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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		ELECTRO TECHNIC	AL CALIBRATION	
I.	SOURCE			
1.	DC Voltage ^{\$}	32 mV to 300 mV 300 mV to 1000 V	0.22% to 0.009% 0.009 to 0.01 %	Using Wavetek 9100 Multifunction Calibrators, By Direct Method
2.	DC Current [≸]	32 μA to 300 μA 300 μA to 300 mA 300 mA to 20 A 3 A to 1000 A	0.083% to 0.018% 0.018% to 0.028% 0.022% to 0.091 % 0.091% to 1.01%	Using 9100 Multifunction Calibrators with Current Coil, By Direct Method
3.	AC Voltage ^{\$}	50 Hz 10 mV to 300 mV 300 mV to 300 V 300 V to 1000 V	4.48% to 0.054% 0.054% to 0.068% 0.068 % to 0.094%	Using 9100 Multifunction Calibrators, By Direct Method
4.	AC Current ^{\$}	50 Hz 300 µA to 3 mA 3 mA to 30 mA 30 mA to 300 mA 300 mA to 20 A 3 A to 1000 A	0.18% to 0.15% 0.10% to 0.13% 0.13% to 0.18% 0.18% to 0.74% 0.74% to 4.42%	Using 9100 Multifunction Calibrators with Current Coil, By Direct Method
5.	DC Resistance ^{\$} (2 wire and 4 wire)	1 mΩ to 100 mΩ 1 Ω to 300 Ω 300 Ω to 3 k Ω 3 kΩ to 300 kΩ 300 kΩ to 3 MΩ 3 MΩ to 30 MΩ 30 MΩ to 400 MΩ	2.04% to 0.16% 2.35% to 1.87% 1.87% to 0.047% 0.047% to 0.027% 0.043% to 0.07% 0.07% to 0.2% 0.2 % to 0.36%	Using 9100 Multifunction Calibrators, By Direct Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
6.	Frequency ^{\$}	10 Hz to 1kHz 1 kHz to 1 MHz 1 MHz to 10 MHz	0.059% to 0.003% 0.003% 0.003% to 0.007%	Using 9100 Multifunction Calibrators, By Direct Method
7.	Capacitance ^{\$}	1 nF to 1 μF 1μF to 300 μF	0.688% to 0.685% 0.685% to 0.762%	Using 9100 Multifunction Calibrators, By Direct Method
	Temperature Simulatio (Indicator/ Recorders/C	n ^{\$} Controllers)		
	Thermocouples RTD(PT-100)	(-) 200°C to 400°C	0.36%	Using Fluke 9100 Multifunction Calibrator, By Simulation Method
	Thermocouples Type – J Type – S Type R Type –K	(-) 200°C to 600°C 10°C to 1700°C 10°C to 1700°C (-) 200°C to 945°C	0.81 % 0.82 % 1.04 % 0.93%	Using Wavetek 9100 Multifunction Calibrator, By Simulation Method
II.	MEASURE			
1.	DC Voltage ^{\$}	30 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	0.65% to 0.018% 0.018% to 0.004% 0.004% to 0.002% 0.002% to 0.003% 0.003% to 0.006%	Using 6½ Digit Multimeter Fluke, 8846A, By Direct Method
2.	DC Current [§]	100 µA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 400 mA 400 mA to 1 A 1 A to 10 A	0.083% to 0.026% 0.026% 0.026% to 0.036% 0.036% to 0.04 % 0.04% to 0.08 % 0.08% to 0.78%	Using 6½ Digit Multimeter, By Direct Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
3.	AC Voltage ^{\$}	50 Hz 1 V to 10 V 10 V to 1000 V	0.024% to 0.089% 0.089% to 0.074%	Using 6½ Digit Multimeter, By Direct Method
4.	AC Current ^{\$}	50 Hz 100 μA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1 A to 10 A	0.26% to 0.13% 0.13% to 0.069% 0.069% to 0.073% 0.073% to 0.076% 0.076% to 3.1%	Using 6½ Digit Multimeter, By Direct Method
5.	DC Resistance ^{\$} (4 wire & 2 wire)	10 Ω to 100 Ω 100 Ω to 1 kΩ 1 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 100 MΩ 100 MΩ to 300 MΩ 300MΩ to 500 MΩ	0.10% to 0.0028% 0.0028% to 0.046% 0.046% to 0.003% 0.003% to 0.004% 0.004% to 0.006% 0.006% to 0.019% 0.019% to 0.067% 0.067% to 1 %	Using 6½ Digit Multimeter, By Direct Method
6.	Frequency ^{\$}	10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 1 MHz	0.063% 0.063% to 0.006% 0.006% to 0.118%	Using 6½ Digit Multimeter (upto 1 MHz) and 5½ Digit Multimeter, By Direct Method
7.	DC Capacitance ^{\$}	10nF to 100 nF 100 nF to 1 μF 1 μF to 100 μF	0.36% to 0.21% 0.21% to 0.18% 0.18% to 0.81%	Using 6½ Digit Multimeter and 5½ Digit Multimeter, By Direct Method
8.	Time ^{\$} (Digital & Mechanical Stop Watches)	10 s to 3600 s	0.96 s to 0.63 s	Using Time Totalizer Shriji Electronics By Comparison Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
9.	Temperature Simulatio (Indicator/ Recorders/ C	n ^{\$} Controllers)		
	Thermocouples Type – K Type – J Type – S Type – R	(-) 200°C to 945°C (-) 200°C to 600°C 10°C to 1700°C 10°C to 1700°C	0.926°C 0.814 °C 0.820 °C 1.2 °C	Using 6½ Digit DMM, Temp. Calibrators & Process Calibrators, By Simulation Method
	RTD(PT-100)	(-) 200°C to 945°C	0.36 °C	Using 6½ Digit DMM, Temp. Calibrators & Process Calibrators, By Simulation Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		MECHANICAL C	ALIBRATION	
I.	DIMENSION (BASIC N		, GAUGE ETC.)	
1.	Vernier caliper/ Digital Caliper ^{\$} L.C.: 0.01 mm∮	0 to 300 mm >300 mm to 600 mm	10.0 μm 15.0 μm	Using Standard Slip Gauge & Caliper Checker by Direct Method
2.	Outside Micrometer ^{\$} L.C.: 0.001 mm L.C.: 0.01 mm	0 to 100 mm >100 mm to 300 mm >300 mm to 500 mm 0 to 100 mm >100 mm to 300 mm	2.0 μm 4.4 μm 7.2 μm 3.0 μm 5.0 μm	Using Standard Slip Gauge & Mike Checker by Direct Method
3.	Vernier Height Gauge/ Digital Height Gauge ^{\$} L.C.: 0.01 mm∮	0 to 300 mm >300 mm to 600 mm	11.0 μm 16.0 μm	Using Standard Slip Gauge & Caliper Checker by Direct Method
4.	Depth Micrometer ^{\$} L.C.: 0.001mm∳	0 to 300 mm	8.0 µm	Using Standard Surface Plate, Slip Gauge & Caliper Checker by Direct Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
5.	Dial Gauge ^{\$} (Plunger Type) L.C.: 0.001 mm L.C.: 0.01 mm	0 to 1 mm 0 to 25 mm 0 to 25 mm	1.1 μm 2.0 μm 2.0 μm	Using Standard Drum Micrometer & Fixture by Direct Method
6.	Dial Gauge ^{\$} (Lever Type) L.C.: 0.001 mm	0 to 1 mm	1.4 μm	Using Standard Drum Micrometer & Fixture by Direct Method
7.	Inside Micrometer ^{\$} L.C.: 0.01mm	50 mm to 500 mm	11.0 μm	Using Standard Slip Gauge & Comparator Stand by Comparison Method
8.	Steel Scale ^s L.C.: 0.5 mm	0 to 1000 mm	167 μm	Using Scale Calibrator With Microscope & Magnifier Glass by Comparison Method
9.	Steel Tape ^{\$} L.C.: 1.00 mm	0 to 15 m	170 √L Where 'L' in m	Using Scale Calibrator With Microscope & Magnifier Glass by Comparison Method
10.	Bevel Protractor ^{\$} L.C.: 5 minutes	0 to 180°	3.0'	Using Standard Profile Projector by Direct Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
11.	Thread Plug Gauge ^{\$}	3 mm to 100 mm	5.0 μm	Using Standard Cylinder, Floating Carriage & Its Accessories Three wire Set by Comparison Method
12.	Test Sieve ^{\$}	40 μm to 850 μm >1 to 125 mm	9.0 μm 50.0 μm	Using Standard Profile Projector & Digital Caliper by Direct Method
13.	Radius Gauge ^{\$}	1 mm to 15 mm	7.5 μm	Using Standard Profile Projector by Direct Method
14.	Feeler Gauge ^{\$}	0.05 mm to 1 mm	1.6 μm	Using Standard External Micrometer by Direct Method
15.	Setting Rod ^{\$}	25 mm to 200 mm >200 mm to 500 mm	3.0 μm 7.0 μm	Using Standard Slip Gauge & Electronic Analog Comparator by Comparison Method
16.	Coating Thickness Gauge ^{\$} L.C.: 0.001 mm	11.6 µm to 1.25 mm	1.0 μm	Using Standard Foils & Base Plate by Comparison Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
11.	ACCELERATION AND) SPEED		<u></u>
1.	RPM Tachometer [#] Contact Type Non Contact Type	250 rpm to 10000 rpm 150 rpm to 40000 rpm	0.21 % 0.15 %	Using Standard Tachometer & Rotary Source by Comparison Method
111.	DENSITY AND VISCO	SITY		<u> </u>
1.	Density Hydrometer ^{\$}	0.650 g/ml to 2.000 g/ml	0.0012 gm/ml	Using Standard Hydrometer by Comparison Method
IV.	WEIGHTS			
1.	Mass ^{\$}	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg	0.011 mg 0.011 mg 0.011 mg 0.01 mg 0.01 mg 0.01 mg 0.013 mg 0.017 mg 0.012 mg	Using E ₂ Class Weight and Electronic Balance As per OIML R-111 by Comparison Method
		1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g	0.017 mg 0.015 mg 0.02 mg 0.024 mg 0.027 mg 0.101 mg 0.101 mg 0.133 mg 4.64 mg	Using E ₂ Class Weight and Electronic Balance As per OIML R-111

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		1 kg 2 kg 5 kg 10 kg 20 kg 50 kg 100 kg	84.28 mg 90.10 mg 130.00 mg 912.11 mg 966.00 mg 2.394 g 4.134 g	Using F1 Class Weight and Electronic Balance As per OIML R-111
۷.	WEIGHING SCALE AN	ND BALANCE		
1.	Weighing Balance [#]	1 mg to 200 g >200 g to 600 g >600 g to 6 kg >3 kg to 30 kg >30 kg to 100 kg	0.2 mg 3.6 mg 125 mg 587 mg 125 mg	Using E2 Class Weight and Electronic Balance As per OIML R-76 by Comparison Method Using F1 Class Weight and Electronic Balance As per OIML R-76 by Comparison Method
VI.	VOLUME			
1.	Volume ^{\$}	10 µl to 1000 µl 1 ml to 100 ml 100 ml to 1000 ml	5.92 μl 0.12 ml 1.5 ml	Using E ₂ Class Weight and Electronic Balance by Gravimetric Method Using F ₁ Class Weight and Electronic Balance By Gravimetric Method

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks	
VII.	TORQUE GENERATIN	IG DEVICES			
1.	Torque Wrench ^{\$} (Click Type II, Class A & B)	10 Nm to 900 Nm	4.43 %	Using Digital Torque Wrench Calibrator As Per ISO 6789:2003	
VIII.	UTM, TENSION CREE	P AND TORSION TESTING	G MACHINE		
1.	Uniaxial Testing Machine [#] Compression	15 kN to 2000 kN	0.77 %	Using Class "1"Force proving Instrument as Per IS 1828	
	Tension	200 N to 50 kN	0.77 %	(Compression Mode)	
IX.	HARDNESS TESTING	MACHINE	۰		
1.	Rockwell Hardness Testing Machine*	HRBW HRC	1.33 % 1.33 %	Using Standard Hardness Block As Per IS 1586(Part-2)	
2.	Brinelll Hardness Testing Machine ⁺	HBW 10/3000	4.49 %	Using Standard Hardness Block As Per IS 1500 (Part-2)	
Х.	PRESSURE INDICATING DEVICES				
1.	Pressure Gauge [#]	0 to 35 bar >35 bar to 700 bar	0.39 % rdg 0.17 % rdg	Using Direct Method as per DKD R6-1	
2.	Vacuum Gauge [#]	0 to 93 KPa	5.21 % rdg	Using Comparison Method as per DKD R6- 1	

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SI.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		THERMAL CA	LIBRATION	
I.	TEMPERATURE			
1.	RTD & Thermocouple With & without Indicator [#]	(-)25°C to 30°C	0.4 °C	Using Digital Thermometer, Glass Thermometer & Low Temperature Bath by Comparison Method
		>30°C to 90°C	0.9 °C	Using Digital Thermometer, Glass Thermometer & Water Bath by Comparison Method
	Thermocouple, With & without Indicator [#]	>90°C to 200°C	1 °C	Using Digital Thermometer, Glass Thermometer & Oil Bath by Comparison Method
		>200°C to 1100°C	2 °C	Using "S" Type Thermocouple, 5½ digit DMM APPA & Dry Block Furnace by Comparison Method

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II.	SPECIFIC HEAT & HU	MIDITY		
1.	Relative Humidity ^{\$} (RH Indicator with Sensor)	25% RH to 90% RH @ 25°C	3.2 % RH @ 25°C	Using Humidity Generator by Comparison Method

* 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.

[•] Laboratory can also calibrate instruments/devices of coarser resolution / least count within the accredited range using same reference standard/ master equipment under the scope of accreditation.