National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :	ZEAL MANUFACTURING AND CALIBRATION SERVICES PRIVATE LIMITED, S.NO. 78/1, PANDHARI INDUSTRIAL ESTATE, SHIVANE, PUNE, MAHARASHTRA, 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 @10 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	1 A to 20 A	0.0465 % to 0.1821 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 mA	0.3319 % to 0.0434 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.0434 % to 0.0465 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	0.17 % to 0.27 %

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 mA	0.68 % to 0.16 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.16 % to 0.17 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @5 kHz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	1.19 % to 1.26 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @5 kHz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mA to 1 A	1.64 % to 1.19 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC ENERGY (Apparent, Active & Reactive) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 20 mA to 120 A, UPF to 0.1 PF (Lag, Lead)	Using Three Phase Reference Meter with CT along with Power Source by Direct Method / Comparison Method	0.08 VAh, Wh, VArh to 108 kVAh,kWh, kVArh	0.96 % to 0.1 %

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH CURRENT @ 50 Hz	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	10 A to 300 A	0.82 % to 0.37 %
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH CURRENT @ 50 Hz	Using 6½ DMM, CT & AC/DC High Current Shunt by Direct/Comparison Method	300 A to 6000 A	0.37 % to 1.14 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH VOLTAGE @ 50 Hz	Using HV Probe with DMM by Direct/Comparison Method	1 kV to 100 kV	2.36%
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC POWER (Apparent, Active & Reactive) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 20 mA to 120 A, UPF to 0.1 PF (Lag, Lead)	Using Three Phase Reference with CT along with Power Source by Direct/ Comparison Method	0.08 VA, W, VAr to 108 kVA, kW, kVAr	0.96 % to 0.1 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC RESISTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	10 m ohm to 100 ohm	0.20 % to 0.06 %

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15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC RESISTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 ohm to 10 k ohm	0.06 % to 0.45 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @10 Hz to 100 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	1 mV to 10 mV	0.14 % to 0.046 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @10 Hz to 100 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	10 mV to 100 V	0.046 % to 0.014 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @40 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	100 V to 800 V	0.014 % to 0.020 %
19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @40 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	800 V to 1000 V	0.029 % to 0.019 %

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20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mV to 5 mV	4.71 % to 1.00 %
21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mV to 1000 V	0.12 % to 0.10 %
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	20 mV to 100 mV	0.30 % to 0.12 %
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	5 mV to 20 mV	1.00 % to 0.30 %
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method	1 µF to 100 µF	0.08 % to 0.40 %

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25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method:	1 pF to 1 µF	0.56 % to 0.08 %
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 µF to 1 mF	0.40 % to 1.3 %
27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	HARMONICS IN VOLTAGE & CURRENT UPTO 39 Order @ 50 Hz (63.5V to 250 V & 0.5A to 5A)	Using Three Phase Reference by Direct/Comparison Method	2nd Order (1% to 40 %) to 39th Order (1% to 40%)	0.82%
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	INDUCTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 µH to 10 H	0.1%
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	POWER FACTOR (LAG & LEAD) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 10 mA to 120 A	Using Three Phase Reference Meter with CT along with Power Source by Direct Method / Comparison Method	0.1 PF to UPF (Lag, Lead)	0.007PF

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30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	1 mA to 300 mA	0.19 % to 0.14 %
31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	3.2 A to 20 A	0.38 % to 0.71 %
32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	300 mA to 3.2 A	0.14 % to 0.38 %
33	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	50 µA to 1 mA	1.51 % to 0.19 %
34	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	20 µA to 50 µA	5.27 % to 0.80 %
35	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	3.2 A to 20 A	0.14 % to 0.27 %

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36	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	300 mA to 3.2 A	0.11 % to 0.14 %
37	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	50 µA to 300 mA	0.80 % to 0.11 %
38	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @ 50 Hz	Using Multifunction Calibrator with current coil by Direct Method	>10 A to 1000 A	0.77%
39	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Resistance @1kHz	Using Decade Resistance Box by Direct Method	1 ohm to 100 ohm	0.58 % to 0.12 %
40	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Resistance @1kHz	Using Decade Resistance Box by Direct Method	100 ohm to 10 k ohm	0.12 % to 0.42 %
41	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	10 mV to 30 mV	5.96 % to 0.54 %

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42	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	30 mV to 300 mV	0.54 % to 0.06 %
43	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 1 kHz to 10 kHz	Using Multifunction Calibrator by Direct Method	300 mV to 1000 V	0.06 % to 0.12 %
44	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	10 mV to 30 mV	4.48 % to 0.42 %
45	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	30 mV to 300 mV	0.42 % to 0.06 %
46	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @ 40 Hz to 1 kHz	Using Multifunction Calibrator by Direct Method	300 mV to 1000 V	0.06 % to 0.07 %
47	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	CAPACITANCE @100Hz	Using Decade Capacitance Box by Direct Method:	100 µF to 1 mF	1.2%

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48	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	CAPACITANCE @1kHz	Using Decade Capacitance Box by direct method	10 pF to 100 µF	1.2%
49	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	INDUCTANCE @1kHz	Using Decade Inductance Box by Direct Method	100 µH to 10 H	1.2%
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	-1 A to 10 µA	0.003 % to 0.009 %
51	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	0.08 % to 0.19 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	1 A to 20 A	0.003 % to 0.11 %
53	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 µA	0.009 % to 0.003 %

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54	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 mA	0.36 % to 0.06 %
55	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	100 µA to 100 mA	0.003 % to 0.007 %
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.007 % to 0.003 %
57	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.06 % to 0.08 %
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 8½ Digit Multimeter by Direct/Comparison Method	-20 A to -1 A	0.08 % to 0.003 %
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH CURRENT	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	10 A to 20 A	0.17 % to 0.15 %

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60	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH CURRENT	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	20 A to 1000 A	0.13 % to 0.44 %
61	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH VOLTAGE	Using HV Probe with DMM by Direct/Comparison method	1 kV to 100 kV	1.98 % to 2.13 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 8½ Digit Multimeter by Direct Method	1 ohm to 10 k ohm	0.0042 % to 0.0015 %
63	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	1 ohm to 100 k ohm	0.36 % to 0.013 %
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 8½ Digit Multimeter by Direct Method	10 k ohm to 10 M ohm	0.0015 % to 0.0028 %
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 8½ Digit Multimeter by Direct Method	10 M ohm to 100 M ohm	0.0028 % to 0.0066 %

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66	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	10 M ohm to 100 M ohm	0.048 % to 0.94 %
67	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	100 k ohm to 10 M ohm	0.013 % to 0.048 %
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 8½ Digit Multimeter by Direct Method	100 M ohm to 10 G ohm	0.0066 % to 0.1129 %
69	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	100 M ohm to 1000 M ohm	0.94 % to 2.34 %
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method	1 m ohm	0.07%
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method	1 ohm	0.02%

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72	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method	10 µ ohm	0.21%
73	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method:	10 m ohm	0.07%
74	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method:	100 µ ohm	0.08%
75	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method	100 m ohm	0.07%
76	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE (4 WIRE) DISCRETE	Using 8½ digit DMM and Multifunction Calibrator by comparison method	50 µ ohm	0.01%
77	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE(4 WIRE)	Using 8½ digit DMM and Multifunction Calibrator by V/I Method	1 m ohm to 1 ohm	0.085%

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78	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	0.1 mV to 0.5 mV	0.3724 % to 0.0767 %
79	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	0.1 mV to 0.5 mV	4.1 % to 0.82 %
80	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	0.5 mV to 1 mV	0.0767 % to 0.0389 %
81	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	0.5 mV to 1 mV	0.82 % to 0.41 %
82	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	1 mV to 10 mV	0.0389 % to 0.0056 %
83	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mV to 20 mV	0.41 % to 0.025 %

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84	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	10 mV to 1000 V	0.0056 % to 0.0032 %
85	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	-100 mV to 0.1 mV	0.0034 % to 0.3724 %
86	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 8½ Digit Multimeter by Direct/Comparison Method	-1000 V to -100 mV	0.0035 % to 0.0034 %
87	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	20 mV to 1000 V	0.025 % to 0.007 %
88	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using Mega ohm Meter by Direct Method	10 G ohm to 1 T ohm	3.87 % to 6.9 %
89	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using Mega ohm Meter by Direct Method	5 M ohm to 10 G ohm	2.47 % to 3.87 %

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90	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using Multifunction Calibrator with current coil by Direct Method	>10 A to 1000 A	0.81%
91	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using Multifunction Calibrator by Direct Method	10 µA to 300 mA	0.16 % to 0.03 %
92	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using Multifunction Calibrator by Direct Method	10 A to 20 A	0.08 % to 0.09 %
93	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using Multifunction Calibrator by Direct Method	300 mA to 10 A	0.03 % to 0.08 %
94	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Precision Decade Resistance Box by Direct Method	1 m ohm to 1 ohm	5.77 % to 1.15 %
95	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Multifunction Calibrator by Direct Method	1 M ohm to 40 M ohm	0.07 % to 0.18 %

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96	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Multifunction Calibrator by Direct Method	1 ohm to 10 k ohm	1.19 % to 0.03 %
97	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Multifunction Calibrator by Direct Method	10 k ohm to 1 M ohm	0.03 % to 0.07 %
98	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Multifunction Calibrator by Direct Method	40 M ohm to 400 M ohm	0.18 % to 0.51 %
99	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	1 m ohm	0.13%
100	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	1 ohm	0.12%
101	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	10 µ ohm	1.1%

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102	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	10 m ohm	0.12%
103	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	100 µ ohm	0.43%
104	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	100 m ohm	0.12%
105	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	50 µ ohm	1.0%
106	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC VOLTAGE	Using Multifunction Calibrator by Direct Method	0.2 mV to 1 mV	3.78 % to 0.76 %
107	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC VOLTAGE	Using Multifunction Calibrator by Direct Method	1 mV to 30 mV	0.76 % to 0.03 %

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108	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC VOLTAGE	Using Multifunction Calibrator by Direct Method	30 mV to 1000 V	0.03 % to 0.01 %
109	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1 G ohm	2.40%
110	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1 M ohm	2.58%
111	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	10 G ohm	2.40%
112	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	10 M ohm	2.46%
113	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	100 G ohm	5.85%

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114	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	100 M ohm	2.46%
115	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1000 G ohm	5.85%
116	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1000 M ohm	2.48%
117	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	2 G ohm	2.40%
118	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	2 M ohm	2.46%
119	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	200 G ohm	5.85%

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120	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	200 M ohm	2.46%
121	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	5 G ohm	2.40%
122	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	5 M ohm	2.46%
123	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	50 G ohm	2.40%
124	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	50 M ohm	2.46%
125	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	500 G ohm	5.85%

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126	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	500 M ohm	2.46%
127	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	700 M ohm	2.46%
128	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1 G ohm	2.90%
129	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1 M ohm	2.95%
130	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	10 G ohm	2.90%
131	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	10 M ohm	2.95%

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132	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	100 G ohm	6.02%
133	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	100 M ohm	2.95%
134	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1000 G ohm	6.04%
135	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1000 M ohm	2.95%
136	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	2 G ohm	2.90%
137	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	2 M ohm	2.95%

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138	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	200 G ohm	6.02%
139	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	200 M ohm	2.95%
140	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	5 G ohm	2.90%
141	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	5 M ohm	2.95%
142	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	50 G ohm	2.90%
143	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	50 M ohm	2.95%

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144	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	500 G ohm	6.02%
145	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	500 M ohm	2.95%
146	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	700 M ohm	2.95%
147	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	OSCILLOSCOPE AMPLITUDE (DC VOLTAGE)	Using Multifunction Calibrator and Sine Wave Generator by Direct Method	5 mV/div to 20 V/div	0.22%
148	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	OSCILLOSCOPE BANDWIDTH (50 ohm)	Using Multifunction Calibrator and Sine Wave Generator by Direct Method	500 kHz to 250 MHz	0.96%
149	ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source)	OSCILLOSCOPE TIME	Using Multifunction Calibrator and Sine Wave Generator by Direct Method	5 ns/div to 0.5 s/div	0.98 % to 0.12 %

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150	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	RTD Type	Using Multifunction Calibrator by Direct Method	-200 °C to 800 °C	0.28 °C to 0.53 °C
151	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (B - Type)	Using Multifunction Calibrator by Direct Method	600 °C to 1700 °C	0.53°C
152	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (E - Type)	Using Multifunction Calibrator by Direct Method	-200 °C to 1000 °C	0.73°C
153	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (J - Type)	Using Multifunction Calibrator by Direct Method	-200 °C to 1200 °C	0.73°C
154	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (k - Type)	Using Multifunction Calibrator by Direct Method	-200 °C to 1300 °C	0.66°C
155	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (N - Type)	Using Multifunction Calibrator by Direct Method	-200 °C to 1300 °C	0.79°C

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156	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (R - Type)	Using Multifunction Calibrator by Direct Method	0 °C to 1700 °C	0.82°C
157	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (S - Type)	Using Multifunction Calibrator by Direct Method	0 °C to 1700 °C	0.79°C
158	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Thermocouple (T - Type)	Using Multifunction Calibrator by Direct Method	-200 °C to 400 °C	0.66°C
159	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	100 ms to 500 ms	1.34 ms to 1.34 ms
160	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	FREQUENCY	Using Frequency Counter by Direct Method	0.2 Hz to 1 Hz	0.28 % to 0.06 %
161	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	FREQUENCY	Using Frequency Counter by Direct Method	1 Hz to 225 MHz	0.06 % to 0.26 %

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162	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	PERIOD	Using Frequency Counter by Direct Method	5 ns to 5 s	0.01%
163	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method:	500 ms to 1 s	1.34 ms to 1.21 ms
164	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method:	1 hr to 8 hr	0.42 s to 11.49 s
165	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	1 min to 1 hr	0.015 s to 0.42 s
166	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	1 s to 1 min	1.21 ms to 0.015 ms
167	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	50 ms to 100 ms	5.90 ms to 1.34 ms

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168	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Digital Stop Watch by Comparison Method	6 s to 24 hr	1.24 s to 2.74 s
169	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	8 hr to 24 hr	11.49 s to 23.00 s
170	ELECTRO-TECHNICAL-TIME & FREQUENCY (Source)	FREQUENCY	Using Multifunction Calibrator by Direct Method	1 Hz to 10 MHz	0.59 % to 0.007 %

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Site Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 10 kHz	Using 8½ Digit Multimeter by Direct/Comparison Method	1 A to 20 A	0.0465 % to 0.1821 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	0.17 % to 0.27 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 mA	0.68 % to 0.16 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @10 Hz to 5 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.16 % to 0.17 %

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @5 kHz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	1.19 % to 1.26 %
6	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC CURRENT @5 kHz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mA to 1 A	1.64 % to 1.19 %
7	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC ENERGY (Apparent, Active & Reactive) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 20 mA to 120 A, UPF to 0.1 PF (Lag, Lead)	Using Three Phase Reference Meter with CT along with Power Source by Direct Method / Comparison Method	0.08 VAh, Wh, VArh to 108 kVAh,kWh, kVArh	0.96 % to 0.1 %
8	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH CURRENT @ 50 Hz	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	10 A to 300 A	0.82 % to 0.37 %
9	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH CURRENT @ 50 Hz	Using 6½ DMM, CT & AC/DC High Current Shunt by Direct/Comparison Method	300 A to 6000 A	0.37 % to 1.14 %

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10	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC HIGH VOLTAGE @ 50 Hz	Using HV Probe with DMM by Direct/Comparison Method	1 kV to 100 kV	2.36%
11	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC POWER (Apparent, Active & Reactive) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 20 mA to 120 A, UPF to 0.1 PF (Lag, Lead)	Using Three Phase Reference with CT along with Power Source by Direct/ Comparison Method	0.08 VA, W, VAr to 108 kVA, kW, kVAr	0.96 % to 0.1 %
12	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC RESISTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	10 m ohm to 100 ohm	0.20 % to 0.06 %
13	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC RESISTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 ohm to 10 k ohm	0.06 % to 0.45 %
14	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mV to 5 mV	4.71 % to 1.00 %

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15	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mV to 1000 V	0.12 % to 0.10 %
16	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	20 mV to 100 mV	0.30 % to 0.12 %
17	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	AC VOLTAGE @50 Hz to 10 kHz	Using 6½ Digit Multimeter by Direct/Comparison Method	5 mV to 20 mV	1.00 % to 0.30 %
18	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method	1 µF to 100 µF	0.08 % to 0.40 %
19	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method:	1 pF to 1 µF	0.56 % to 0.08 %

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20	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	CAPACITANCE@1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 µF to 1 mF	0.40 % to 1.3 %
21	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	HARMONICS IN VOLTAGE & CURRENT UPTO 39 Order @ 50 Hz (63.5V to 250 V & 0.5A to 5A)	Using Three Phase Reference by Direct/Comparison Method	2nd Order (1% to 40 %) to 39th Order (1% to 40%)	0.82%
22	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	INDUCTANCE @1 kHz	Using LCR Meter by Direct Method/ Comparison Method	100 µH to 10 H	0.1%
23	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	POWER FACTOR (LAG & LEAD) (1 Ph, 3 Ph) @ 40 Hz to 60 Hz, 40 V to 300 V, 10 mA to 120 A	Using Three Phase Reference Meter with CT along with Power Source by Direct Method / Comparison Method	0.1 PF to UPF (Lag, Lead)	0.007PF
24	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @50Hz	Using 5½ Digit Multifunction Calibrator with Current Coil by Direct Method	>10 A to 1000 A	1.0%

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25	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @50Hz to 1kHz	Using 5½ Digit Multifunction Calibrator by Direct Method	0.1 mA to 20 mA	0.4 % to 0.31 %
26	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC CURRENT @50Hz to 1kHz	Using 5½ Digit Multifunction Calibrator by Direct Method	20 mA to 10 A	0.31 % to 0.33 %
27	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Resistance @1kHz	Using Decade Resistance Box by Direct Method	1 ohm to 100 ohm	0.58 % to 0.12 %
28	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC Resistance @1kHz	Using Decade Resistance Box by Direct Method	100 ohm to 10 k ohm	0.12 % to 0.42 %
29	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @50Hz to 1kHz	Using 5½ Digit Multifunction Calibrator by Direct Method	200 mV to 1000 V	0.36 % to 0.26 %
30	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	AC VOLTAGE @50Hz to 1kHz	Using 5½ Digit Multifunction Calibrator by Direct Method	5 mV to 200 mV	1.13 % to 0.36 %

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31	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	CAPACITANCE @100Hz	Using Decade Capacitance Box by Direct Method:	100 µF to 1 mF	1.2%
32	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	CAPACITANCE @1kHz	Using Decade Capacitance Box by direct method	10 pF to 100 µF	1.2%
33	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source)	INDUCTANCE @1kHz	Using Decade Inductance Box by Direct Method	100 µH to 10 H	1.2%
34	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	1 A to 10 A	0.08 % to 0.19 %
35	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	10 µA to 100 mA	0.36 % to 0.06 %
36	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC CURRENT	Using 6½ Digit Multimeter by Direct/Comparison Method	100 mA to 1 A	0.06 % to 0.08 %

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37	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH CURRENT	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	10 A to 20 A	0.17 % to 0.15 %
38	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH CURRENT	Using 6½ DMM, AC/DC High Current Shunt by Direct/Comparison Method	20 A to 1000 A	0.13 % to 0.44 %
39	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC HIGH VOLTAGE	Using HV Probe with DMM by Direct/Comparison method	1 kV to 100 kV	1.98 % to 2.13 %
40	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	1 ohm to 100 k ohm	0.36 % to 0.013 %
41	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	10 M ohm to 100 M ohm	0.048 % to 0.94 %
42	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	100 k ohm to 10 M ohm	0.013 % to 0.048 %

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43	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC RESISTANCE	Using 6½ Digit Multimeter by Direct Method	100 M ohm to 1000 M ohm	0.94 % to 2.34 %
44	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	0.1 mV to 0.5 mV	4.1 % to 0.82 %
45	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	0.5 mV to 1 mV	0.82 % to 0.41 %
46	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	1 mV to 20 mV	0.41 % to 0.025 %
47	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC VOLTAGE	Using 6½ Digit Multimeter by Direct/Comparison Method	20 mV to 1000 V	0.025 % to 0.007 %
48	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using Mega ohm Meter by Direct Method	10 G ohm to 1 T ohm	3.87 % to 6.9 %

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49	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using Mega ohm Meter by Direct Method	5 M ohm to 10 G ohm	2.47 % to 3.87 %
50	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using 5½ Digit Multifunction Calibrator with Current Coil by Direct Method	>10 A to 1000 A	0.96%
51	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using 5½ Digit Multifunction Calibrator by Direct Method	0.1 mA to 20 mA	0.15 % to 0.17 %
52	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC CURRENT	Using 5½ Digit Multifunction Calibrator by Direct Method	20 mA to 10 A	0.17 % to 0.23 %
53	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE	Using Precision Decade Resistance Box by Direct Method	1 m ohm to 1 ohm	5.77 % to 1.15 %
54	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	1 m ohm	0.13%

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55	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	1 ohm	0.12%
56	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	10 µ ohm	1.1%
57	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	10 m ohm	0.12%
58	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	100 µ ohm	0.43%
59	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	100 m ohm	0.12%
60	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC RESISTANCE (DISCRETE)	Using Discrete Standard Resistors by Direct Method	50 µ ohm	1.0%

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61	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC VOLTAGE	Using 5½ Digit Multifunction Calibrator by Direct Method	1 mV to 200 mV	1 % to 0.15 %
62	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	DC VOLTAGE	Using 5½ Digit Multifunction Calibrator by Direct Method	200 mV to 1000 V	0.15 % to 0.12 %
63	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1 G ohm	2.40%
64	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1 M ohm	2.58%
65	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	10 G ohm	2.40%
66	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	10 M ohm	2.46%

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67	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	100 G ohm	5.85%
68	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	100 M ohm	2.46%
69	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1000 G ohm	5.85%
70	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	1000 M ohm	2.48%
71	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	2 G ohm	2.40%
72	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	2 M ohm	2.46%

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73	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	200 G ohm	5.85%
74	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	200 M ohm	2.46%
75	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	5 G ohm	2.40%
76	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	5 M ohm	2.46%
77	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	50 G ohm	2.40%
78	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	50 M ohm	2.46%

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79	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	500 G ohm	5.85%
80	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	500 M ohm	2.46%
81	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 1000 V)	Using High Resistance Jig by Direct Method	700 M ohm	2.46%
82	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1 G ohm	2.90%
83	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1 M ohm	2.95%
84	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	10 G ohm	2.90%

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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)(±)
85	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	10 M ohm	2.95%
86	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	100 G ohm	6.02%
87	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	100 M ohm	2.95%
88	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1000 G ohm	6.04%
89	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	1000 M ohm	2.95%
90	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	2 G ohm	2.90%

SCOPE OF ACCREDITATION

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91	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	2 M ohm	2.95%
92	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	200 G ohm	6.02%
93	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	200 M ohm	2.95%
94	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	5 G ohm	2.90%
95	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	5 M ohm	2.95%
96	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	50 G ohm	2.90%

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97	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	50 M ohm	2.95%
98	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	500 G ohm	6.02%
99	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	500 M ohm	2.95%
100	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	HIGH RESISTANCE (@Test Voltage Upto 5000 V)	Using High Resistance Jig by Direct Method	700 M ohm	2.95%
101	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	100 ms to 500 ms	1.34 ms to 1.34 ms
102	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	FREQUENCY	Using Frequency Counter by Direct Method	0.2 Hz to 1 Hz	0.28 % to 0.06 %

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103	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	FREQUENCY	Using Frequency Counter by Direct Method	1 Hz to 225 MHz	0.06 % to 0.26 %
104	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	PERIOD	Using Frequency Counter by Direct Method	5 ns to 5 s	0.01%
105	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method:	500 ms to 1 s	1.34 ms to 1.21 ms
106	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method:	1 hr to 8 hr	0.42 s to 11.49 s
107	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	1 min to 1 hr	0.015 s to 0.42 s
108	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	1 s to 1 min	1.21 ms to 0.015 ms

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109	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	50 ms to 100 ms	5.90 ms to 1.34 ms
110	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Digital Stop Watch by Comparison Method	6 s to 24 hr	1.24 s to 2.74 s
111	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time, Stopwatch, Timer, Time Interval Meter	Using Time interval meter by Comparison Method	8 hr to 24 hr	11.49 s to 23.00 s

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