Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		ELECTRO TECHNICAL CALIBRATION		
I.	**MEASURE**			
1.	DC Voltage#	1 mV to 100 mV 100 mV to 1 V 1 V to 1000 V	0.42 % to 0.009 % 0.009 %to 0.004 % 0.004 % to 0.006 %	Using Digital Multimeter 6½ (Fluke - 8846A) by Direct Method
2.	AC Voltage#	**50 Hz** 1 mv to 100 mV 100 mv to 1 V 1 V to 1000 V	 4.73 % to 0.12 % 0.12% to 0.104 % 0.104 to 0.1%	Using Digital Multimeter 6½ (Fluke - 8846A) by Direct Method
3.	DC Current#	10 µA to 100 µA 100 µA to 1 mA 1 mA to 1 A 1 A to 10 A	0.91% to 0.123 % 0.123 % to 0.06 % 0.06 % to 0.08 % 0.08 % to 0.19%	Using Digital Multimeter 6½ (Fluke - 8846A) by Direct Method
4.	AC Current#	**50 Hz to 1 kHz** 10 µA to 100 µA 100 µA to 1 mA 1 mA to 1 A 1 A to 10 A	 2.0 % to 0.031 % 0.031 % to 0.02 % 0.02% to 0.21% 0.21 % to 0.26 %	Using Digital Multimeter 6½ (Fluke - 8846A) by Direct Method
5.	DC Resistance#	1 m Ω to 1 Ω 1 Ω to 1000 Ω 1 kΩ to 100 MΩ 100 M Ω to 1 G Ω	2.6 % to 0.4 % 0.4 % to 0.013 % 0.013 % to 0.94 % 0.94 % to 3.0 %	Using Dig. Micro Ohm Meter & Digital Multimeter 6½ (Fluke - 8846A) by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
6.	Frequency#	10 Hz to 100 Hz 100 Hz to 1 kHz 1kHz to 1000 kHZ	0.067 %to0.012 % 0.012 %to 0.013 % 0.013 %	Using Digital Multimeter 6½ (Fluke - 8846A) by Direct Method
7.	Temperature By Simulation Method# RTD (Pt-100) J Type Thermocouple K Type Thermocouple R Type Thermocouple S Type Thermocouple T Type Thermocouple N Type Thermocouple B Type Thermocouple E Type Thermocouple	 (-)200 ^{0}C to 800 ^{0}C (-)200 ^{0}C to 1000 ^{0}C 0 ^{0}C to1300 ^{0}C 0 ^{0}C to 1750 ^{0}C 0 ^{0}C to 1750 ^{0}C (-)200 ^{0}C to 390 ^{0}C 0 ^{0}C to1300 ^{0}C 600 ^{0}C to1800 ^{0}C -200 ^{0}C to 1000 ^{0}C	 0.1082 ^{0}C @ -200 ^{0}C 0.2558 ^{0}C @ 600 ^{0}C 0.318 ^{0}C to 0.275 ^{0}C 0.1987 ^{0}C to 0.468^{0}C 0.663 ^{0}C to 0.468 ^{0}C 0.547 ^{0}C to 0.534 ^{0}C 0.731 ^{0}C to 0.173 ^{0}C 0.228 ^{0}C to 0.318 ^{0}C 0.620 ^{0}C to 0.522 ^{0}C 0.582 ^{0}C to 0.254 ^{0}C	Using Multifuction Calibrator – Fluke – 5502A / Multifuction Calibrator (Druck) by Simulation Method
8.	Active Power # (Single Phase & Three Phase) UPF to 0.5 Lag/Lead @ 50 Hz	100 V to 240 V 10 A to 250 A	1.5 % to 1.2 %	Using Energy Logger by Direct Method
9.	Active Energy# (Single Phase & Three Phase) UPF to 0.5 Lag/Lead @ 50 Hz	100 V to 240 V 0.5 A to 250 A	1.5 % to 1.2 %	Using Energy Logger by Direct Method
10.	Power Factor # (Lead/Lag)	**50 Hz** 0.2 to 1.0 PF	0.001 PF	Using Multifuction Calibrator – Fluke – 5502A by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
11.	DC High Voltage♣	1 kV to 5 kV	3.2 % to 6.4 %	Using H.V. Probe (Fluke 80 K-40) With DMM by Direct Method
12.	AC High Voltage♣	**50 Hz** 1 kV to 10 kV	6.1 % to 6.1 %	Using H.V. Probe (Fluke 80 K-40) With DMM by Direct Method
II.	**SOURCE**			
1.	Timer#	1 s to 3600 s 3600 s to 7200 s	0.015 s to 0.10 s 0.10 s to 0.70 s	Using Timer Calibrator – BIS by Comparison Method
2.	Temperature By Simulation Method# RTD (Pt-100) J Type Thermocouple K Type Thermocouple R Type Thermocouple S Type Thermocouple T Type Thermocouple N Type Thermocouple B Type Thermocouple E Type Thermocouple	 (-)200 ^{0}C to 800 ^{0}C (-)200 ^{0}C to 1200 ^{0}C 0 ^{0}C to1300 ^{0}C 0 ^{0}C to 1750 ^{0}C 0 ^{0}C to 1750 ^{0}C (-)200 ^{0}C to 390 ^{0}C 0 ^{0}C to1300 ^{0}C 600 ^{0}C to1800 ^{0}C (-)200 ^{0}C to 1000 ^{0}C	 0.072 ^{0}C to 0.27 ^{0}C 0.32 ^{0}C to 0.27 ^{0}C 0.19 ^{0}C to 0.46 ^{0}C 0.66 ^{0}C to 0.46 ^{0}C 0.55 ^{0}C to 0.53 ^{0}C 0.73 ^{0}C to 0.17 ^{0}C 0.22 ^{0}C to 0.32 ^{0}C 0.62 ^{0}C to 0.64 ^{0}C 0.58 ^{0}C to 0.25 ^{0}C	Using Multifuction Calibrator – Fluke – 5502A / Multifuction Calibrator (Druck) by Simulation Method
3.	DC Voltage#	1 mV to 100 mV 100 mV to 1 V 1 V to 1000 V	0.037 % to 0.013 % 0.013% to 0.01 % 0.01 % to 0.066 %	Using Multifuction Calibrator – Fluke – 5502A by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
4.	AC Voltage#	**50 Hz to 1 kHz** 1 mV to 1000 V	2.5% to 0.061 %	Using Multifuction Calibrator – Fluke – 5502A by Direct Method
5.	DC Current#	1 µA to 1 mA 1 mA to 1 A 1 A to 20 A 20 A to 1000 A	3 % to 0.08 % 0.08 % 0.8 % to 0.13 % 0.13 % to 0.7%	Using Multifuction Calibrator – Fluke – 5502A by Direct Method
6.	AC Current#	30 µA to 300 µA 300 µA to 1 mA 1 mA to 1 A 1 A to 20 A 20 A to 1000 A	0.561 % to 0.21% 0.21 % to 0.03% 0.03% to 0.103 % 0.103 % to 0.17% 0.17% to 0.694 %	Using Multifuction Calibrator – Fluke – 5502A by Direct Method
7.	DC Resistance# 4 Wire Method 2 Wire Method	500 µΩ to 1 mΩ 10 mΩ to 100 mΩ, 1 Ω 1 Ω to 1 kΩ 1kΩ to 10 MΩ 10 MΩ to 100 MΩ 100 MΩ to 1100 MΩ 200 MΩ to 1 GΩ, 1 GΩ to100GΩ, 100 GΩ to1000 GΩ	1.23 % to 0.33 % 0.71 %to0.013% 0.013 %to 0.071 % 0.071 %to0.581 % 0.581 % to 1.8% 7.2 % to 2.4 %, 2.4 % to 6.0 %, 6.0% to 6.7%	Using Standard Resistance Box by Direct Method Using Multifuction Calibrator – Fluke – 5502A by Direct Method Using H.V. Mega Ohm Box & High Resistance Jig. by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
8.	AC Resistance#	**1kHz** 1 Ω to 10 kΩ	0.3 % to 0.135%	Using Decade Resistance Box by Direct Method
9.	Capacitance# 1kHz 100 Hz	**10 kHz** 100 pF to 500 pF 500 pF to 1 nF 1 nF to 100 nF 100nF to 10 µF **100 Hz** 10 µF to 100 µF	3.2 % to 3% 3 % to 1.7 % 1.7 % to 0.042 % 0.42 % 0.42 % to 0.65 %	Using Std. Capacitance Box (Crown) & Multifuction Calibrator – Fluke – 5502A by Direct Method
10.	Inductance#	**1 kHz** 100 µH to 10 H	3.5%	Using Std. Inductance Box (Crown) by Direct Method
11.	Frequency#	20 Hz to 1000 kHZ	0.02 % to 0.3 %	Using Multifuction Calibrator – Fluke – 5502A by Direct Method
12.	AC Power# (Wattage) (Single Phase) @50/60Hz	10 V to 600 V 0.1 A to 20 A 0.5 PF to UPF	0.6 to 0.10 %	Using Multifuction Calibrator – Fluke – 5502A by Direct Method
13.	DC Power# (Wattage)	10 V to 600 V 0.1 A to 20 A (1 W to 12kW)	0.95 to 0.10%	Using Multifunction Calibrator – Fluke – 5502A by Direct Method
14.	Power Factor# @ 50 Hz (Lead / Lag)	0.2 to 1.0 PF	0.003	Using Multifunction Calibrator – Fluke – 5502A by Direct Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	MECHANICAL CALIBRATION			
I.	**DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**			
1.	Vernier Caliper $ (Dial,Digital & Manual) L.C. 0.01mm L.C. 0.02mm	 0 to 300 mm 0 to 1000 mm 0 to 1500 mm (Inside Only 1000 mm)	 8.0 µm 16.0 µm 24.0 µm	 Using Slip Gauge Set M – 88,Slip Gauge Accessories, Length Bar Set M - 8
2.	Ext. Micrometer $ (Digital, Analog, Groove, Blade) L.C. 0.001mm L.C. 0.01mm	 Up to 100 mm 100 mm to 300 mm 300 mm to 600 mm 600mm to 1000 mm	 1.3 µm 2.5 µm 6.0 µm 14.3 µm	 Using Slip Gauge Set M-88 & M-10,Length Bar Set M – 8 Slip Gauge Accessories & Optical Parallel Set

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
3.	Internal Micrometer $ (Digimatic Inside Micrometer) L.C. 0.01mm L.C. 0.001mm	5 mm to 50 mm 50 mm to 300 mm Up to 1500mm	6.0 µm 2.0 µm 10.0 µm	Using Slip Gauge Set M-88, Length Bar Set M 8, Slip Gauge Accessories
4.	Plunger Type Dial Gauge/Digimatic Indicator $ L.C. 0.001mm	Up to 25 mm Above 25 mm to 100 mm	1.0 µm 1.0 µm	Using ULM
5.	Lever Type Dial Gauge $ L.C. 0.001 mm	Upto 1 mm	1.0 µm	Using ULM
6.	Height Gauge$ (Vernier, Dial & Digital) L.C. 0.01mm	0 to 600 mm 0 to 1000 mm	7.0 µm 10.2 µm	Using Slip Gauge Set M-88, Length Bar Set M-8 & Lever Type Dial Gauge
7.	Linear Height Gauge $ L.C. 0.1 µm	0 to 600 mm	4.0 µm	Using Slip Gauge Set M-88, Length Bar Set M-8

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
8.	Bore Gauge Transmission[$] Movement only L.C. 0.001 mm	2 mm Travel Only	3.0 µm	Using ULM & Plunger Type Dial Gauge
9.	Dial Thickness Gauge[$] L.C. 0.001 mm L.C. 0.01 mm	0 to 1 mm 0 to 25 mm	1.0 µm 6.0 µm	Using Slip Gauge Set M - 88
10.	Feeler Gauge[$]	0.03 mm to 1 mm	1.3 µm	Using Digital Micrometer
11.	Snap Gauge[$]	3 mm to 40 mm 40mm to 200 mm	1.2 µm 2.5 µm	Using ULM & Plain Ring Gauge
12.	Plain Plug Gauge / Air Plug Gauge[$]	1mm to 150 mm	1.0 µm	Using ULM
13.	Plain Ring Gauge / Air Ring Gauge[$]	3 mm to 40 mm 40 mm to 220 mm	2.8 µm	Using ULM & Plain Ring Gauge
14.	Measuring Pin Set[$]	0.5 mm to 20 mm	0.60 µm	Using ULM
15.	Standard Thickness Foil[$]	0.01mm to 2 mm	1.3 µm	Using Digital Micrometer

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
16.	Vernier Depth Gauge$ (Vernier, Digital & Dial) Measuring Error Flatness of Reference Face Parallelism between the Beam L.C. 0.01 mm	0 to 300 mm	8.0 µm	Using Slip Gauge Set M-88, Length Bar Set M – 8, Lever Type Dial Gauge & Height Gauge (For Holding)
17.	Depth Micrometer$ L.C. 0.001 mm	Up to 300 mm	1.6 µm	Using Slip Gauge Set M-88, Lever Type Dial Gauge & Height Gauge (For Holding)
18.	Dial Inside Caliper $ L.C. 0.001mm	5 mm to 135 mm	1.6 µm	Using Slip Gauge Set M – 88 Slip Gauge Accessories
19.	Electronic Probe/LVDT Probe $ L.C. 0.0001 mm	Up to 25 mm	0.51 µm	Using ULM
20.	Dial Calibration Tester$ L.C. 0.0002 mm	Up to 25 mm	1.20 µm	Using Electronic Probe

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
21.	Angle Protractor/ Bevel Protractor/ Combination Set$	0 - 360° x 5 min) 0 - 180° x 1°)	4.0 minute	Using Angle Gauge
22.	Thread Plug Gauge$ (Eff. Dia. Only)	3 mm to 100 mm	1.0 µm	Using Measuring Wire & ULM
23.	Micrometer Head $ L.C. 0.001 mm	0 to 25 mm	1.9 µm	Using Electronic Probe
24.	3 Point Micrometer $ L.C. 0.001 mm	10to 100 mm	3.2 µm	Using Plain Ring Gauge Set
25.	V– Anvil Micrometer $ L.C. 0.001 mm	0 to 50 mm	2.2 µm	Using Plain Plug Gauge Set
26.	V – Block $ Parallelism Flatness Symmetry	150 x 150 x 150 mm	5.3 µm	Using Surface Plate, Mandrels & Lever Type Dial Gauge)
27.	Thread Measuring Wire Set$	0.17 to 6.35 mm	0.5 µm	Using ULM
28.	Thread Ring Gauge$ (Eff. Dia. Only)	3 mm to 100 mm	2.5 µm	Using ULM
29.	Try Square $ (Squareness)	300 mm	69 sec	Using Master Cylinder & Slip Gauge Set M - 88

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
30.	Thread Pitch Gauge Pitch Angle[$]	Upto 6 mm	5.0 µm 65 sec	Using Profile Projector
31.	Traveling Microscope[$]	0 to 200 mm	10 µm	Using Glass Scale
32.	Sine Bar[$]	300 mm	3.5 sec of Arc	Using Slip Gauge Set M – 88, Angle gauge Set, Electronic Probe
33.	Length Bar[$]	25 mm to 500 mm	4.30 µm	Using Lever Type Dial Gauge, Slip Gauge Set M – 88, Length Bar Set (M 8) & Height Gauge (For Holding)
34.	Ultrasonic Thickness Gauge [$] L.C. 0.01 mm [Φ]	0 to 200 mm		Using Slip Gauge Set M – 88
35.	Pistol Caliper[$] L.C. 0.1 mm	0 to 100 mm	71 µm	Using Slip Gauge Set M - 88
36.	Coating Thickness Gauge [$] L.C. 0.001mm	0 to 2000 µm	2.0 µm	Using Standard Thickness Foil
37.	Angle Gauge[$]	Upto 45^{o}	24 sec	Using Sine Bar, Slip Gauge Set & Puppy Dial

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
38.	Radius Gauge$	1 mm to 25 mm	3.0 µm	Using Profile Projector
39.	Sprit Level / Block Level $ L.C. = 0.01 mm/mtr	300 x 300 mm	7.0 µm	Using Mini level NT & Tilting Table
40.	Test Sieves$	32µm to 4 mm Above 4 to 100 mm	5.0 µm 10.0 µm	Using Profile Projector & Digimatic Caliper
41.	Dial Snap Gauge $ L.C. 0.001 mm	Upto 200 mm	2.5 µm	Using Slip Gauge Set & Length Bar Set
42.	Test Mandrels $ Run Out Variation in Diameter	300 mm Length	6.0 µm	Using Lever Type Dial Gauge & Bench Centre
43.	Wire Gauge$	25 µm 10 mm	4.7 µm	Using Profile Projector
44.	Taper Scale $ L.C. 0.1 mm	0.3 mm to 6 mm	6.8 µm	Using Profile Projector
45.	Weld Fillet Gauge$ L.C. 1.mm	0 to 60 mm	289.0 µm	Using ULM (300T), Slip Gauge Set & Profile Projector
46.	Straight Edge$ Straightness Parallelism	Upto 1000 mm	7.9 µm	Using Slip Gauge Set M – 88, Lever Type Dial Gauge & Granite Surface Plate

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
47.	Angle Plate / Box Angle Plate$ -Flatness -Squareness -Parallelism	350 x 300 x 250 mm	5.9 µm	Using Surface Plate, Lever Type Dial Gauge, Height Gauge, Master Cylinder & Jacks
48.	Gear Tooth Vernier $ L.C. 0.01 mm	0 to 40 mm	15.20 µm	Using Slip Gauge Set M - 88
49.	Profile Projector♣ X & Y Axis, L.C. 0.001 mm Angular L.C. 0.01 second Magnification	Upto 150 mm Upto 360° 10X to 100X	3.5 µm 65 sec 0.1 %	Using Glass Scale, Angle Gauge Set & Digital Caliper
50.	Granite Surface Plate / Comparator Stand♣	3000 x 2000 mm	$2\sqrt{}$ L+W/125 (L&W in mm)	Using Mini Level NT
51.	Bench Centre♣ Coaxiality Parallelism	300 mm 600 mm	11.0 µm	Using Lever dial gauge taper mandrel
52.	Centrifuge Machine ♣	10 RPM to 1000 RPM Above1001 to 6000 RPM	1.2 % 0.2 %	Using Digital Tachometer
53.	Steel Scale$	0 to 2000 mm	116 µm $\sqrt{l}$ is in mm	Using Length Measuring Device

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
54.	Pie Tape$	20 to 1000 m	116 ųm $\sqrt{l}$ is in mm	Using Length Measuring Device
55.	Measuring Tape$	0 to 50 m	116 ųm $\sqrt{l}$ is in mm	Using Length Measuring Device
II.	**ACCELERATION AND SPEED**			
1.	Tachometer (Non-Contact type only) $ L.C.1 RPM	10 to 1000 RPM > 1000 to 5000 RPM > 5001 to 25000 RPM	1.2 % 0.2 % 0.2 %	Using Zeal Calibrator with Digital Tachometer
III.	**TORQUE GENERATING DEVICES**			
1.	Torque Wrench$ (Type I/Class B,C) Type II/Class A,B)	10 Nm to 100 Nm >100 Nm to 1000 Nm	0.8 Nm 6 Nm	Using Torque Transducer & Indicator with Torque Wrench Calibrator

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
IV.	**WEIGHTS**			
1.	Mass[$] weights	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g	0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.10 mg 0.10 mg 0.18 mg 0.18 mg 0.18 mg 0.18 mg 0.18 mg 0.18 mg 0.18 mg	Using E1 Class Weights and Balance Of Readability 0.01mg
		100 g 200 g	0.2 mg 0.4 mg	Using E1 class weights and balance of readability 0.1mg
		500 g 1 kg	2 mg 3 mg	Using F1 class weights and balance of readability 1mg
		2 kg 5 kg	12 mg 30 mg	Using F1 class weights and balance of readability 10mg
		10 kg 20 kg	8 g 8 g	Using F1 class weights and balance of readability 1g

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
V.	**VOLUME**			
1.	Micro-pipette[$]	10 µl 100µl to 1000 µl	0.15 µl 0.3 µl	Using Weighing balance of 60g capacity and 0.01mg readability
2.	Glassware Like Pipettes, Burettes, Measuring Cylinder, Volumetric Flask Etc[$]	1ml to 10ml >10ml to 50ml	7 µl 7 ml	Using Weighing balance of 200g capacity and 0.1mg readability and distilled water
		>50 ml to 500ml	25 µl	Using Weighing balance of 1000g capacity and 1mg readability and distilled water
		>500ml to 1ltr	1.41 ml	Using Weighing balance of 6000g capacity and 10mg readability and distilled water
		>1 ltr to 5ltr	8.52 ml	Using Weighing balance of 60kg capacity and 1g readability and distilled water

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
VI.	**WEIGHING SCALE AND BALANCE**			
1.	Mass-Electronic Weighing Balances♣ Readability 0.01 mg	Maximum capacity up to 60g	0.06 mg	E1 class weights (1mg to 200g) F1 class weights (500g to 20 kg) and M1 class weights (500g to 20kg)
		Maximum capacity up to 200g	0.8 mg	
		Maximum capacity up to 1000g	3 mg	
		Maximum capacity up to 10 kg	13 mg	
		Maximum capacity up to 25 kg	2 g	
		Maximum capacity up to 60 kg	2 g	
		Maximum capacity up to 200 kg	20 g	

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
VII.	**PRESSURE INDICATING DEVICES**			
1.	Hydraulic Pressure / Industrial Pressure Gauge / Transducers With Indicator♣	0 to 700 bar 0 to 70 bar	0.7 bar 0.12 bar	Using Digital Pressure Gauge by Comparison Method as per DKD-R6-1
2.	Pneumatic Pressure/ Industrial Pressure Gauge / Transducers With Indicator ♣ Magnehelic Gauge♣	0 to 20 bar 0 to 1 bar 0 to 1962 Pa	0.007 bar 0.001 bar 5.9 Pa	Using Digital Pressure Gauge by Comparison Method as per DKD-R6-1 Using Polltech Calibrator by Comparison Method as per DKD-R6-1
3.	Vacuum Gauge♣	(-)0.8 to 0 bar	0.0073 bar	Using Digital Pressure Gauge by Comparison Method as per DKD-R6-1
VIII.	**ACOUSTICS**			
1.	Sound Level Meter$	**1kHz** 94 dB to 114 dB	0.32 dB	Using Sound Level Calibrator by Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
IX.	**DUROMETER**			
1.	Rubber Hardness Tester$			
	Shore A	0 to 100 Shore A	1.30 Shore A	Using Rubber Hardness Tester Calibrator as per ASTM D 2240-05
	Shore D	0 to 100 Shore D	1.30 Shore D	

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	THERMAL CALIBRATION			
I.	**TEMPERATURE**			
1.	Liquid-In Glass Thermometer, Digital Thermometer With Sensor, Rtd's, Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge #	(-) 30 °C to 50 °C	0.24 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke- 8846A) & Liquid Temperature Bath Calsys by Comparison Method - 30 to +50 °C
2.	Liquid-In Glass Thermometer, Digital Thermometer With Sensor Rtd's, Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge$	>50 °C to 250 °C	0.30 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke - 8846A) & Oil Bath Calsys 300S as Source by Comparison Method
3.	Liquid-In Glass Thermometer, Rtd's, Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge , Oven, Incubator & Water Bath♣ (Single Position Calibration)	>50 °C to 400 °C	0.25 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke- 8846A), Oil Bath Calsys 300S as Source and Tempsens Dry Block Bath Calsys 650 as Source by Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
4.	Digital Thermometer With Sensor, Rtd's, Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge[$]	>250 °C to 400 °C	0.83 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke - 8846A), Tempsens Dry Block Bath Calsys 650 as Source by Comparison Method
5.	Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge [$]	>400 °C to 650 °C	1.81 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke - 8846A) & Oil Bath Calsys 300S as Source by Comparison Method
6.	Thermocouples, Temperature Controller/ Indicator With Sensor [$]	>650 °C to 1000 °C	1.93 °C	Using S-Type Thermocouple & Multifunction Calibrator – Druck – DPI – 880 .& Tempsens Dry Block Bath Calsys 1200 as Source by Comparison Method
7.	Thermocouples, Temperature Controller/ Indicator With Sensor [$]	>1000 °C to 1200 °C	3.1 °C	Using S-Type Thermocouple & Multifunction Calibrator – Druck – DPI – 880 .& Tempsens Dry Block Bath Calsys 1200 as Source by Comparison Method

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
8.	Indicator of Deepfreezer/Refrigerator, Incubator, Oven & Water Bath♣ (Single Position Calibration)	(-) 80 °C to 50 °C	1.22 °C	Using RTD Sensor with Digital Multimeter 6½ (Fluke- 8846A) by Comparison Method
9.	Thermocouples, Temperature Controller/ Indicator With Sensor & Temperature Gauge Furnace♣ (Single Position Calibration)	>400 °C to 650 °C	1.9 °C	Using S-Type Thermocouple & Multifunction Calibrator – Druck – DPI – 880 .& Tempsens Dry Block Bath Calsys 650 as Source by Comparison Method
10.	Thermocouples, Temperature Controller/ Indicator With Sensor Furnace (Single Position Calibration) ♣	>650 °C to 1200 °C	3.1 °C	Using S-Type Thermocouple & Multifunction Calibrator – Druck – DPI – 880 .& Tempsens Dry Block Bath Calsys 1200 as Source by Comparison Method
II.	**SPECIFIC HEAT AND HUMIDITY**			
1.	Humidity Controller / Indicator With Sensor / Thermo-Hygrometer♣	10 °C to 50 °C 20 to 95 % RH @ 25 °C	0.7 °C 1.24 % RH	Using Digital Temp. / RH Indicator with Sensor & Humidity Chamber by Comparison Method

Laboratory	**A. A. Calibration Pvt. Ltd., 13-C/18, "Vasundhara Haat", Vasundhara, Ghaziabad, Uttar Pradesh**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
Certificate Number	**CC-2646** ***(In lieu of C-0342, C-0412, C-0554)***	**Page**	**23 of 23**	
Validity	**25.04.2018 to 24.04.2020**	**Last Amended on**	**04.07.2018**	

Sl.	**Quantity Measured / Instrument**	**Range/Frequency**	***Calibration Measurement Capability (±)**	**Remarks**
2.	Humidity / Conditioning / Environmental Chamber [$] (Single Position Calibration)	10 °C to 50 °C 20 % to 95 % RH	0.7 °C 1.23 % RH	Using Digital RH / Temp. Indicator with External Probe 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.
[Φ] 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.

Dheeraj Chawla
Convenor

Avijit Das
Program Director