Laboratory	**Instrument Calibration Center, 416, Maruti Plaza, Bapa Shitaram Chowk Road, Krishnanagar, Naroda, Ahmedabad, Gujarat**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		ELECTRO-TECHNICAL CALIBRATION		
I.	**SOURCE**			
1.	DC Voltage[$]	0.1 mV to 1 mV 1 mV to 100 mV 100 mV to1000 V	4.6% to 0.38% 0.38% to 0.015% 0.015% to 0.009%	Using MFC Fluke - 5502E By Direct Method
2.	DC Ampere[$]	10 uA to 3 mA 3 mA to 300 mA 300 mA to 20 A	0.27% to 0.023% 0.023% to 0.06% 0.06% to 0.15%	Using MFC Fluke - 5502E By Direct Method
3.	AC Voltage[$]	**50Hz** 2mVto 10m V 10mV to 100 mV 100 mV to 1 V 1 V to 1000 V	 1.4% to 0.35% 0.35% to 0.09% 0.08% to 0.044% 0.044% to 0.092%	Using MFC Fluke - 5502E By Direct Method
4.	AC Amps[$]	**50 Hz** 30 uA to 300 mA 300 mA to 20A	 0.54% to 0.12% 0.12% to 0.23%	Using MFC Fluke - 5502E By Direct Method
5.	Capacitance[$]	**1 kHz** 1 nF to 1 uF 10 nF to 30 uF 30 uF to 1 mF	 1.9% to 0.47% 0.47% to 0.95% 0.95% to 0.96%	Using MFC Fluke - 5502E By Direct Method
6.	Resistance[$]	1 Ω to 100 Ω 100 Ω to 1MΩ 1 MΩ to 100 MΩ 100MΩ to1GΩ	0.077% to 0.0105% 0.0105% to 0.013% 0.013% to 0.58% 0.58% to 1.7%	Using MFC Fluke - 5502E By Direct Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
7.	Frequency[$]	10Hz to 100 kHz 100 kHz to1 MHz	0.015% to 0.0014% 0.0014% to 1.9%	Using MFC Fluke - 5502E By Direct Method
8.	High Resistance For Insulation Tester[$]	0.1 MΩ to 100 MΩ 100 MΩ to 10 G MΩ	0.6368% to 0.58% 0.58% to 3.47%	Using Mega ohm Resistance Discreet value in step of 10 By Direct Method
9.	Low Resistance Box[$]	10 mΩ to 2 kΩ	1.23% to 1.16%	Using Low resistance for milliohm meter Discreet value steps of 1/2/5 by Direct Method
10.	Temperature Simulation[$] Pt 100 J Type Thermocouple K Type Thermocouple	 (-)200 ˚C to 600˚C (-)200˚C to 1100˚C (-)200˚C to 1300˚C	 0.42°C 0.2°C 0.21°C	 Using Fluke - 5502E By Simulation Method
II.	**MEASURE**			
1.	DC Voltage[$]	10mV to 100mV 100mV to 1V 1V to 1000V	0.06% to 0.01% 0.01% to 0.01% 0.007% to 0.01%	Using Tektronix 4050 By Direct Method
2.	AC Voltage[$]	**50 Hz** 10mV to 100Mv 100mV to 1V 1V to 1000V	 0.66% to 0.12% 0.12% 0.12% to 0.13%	Using Tektronix 4050 By Direct Method
3.	DC Ampere[$]	10uA to 10mA 10mA to 1 A 1A to 10A	0.41% to 0.1% 0.1% 0.1% to 0.22%	Using Tektronix 4050 By Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
4.	AC Ampere[$]	**50 Hz** 30µA to 10mA 10mA to 1A 1A to 10A	 1.4% to 0.5% 0.5% to 0.18% 0.18% to 0.26%	Using Tektronix 4050 By Direct Method
5.	Resistance[$]	1Ω to 10Ω 10Ω to 100Ω 100Ω to 1MΩ 1MΩ to 1000MΩ	0.89% to 1.3% 1.3% to 0.02% 0.02% to 0.014% 0.014% to 2.3%	Using Tektronix 4050 By Direct Method
6.	Capacitance[$]	1nF to 100µF 100 µF to 1mF	5.7%to 1.8% 1.8% to 2.11%	Using Tektronix 4050 By Direct Method
7.	Frequency[$]	50Hz to 100kHz 100kHz to 1MHz	0.06% to 0.01% 0.01 %to 0.13%	Using Tektronix 4050 By Direct Method
8.	AC High Voltage[♣]	1kV to 27 kV	7.3%	Using Fluke 80K-40 by Direct Method
9.	DC High Voltage[♣]	1 kV to 40 kV	2.33%	Using Fluke 80K-40 by Direct Method
10.	Time[$]	5 Sec to 3600 Sec 3600 to 7200 Sec	0.23 Sec 0.7 Sec	Using Master Stopwatch by Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	MECHANICAL CALIBRATION			
I.	**DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**			
1.	Caliper[$] (Vernier/Dial/Digital) L.C. 10µm	0 to 600 mm 0 to1000 mm	13.0 µm 17.0 µm	Using Caliper Checker, Length bar,& External Micrometer by Comparison Method
2.	Depth Caliper[$] (Vernier / Dial/Digital) L.C. 10µm	0 to 300 mm	9.0 µm	Using gauge Block Set & Surface plate By comparison method
3.	Height Gauge [$] (Vernier/Dial/Digital) L.C. 10µm	0 to 600 mm	13.0 µm	Using Caliper Checker & Surface plate By Comparison Method
4.	External Micrometer [$] (Analog/Dial/Digital) L.C. 1µm L.C. 10µm	0 to150 mm 0 to 300 mm 150 mm to 300mm 300mm to 600mm	2.8 µm 6.8 µm 6.8 µm 11.1 µm	Using Gauge Block set, Long Gauge blocks & Mic. Check Set By comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
5.	Micrometer Setting Road $	25mm to275 mm	5.0 µm	Using Gauge Block Set, Electronic probe & Comparator Stand By comparison Method
6.	Depth Micrometer $ L.C. 10µm	0 to 300 mm	8.7 µm	Using Gauge Block Set & Surface Plate by Comparison Method
7.	Plunger Dial Gauge $ L.C. 10µm	0 to 25 mm	3.5 µm	Using Dial Calibration tester By Comparison Method
8.	Lever Dial gauge $ L.C. 1µm	0 to1 mm	3.9 µm	Using Dial calibration Tester by Comparison Method
9.	Bore gauge transmission Error $ L.C. 10µm	Up to 1.0 mm	7.1 µm	Using Dial Calibration Tester By comparison Method
10.	Dial/Digital Thickness gauge $ L.C. 1µm	0 to 25 mm	1.1 µm	Using gauge Block Set By comparison Method

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
11.	Plain plug gauge $	5mm to100 mm	2.5 µm	Using Gauge Block Set, Electronic Probe & comparator Stand By comparison Method
12.	Cylindrical Measuring pin $	Up to 20.0 mm	1.8 µm	Using Gauge Block Set, Electronic probe & Comparator Stand By Comparison Method
13.	Feeler gauge $	Up to 1 mm	1.7 µm	Using Gauge Block Set, Electronic Probe & Comparator Stand By Comparison Method
14.	Bevel Protractor $ L.C. 1'	0˚-90˚-0˚	1.4 min of arc	Using Angle gauge blocks By Comparison Method
II.	**DIMENSION (PRECISION INSTRUMENTS)**			
1.	Dial Calibration Tester$	0 to 25 mm	1.6 µm	Using Gauge Block Set, Electronic probe & Comparator Stand By Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
III.	**ACCELERATION AND SPEED**			
1.	Contact Type Tachometer $[$]	100 rpm to 1000 rpm >1000 rpm to 9990 rpm	0.36 % 0.06 %	Using Digital Tachometer & Servo Motor Drive Source by Comparison Method
	Non-Contact type Tachometer $[$]	500 rpm to1000 rpm >1000 rpm to 99900 rpm	0.37% 0.06 %	
IV.	**ACOUSTICS**			
1.	Sound Level Meter $[$]	94 & 114 dB	1.0 dB	Using Sound level Calibrator By Comparison Method
V.	**PRESSURE INDICATING DEVICES**			
1.	Pressure indicator $[#] (Pneumatic)	0 to 0.5 bar	0.0019 bar	Using Digital Pneumatic calibrator By comparison Method as per DKD R-6-1
2.	Pressure indicator $[#] (Hydraulic)	0 to 400 bar	0.91bar	Using Digital Pressure Calibrator with hydraulic pump By comparison Method as per DKD R-6-1

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	THERMAL CALIBRATION			
I.	**TEMPERATURE**			
1.	Indicator of Liquid Bath, Furnace Oven, Environmental Chamber, Dry Block Bath, Etc♣	(-)80°C to 400 ˚C	0.9°C	Using RTD Sensor & 6 ½ DMM, By Comparison Method at specified single location

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**
$Only in Permanent Laboratory
♣Only for Site Calibration
 # The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

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