method	300 °C to 1750 °C	0.76 °C
29	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	RTD (PT 100)	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 800 °C	0.27 °C



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30	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	S Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1750 °C	0.5 °C
31	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure)	T Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 400 °C	0.16 °C
32	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	B Type Thermocouple	Using Multifunction Calibrator by Direct Method	600 °C to 1800 °C	0.7 °C
33	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	E Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1000 °C	0.24 °C
34	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	J Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1200 °C	0.3 °C
35	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	K Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 1370 °C	0.52 °C



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36	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	N Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1300 °C	0.52 °C
37	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	R Type Thermocouple	Using Multifunction Calibrator by Direct Method	300 °C to 1750 °C	0.71 °C
38	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD (PT-100)	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 800 °C	0.28 °C
39	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	S Type Thermocouple	Using Multifunction Calibrator by Direct Method	100 °C to 1750 °C	0.51 °C
40	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	T Type Thermocouple	Using Multifunction Calibrator by Direct Method	(-) 200 °C to 400 °C	0.16 °C
41	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using 6½ Digital Multimeter by Direct Method	10 Hz to 10 kHz	0.11 %





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42	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Time Interval Meter by Comparison Method	1 s to 3600 s	0.14 s to 0.94 s
43	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Time Interval Meter by Comparison Method	3600 s to 86400 s	0.94 s to 15.8 s
44	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	Frequency	Using Multifunction Calibrator by Direct Method	45 Hz to 1 kHz	0.18 % to 1.61 %
45	MECHANICAL-ACCELERATION AND SPEED	Centrifuge	Using Digital Tachometer by Comparison Method	10 rpm to 100 rpm	5.2 %
46	MECHANICAL-ACCELERATION AND SPEED	Centrifuge	Using Digital Tachometer by Comparison Method	100 rpm to 15000 rpm	0.4 %
47	MECHANICAL-ACCELERATION AND SPEED	RPM Indicator / RPM Source / RPM Meter	Using Digital Tachometer by Comparison Method	10 rpm to 100 rpm	5.3 %
48	MECHANICAL-ACCELERATION AND SPEED	RPM Indicator / RPM Source / RPM Meter	Using Digital Tachometer by Comparison Method	100 rpm to 15000 rpm	0.42 %



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49	MECHANICAL-ACCELERATION AND SPEED	RPM Indicator / RPM Source / RPM Meter	Using Digital Tachometer by Comparison Method	15000 rpm to 90000 rpm	0.11 %
50	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge (L.C.: 0.01 mm and Coarser)	Using Caliper Checker by Comparison Method	0 to 600 mm	12.5 $\mu$ m
51	MECHANICAL-PRESSURE INDICATING DEVICES	-Pneumatic Pressure - Pressure gauge(Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	0 to 20 bar	0.016 bar



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52	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure - Pressure gauge (Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD-R-6-1	0 to 1000 bar	0.6 bar
53	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure - Pressure gauge (Analog / Digital) Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	0 to 700 bar	0.42 bar





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54	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Manometer, Pressure gauge (Analog / Digital), Magnehelic Gauge, Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Digital Manometer, Digital Multimeter & Screw pump by Comparison Method as per DKD R 6 - 1	0 to 100 mbar	1.85 mbar
55	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Pressure gauge (Analog / Digital), Pressure Transducer / Transmitter, Pressure Switch, Pressure Module, Pressure Calibrator, Pressure Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R6 - 1	0 to 1 bar	0.0019 bar



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56	MECHANICAL-PRESSURE INDICATING DEVICES	Pneumatic Pressure - Vacuum gauge (Analog / Digital) Vacuum Transducer / Transmitter, Vacuum Switch, Vacuum Module, Vacuum Transducer / Transmitter with Indicator	Using Pressure Calibrator, Digital Multimeter & Pressure Comparator by Comparison Method as per DKD R 6 - 1	(-) 0.95 bar to 0	0.0019 bar
57	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance Accuracy Class II, Readability:0.01 g and Coarser	Using E1, E2 & F2 Class Standard Weights by Comparison Method as per OIML R 76 - 1	0 to 10.1 kg	34 mg
58	MECHANICAL-WEIGHING SCALE AND BALANCE	Weighing Balance Accuracy Class II, Readability:0.01 g and Coarser	Using E1, E2 & F2 Class Standard Weights by Comparison Method as per OIML R 76 - 1	0 to 30 kg	0.12
59	THERMAL-SPECIFIC HEAT & HUMIDITY	Indicator with Sensor of Humidity Chamber, Climatic Chamber, Environmental Chamber - Single Position Calibration	Using Temperature & Humidity Indicator with Probe by Comparison Method	10 % rh to 95 % rh @ 25 °C	1.46 % rh



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60	THERMAL-SPECIFIC HEAT & HUMIDITY	Indicator with Sensor of Humidity Chamber, Climatic Chamber, Environmental Chamber - Single Position Calibration	Using Temperature & Humidity Indicator with Probe by Comparison Method	10 °C to 50 °C @ 50 % rh	0.72 °C
61	THERMAL-TEMPERATURE	IR Thermometer, Non contact Thermometer, Pyrometer	Using IR Thermometer and Black Body Source (Emissivity: 0.95) by Comparison Method	50 °C to 500 °C	2.91 °C
62	THERMAL-TEMPERATURE	RTD / Thermocouple With or Without Indicator, Datalogger / Recorder / Transmitter with Sensor, Temperature Indicator with Sensor, Temperature Gauge	Using RTD Sensor with Indicator, DMM & Liquid Bath by Comparison Method	(-) 60 °C to 30 °C	0.5 °C





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63	THERMAL-TEMPERATURE	RTD / Thermocouple With or Without Indicator, Datalogger / Recorder / Transmitter with Sensor, Temperature Indicator with Sensor, Temperature Gauge	Using RTD Sensor with Indicator, DMM & Dry Block Calibrator by Comparison Method	30 °C to 400 °C	0.96 °C
64	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Bath, Dry Block Calibrator, Oven, Furnace - Single Position Calibration	Using S Type Thermocouple with Indicator by Comparison Method	250 °C to 1200 °C	2.4 °C
65	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Bath, Low Temperature Bath, Oil Bath, Dry Block Calibrator, Deep Freezer, Refrigerator, Cryogenic Bath, BOD Incubator (Non Medical Purpose Only), Oven - Single Position Calibration	Using RTD Sensor with Indicator by Comparison Method	(-) 80 °C to 250 °C	0.4 °C



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66	THERMAL-TEMPERATURE	Temperature Indicator with Sensor of Black Body Source	Using IR Thermometer (Emissivity:0.95) by Comparison Method	50 °C to 500 °C	2.91 °C
67	THERMAL-TEMPERATURE	Thermal Chamber, Oven, Furnace - Multi Position Calibration	Using N Type Thermocouples (Minimum 9 Sensors) with Datalogger by Comparison Method	250 °C to 940 °C	5.33 °C
68	THERMAL-TEMPERATURE	Thermocouple With or Without Indicator, Thermometer with Sensor, Datalogger / Recorder / Transmitter with Sensor, Temperature Gauge, Temperature Indicator / Controller with Sensor	Using S Type Thermocouple with Indicator & Dry block Calibrator by Comparison Method	400 °C to 1200 °C	2 °C



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69	THERMAL-TEMPERATURE	Ultra Low Temperature Freezer, Deep Freezer, Water Bath, Thermal Chamber, Refrigerator, Cryogenic Bath, Incubator, Autoclave (Non Medical purpose only) - Multi Position Calibration	Using RTD Sensors (Minimum 9 Sensors) with Datalogger by Comparison Method	(-) 80 °C to 250 °C	4.25 °C

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