

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2865 **Page** 1 of 18
Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>ELECTRO TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage [#]	1 mV to 200 mV 200 mV to 2 V 2 V to 20 V 200 V to 1000 V	1.5 % to 0.12 % 0.12 % 0.12 % 0.12 % to 0.14 %	Using Multi Function Calibrator By Direct Method
2.	AC Voltage [#]	50 Hz 5 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 200 V 200 V to 1000 V	2.78 % to 0.2 % 0.2 % to 0.32 % 0.32 % to 0.3 % 0.3 % to 0.27 % 0.27 % to 0.21 %	Using Multi Function Calibrator By Direct Method
3.	DC Current [#]	0.2 mA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 1 A 1 A to 10 A 10 A to 1000 A	0.35 % to 0.14 % 0.14 % 0.14 % 0.14 % to 0.3 % 0.3 % 0.6 %	Using Multi Function Calibrator By Direct Method Using Current Coil By Direct Method
4.	AC Current [#]	50 Hz 0.2 mA to 20 mA 20 mA to 200 mA 200 mA to 1 A 1 A to 10 A 10 A to 800 A	0.3 % to 0.25 % 0.25 % to 0.18 % 0.18 % to 0.3 % 0.3 % to 0.33 % 0.75 %	Using Multi Function Calibrator by Direct Method Using Current Coil By Direct Method
5.	DC Resistance [#] (2 Wire)	1 Ω to 10M Ω	0.95 % to 0.26 %	Using Decade Resistance Box By Direct Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 2 of 18

Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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	High Resistance (Insulation)	10 M Ω to 1000 M Ω	0.26 % to 0.58 %	Using Decade Resistance Box By Direct Method
6.	DC Resistance [#] (4 Wire)	10 $\mu\Omega$ 50 $\mu\Omega$ 100 $\mu\Omega$ 1 m Ω 10 m Ω 100 m Ω 1 Ω	2.1 % 0.96 % 0.96 % 0.6 % 0.6 % 0.6 % 0.6 %	Using 4 Wire Low Resistance standards By Direct Method
7.	AC Resistance [#]	1 kHz 1 Ω to 10k Ω	0.58 % to 0.15 %	Using Decade Resistance Box By Direct Method
8.	Capacitance [#]	1 kHz 1 nF to 100 μ F	1.2 %	Using Decade Capacitance Box By Direct Method
9.	Inductance [#]	1 kHz 100 μ H to 1 H	1.2 %	Using Decade Inductance Box By Direct Method
10.	Temperature Simulation [#] RTD (PT-100) J-Type T/C K-Type T/C T-Type T/C R-Type T/C S-Type T/C E-Type T/C B-Type T/C	(-) 200 $^{\circ}$ C to 850 $^{\circ}$ C 0 $^{\circ}$ C to 760 $^{\circ}$ C 0 $^{\circ}$ C to 1300 $^{\circ}$ C (-) 160 $^{\circ}$ C to 400 $^{\circ}$ C 200 $^{\circ}$ C to 1700 $^{\circ}$ C 0 $^{\circ}$ C to 1700 $^{\circ}$ C (-) 100 $^{\circ}$ C to 1000 $^{\circ}$ C 650 $^{\circ}$ C to 1750 $^{\circ}$ C	0.7 $^{\circ}$ C 0.92 $^{\circ}$ C 0.92 $^{\circ}$ C 0.75 $^{\circ}$ C 0.80 $^{\circ}$ C 0.75 $^{\circ}$ C 1 $^{\circ}$ C 2.3 $^{\circ}$ C	Using Universal Calibrator By Direct Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 3 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

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II.	MEASURE			
1.	DC Voltage [#]	1 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	0.41 % to 0.012 % 0.012 % to 0.006 % 0.006 % 0.006 % to 0.007 % 0.007 % to 0.008 %	Using 6½ Digit Multimeter By direct Method
2.	DC High Voltage [#]	1 kV to 30 kV	4.0 %	Using HV probe with DMM By Direct Method
3.	AC Voltage [#]	50 Hz 1 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	5.3 % to 0.2 % 0.2 % 0.2 % to 0.42 % 0.42 % to 0.5 % 0.50 % to 0.2 %	Using 6½ Digit Multimeter By direct Method
4.	AC High Voltage [#]	50 Hz 1 kV to 28 kV	4.0 %	Using HV probe with DMM By Direct Method
5.	DC Current [#]	10 μ A to 100 μ A 0.1 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1 A to 10 A	0.5 % to 0.092 % 0.092 % to 0.08 % 0.08 % to 0.07 % 0.07 % 0.07 % to 0.43 %	Using 6½ Digit Multimeter By direct Method
6.	DC High Current [#]	30 A to 600 A	2.1 % to 1.2 %	AC/DC High Current Shunt with 6½ DMM By V/R method
7.	AC Current [#]	50 Hz 0.1 mA to 1 A 1 A to 10 A 10 A to 30 A	0.3 % to 0.17 % 0.17 % to 0.36 % 0.36 % to 0.74 %	Using 6½ Digit Multimeter and AC/DC Current Shunt By Direct Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 4 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

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8.	AC High Current [#]	50 Hz 30 A To 600 A	1.2 %	Using AC/DC High Current Shunt with 6½ DMM By V/R Method
9.	DC Resistance [#] (2 Wire)	1 Ω to 100 Ω 100 Ω to 1 k Ω 1 k Ω to 10 k Ω 10 k Ω to 100 k Ω 100 k Ω to 1 M Ω 1 M Ω to 1 G Ω	0.4 % to 0.05 % 0.05 % 0.016 % 0.016 % to 0.12 % 0.12 % to 0.6 % 0.6 % to 2.3 %	Using 6½ Digit Multimeter /By Direct Method
10.	Frequency [#]	10 Hz to 1000 Hz 1 kHz to 1000 kHz	0.1 % to 0.06 % 0.06 % to 0.22 %	Using 6½ Digit Multimeter By Direct / Comparison Method
11.	Capacitance [#]	1 kHz 1 pF to 100 μ F	0.23 % to 0.38 %	Using LCRQ Meter By Direct Method
12.	Inductance [#]	1 kHz 100 μ H to 10 H	0.4 % to 0.21 %	Using LCRQ Meter By Direct Method
13.	AC Resistance [#]	1 kHz 1 Ω to 100 k Ω	0.13 %	Using LCRQ Meter By Direct Method
14.	Time Interval/ Digital Timer / Stop Watch [#]	1 s to 10 s 10 s to 9900 s	0.13 s to 6.7 s 6.7 s	Using Digital Timer By Comparison Method
15.	Temperature Simulation [#] RTD (PT-100) J-Type T/C T-Type T/C R-Type T/C S-Type T/C K-Type T/C	(-) 200 °C to 800 °C 0 °C to 760 °C (-) 160 °C to 400 °C 200 °C to 1750 °C 0 °C to 1750 °C 0 °C to 1350 °C	0.70 °C 0.90 °C 0.7 °C 1.4 °C 1.3 °C 0.90 °C	Using Universal Calibrator By Direct Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre,
 Ambala City, Haryana
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2865 **Page** 5 of 18
Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
	E-Type T/C B-Type T/C	(-) 100 °C to 1000 °C 650 °C to 1750 °C	1.3 °C 2.32 °C	

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Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2865 **Page** 6 of 18
Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
<u>MECHANICAL CALIBRATION</u>				
I.	PRESSURE INDICATING DEVICES			
1.	Dial & Digital Pressure Gauges, Pressure Transmitter With Indicator [#]	0 to 30 bar 0 to 700 bar	0.039 bar 0.86 bar	Using Digital Pressure Gauge and Comparator By Direct Comparison Method as per DKD R 6-1
2.	Vacuum Dial & Digital Vacuum Gauges, Vacuum Transmitter With Indicator [#]	(-) 0.9 bar to 0 bar	0.012 bar	Using Digital Compound Gauge and Vacuum Pump By Direct Comparison Method As per DKD R 6-2
3.	Magnehelic Gauge Dial & Digital Differential Pressure Gauges & Manometer [#]	0 to 7000 Pa	5.4 Pa	Using Digital Manometer & Low Pressure Comparator By Direct Comparison Method as per DKD R 6-1
II.	ACOUSTICS			
1.	Sound Level Meter ^s	94 dB 114 dB	2.65 dB 2.7 dB	Using Sound Calibrator By Comparison method
III.	ACCELERATION AND SPEED			
1.	RPM of RPM Source & Tachometer Contact Type [#]	10 rpm to 6000 rpm	4.6 rpm	Using Tachometer Calibrator (Contact Type) & Digital Tachometer By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 7 of 18

Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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2.	RPM Tachometer Non- Contact Type Contact Type [#]	10 rpm to 10000 rpm 10000 rpm to 99999 rpm	5 rpm 30.5 rpm	Using Tachometer Calibrator (Contact & Non- Contact Type) & Digital Tachometer By Comparison Method
IV.	DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)			
1.	Caliper ^{\$} (Vernier/ Dial/ Digimatic) L.C.: 0.01 mm	0 to 300 mm 300 mm to 600 mm 600 mm to 1000 mm	7.7 μ m 10.1 μ m 18.6 μ m	Using Slip Gauge 'O' Grade & Caliper checker By Comparison Method
2.	Height Gauge ^{\$} (Vernier/Dial/Digital) L.C.: 0.01 mm	0 to 300 mm 300 mm to 600 mm 600 mm to 1000 mm	7.8 μ m 10.30 μ m 14.2 μ m	Using Slip Gauge 'O' Grade & Caliper Checker By Comparison Method
3.	2D Height Gauge [#] (Measuring Error, Parallelism, Squareness) L.C.: 0.0001 mm	0 to 600 mm	6.9 μ m	Using Slip Gauge And Long Slip Gauge 'O' Grade By Comparison Method
4.	Outside Micrometers/ Disc/Ball/ Point/ Blade Type ^{\$} L.C.: 0.001 mm Outside Micrometer L.C.: 0.01 mm	0 to 50 mm 50 mm to 100 mm 100 mm to 300 mm 300 mm to 600 mm	0.90 μ m 1.2 μ m 7.5 μ m 9.6 μ m	Using Slip Gauge & Long Slip Gauge 'O' Grade by Comparison Method Using Slip Gauge & Long Slip Gauge 'O' Grade by Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 8 of 18

Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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5.	Depth Gauge ^{\$} (Vernier/Digital) L.C.: 0.01 mm	0 to 300 mm	7.7 μ m	Using Slip Gauge and Long Slip Gauge 'O' Grade By Comparison Method
6.	V-Anvil ^{\$} Micrometer L.C.: 0.001 mm	0 to 100 mm	1.2 μ m	Using Slip Gauge and Gauge 'O' Grade By Comparison Method
7.	Internal Micrometer/ Stick Type ^{\$} L.C.: 0.001 mm L.C.: 0.01mm	50 mm to 100 mm 100 mm to 300 mm	1.8 μ m 6.6 μ m	Using Slip gauge 'O', Plunger Dial Gauge & Digital Probe with Comparator Stand By Comparison Method
8.	Digimatic Micrometer Head ^{\$} L.C.: 0.001 mm	0 to 50 mm	0.7 μ m	Using Electronic Probe with Comparator Stand By Comparison Method
9.	Digimatic Dial Indicator Plunger Type ^{\$} L.C.: 0.001 mm	0 to 25 mm	1.40 μ m	Using Dial Calibration Tester By Comparison Method
10.	Depth Micrometer ^{\$} L.C.: 0.01 mm	0 to 300 mm	6.6 μ m	Using Slip Gauge and Long Slip Gauge 'O' and Caliper Checker By Comparison Method
11.	Dial Indicator ^{\$} Lever Type L.C.: 0.001 mm	0 to 2 mm	1.40 μ m	Using Slip gauge 'O'/ Dial Calibration Tester By Comparison Method
12.	Dial Bore Gauge ^{\$}	Travel Movement 1 mm	1.8 μ m	Using Slip gauge 'O'/ Dial Calibration Tester By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 9 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
13.	Electronic Probe ^{\$} L.C.: 0.0001 mm	0 to 25 mm	0.6 μ m	Using Slip Gauge 'O' By Comparison Method
14.	Dial Calibration Tester ^{\$} L.C.: 0.0001 mm	0 to 25 mm	1.0 μ m	Using Slip Gauge 'O'/Digital Probe By Comparison Method
15.	Dial Thickness Gauge ^{\$} L.C.: 0.001 mm	0 to 25 mm 0 to 50 mm	0.6 μ m 5.1 μ m	Using Slip Gauge 'O' Using By comparison Method
16.	Plain Plug Gauge/ Width Gauge ^{\$}	0.5 mm to 100 mm 100 mm to 200 mm 200 mm to 300 mm	1.1 μ m 2.1 μ m 3.0 μ m	Using Slip Gauge 'O' , Plunger Dial Gauge & Digital Probe By Comparison Method
17.	Master Setting Disc/Gauges ^{\$}	0 to 100 mm >100 mm to 200 mm >200 mm to 300 mm	2.3 μ m 2.9 μ m 3.4 μ m	Using Slip Gauge 'O' and Slip Gauge Accessories By Comparison Method
18.	Snap Gauge/ Dial Snap Gauge/ Gap Gauge ^{\$}	2 mm to 100 mm >100 mm to 400 mm	1.0 μ m 2.7 μ m	Using Slip gauge 'O' By Comparison Method
19.	Dial Caliper Gauge ^{\$} (Inside & Out Side) L.C.: 0.01 mm	6 mm to 100 mm	5.2 μ m	Using Slip Gauge 'O' By Comparison Method
20.	Measuring Pin ^{\$}	0.5 mm to 20 mm	1.0 μ m	Using Slip Gauge 'O' , Plunger Dial Gauge & Digital Probe By Comparison Method
21.	Feeler Gauge ^{\$}	0.010 mm to 1 mm	3.0 μ m	Using Digital Probe with Comparator Stand By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 10 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

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22.	Thickness Foil ^{\$}	12 μ m to 5 mm	3.0 μ m	Using Digital Probe with Comparator Stand By Comparison Method
23.	Measuring Scale ^{\$} L.C.: 0.5 mm	0 to 300 mm	$1.5 \sqrt{L/300}$ μ m (where L is in mm)	Using Profile projector By Comparison Method
24.	Radius Gauge ^{\$}	0.6 mm to 25 mm	3.9 μ m	Using Profile Projector By Comparison Method
25.	Thread Pitch Gauge ^{\$}	0.4 mm to 6 mm	3.5 μ m	Using Profile Projector By Comparison Method
26.	Test Sieves ^{\$} Aperture Size	32 μ to 10 mm 10 mm to 125 mm	2.6 μ m 12.6 μ m	Using Profile Projector / Digital Caliper By Comparison Method
27.	Microscope ^{\$}	Up to 10 x	0.80 %	Using Glass Scale & Eye Scale By Comparison Method
28.	Spirit Level ^{\$} Sensitivity: 0.01 mm/m	Up to 300 mm	5.0 μ m	Using Tilting Table And Electronic Level By Comparison Method
29.	Coat Thickness Gauge ^{\$}	12 μ m to 2877 μ m	3.3 μ m	Using Master Thickness Foils set By Comparison Method
30.	Ultrasonic Thickness Gauge ^{\$} L.C.: 0.10 mm	5 mm to 200 mm	232.0 μ m	Using Long Slip Gauge Block & 'O' Grade Slip Gauge Block By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 11 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
31.	Sine Bar ^{\$} Flatness Setting Angles Roller Dia. Centre Distance	Up to 300mm	3.0 μ m 4.0 Sec 2.7 μ m 3.6 μ m	Using Slip Gauge and Angle Gauge / Lever Type Dial Gauge By Comparison Method
32.	Comparator Stand [#] (Flatness)	400 mm x 400 mm	5.6 μ m	Using Electronic Level and Lever Dial Gauge By Comparison Method
33.	Angle Gauge ^{\$}	Up to 90°	10 Sec of arc	Using Sine Bar, Slip Gauge & Electronic Probe By Comparison Method
34.	Caliper Checker ^{\$}	Up to 600 mm	5.3 μ m	Using Slip Gauge, Digital Probe and Lever Dial Gauge By Comparison Method
35.	Weld Fillet Gauge ^{\$}	0 to 30 mm Angle Up to 90°	4.0 μ m 2°56'	Using Slip Gauge By Comparison Method
36.	Wire Gauge ^{\$}	0.19 mm to 7.82 mm	3.5 μ m	Using Profile Projector By Comparison Method
37.	Pistol Caliper ^{\$} L.C.: 0.01 mm	0 to 100mm	5.2 μ m	Using Slip Gauge By Comparison Method
38.	Straight Edge ^{\$} (Straightness)	1000 mm x 100 mm	5.7x $\sqrt{L}$ /150 μ m L in mm	Using Micrometer & Lever Dial Gauge by Comparison Method
39.	V Block Parallelism ^{\$} Flatness Symmetry Squareness	100 mm x 75 mm x 95 mm	3.0 μ m 2.0 μ m 3.0 μ m 3.0 μ m	Using Test Mandrel By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2865 **Page** 12 of 18
Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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40.	Surface Plate*	2000 mm x 1000 mm	$1.55 \sqrt{\frac{L+W}{125}} \mu\text{m}$ Where L & W in mm	Using Electronic Level by Grid method
41.	Bench Center (Concentricity & Parallelism)*	Up to 500 mm C.D. 150 mm Height	7.9 μm	Using Test Mandrel and Lever Type Dial Gauge with Stand By Comparison Method
42.	Bevel Protector L.C.:1'/5'/1°	0 to 360°	3.8'	Using Angle Gauge & Profile projector By Comparison Method
43.	Angle Protector L.C.:1'/5'/1°	0 to 180°	0.87'	Using Angle Gauge & Profile projector By Comparison Method
44.	Combination Set L.C.:1'/5'/1°	0 to 90°	3.8'	Using Angle Gauge & Profile projector By Comparison Method
45.	Digital Protractor ^s L.C.:1'/5'/1°	0 to 360°	0.87'	Using Angle Gauge & Profile projector By Comparison Method
V.	WEIGHTS			
1.	Weights ^s Calibration of F1 Class Weights and Coarser	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	0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.01 mg 0.012 mg 0.015 mg 0.02 mg 0.02 mg 0.022 mg	Using E2 Class Standard Weights ABBA Method with Digital Weighing Balance up to 100 g of d = 0.01 mg and up to 200g of d=0.1 mg./ Using ABBA method as per OIML R- 111

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 13 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

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	Calibration of M2 Class Weights and Coarser	20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 50 kg	0.03 mg 0.04 mg 0.054 mg 0.142 mg 0.082 g 0.083 g 0.088 g 0.12 g 0.18 g 0.09 g 1.3 g	Using F1 (20 kg) and M1 Class Weights and (1) Digital Weighing Balance up to 20 kg with $d = 0.1$ g and (2) up to 50 kg with $d = 1.0$ g/ Using ABBA Method as per OIML R- 111
2.	Mass Electronic Weighing Balance [#]	1 mg to 100 g $d \geq 0.01$ mg >100g to 200 g $d \geq 0.1$ mg >200 g to 20 kg $d \geq 0.1$ g >20 kg to 50 kg $d \geq 1$ g >50 kg to 100 kg $d \geq 5$ g	0.08 mg 0.2 mg 0.4 g 1.6 g 6.95 g	Using E2 Class Standard Weights 1 mg to 200 g / For Calibration of Class I Weighing Balances and Coarser as per OIML R-76 F1 and M1 Class Standard Weights, >200g to 50 kg and Two Pieces F1 class of 20 kg For Calibration of Class II and III Weighing Balances and Coarser as per OIML R-76
VI.	VOLUME			
1.	Micropipette (Piston Pipette) ^{\$}	>10 μ l to 100 μ l >100 μ l to 1000 μ l	0.20 μ l 0.32 μ l	Using Digital Balance up to 100g readability

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana
Accreditation Standard ISO/IEC 17025: 2005
Certificate Number CC-2865 **Page** 14 of 18
Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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		>1 ml to 5 ml >5 ml to 10 ml	0.82 μ l 1.04 μ l	0.01 mg and Distilled Water of known Density and as per IS 8655-6 & ISO/TR 20461
2.	Glass ware (Glass Pipettes Graduated/ Non Graduated) ^{\$}	0.1 ml to 10 ml >10 ml to 50 ml	0.025 ml 0.064 ml	Using Digital Precision Balance and Distilled Water of known Density as per ISO 4787 & ISO/TR 20461 and
3.	Glass Burette ^{\$}	0.1 ml to 10 ml >10 ml to 50 ml	0.025 ml 0.064 ml	Digital Precision Balance and Distilled Water of Known Density as per ISO 4787 & ISO/TR 20461 and
4.	Measuring Cylinder/ Volumetric Flask/Conical Flask/Beaker/ Measuring Can ^{\$}	0.1 ml to 10 ml >10 ml to 100 ml >100 ml to 1000 ml >1000 ml to 2000 ml >2000 ml to 5000 ml	0.025 ml 0.060 ml 0.360 ml 0.900 ml 0.900 ml	Using Digital Precision Balance and Distilled Water of known Density as per ISO 4787 & ISO/TR 20461 and
VII.	UTM, TENSION CREEP AND TORSION TESTING MACHINE			
1.	Verification of Uni-axial Testing Machine (Class II) [*] Tension Compression	0.5 kN to 200 kN 25 kN to 1000 kN	3.0 % 1.3 %	Using Force Proving Instruments (Load Cell) of Class 0.5 As Per IS 1828 (Part 1)
VIII.	HARDNESS TESTING MACHINES			
1.	Verification of Hardness testers by Indirect Method [*] Rockwell	HRA HRBW	1.5 HRA 2.0 HRBW	Using Reference Hardness Standards Blocks IS:1586 (Part-2)

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 15 of 18

Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		HRC	0.85 HRC	

2.	Verification of Hardness testers by Indirect Method* Vickers Hardness Tester	HV-1 HV-5 HV-10 HV-30	10 % 5.2 % 4.6 % 4.6 %	Using Reference Hardness Standards Blocks IS 1500 (Part-2): ISO 6507
3.	Verification of Hardness testers by Indirect Method* Brinell Hardness Tester	HBW-2.5/187.5 HBW-5/750 HBW-10/3000	3.0 % 2.6 % 2.5 %	Using Reference Hardness Standards Blocks IS 1501 (Part-2)
4.	Rubber Hardness Tester ^s	0 to 100 Shore A	1.7 Shore A	Using Weighing Balance & Fixture based on ASTM D2240
IX.	DIMENSION (PRECISION INSTRUMENTS)			
1.	Profile Projector* [Angle, Linear Displacement in (X & Y Plane) and Magnification]	0 to 360° 0 to 300 mm 10x to 100x	30 Sec. of arc 9.50 μm 0.05 %	Using Glass Scale , Digital Caliper & Angle Gauge By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865

Page 16 of 18

Validity 10.10.2018 to 09.10.2020

Last Amended on 13.12.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
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<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	Liquid In Glass Thermometer [#]	(-) 80 °C to 250 °C	0.41 °C	Using RTD (PT-100), 6½ Digital Multimeter , Low Temperature Liquid Bath and Oil Bath By Comparison Method
2.	Digital Thermometers, RTD's/Thermocouple With Or Without Temperature Indicator/Data Logger/Recorder [#]	(-) 80 °C to 250 °C	0.30 °C	Using RTD (PT-100) with DMM, Low Temperature Liquid Bath and Oil Bath By Comparison Method
3.	Digital Thermometers, RTD's/Thermocouple With Or Without Indicator/ Data Logger/ Recorder [#]	250 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1200 °C	0.50 °C 1.6 °C 2.4 °C	Using RTD (PT-100), 6½ Digital Multimeter and Dry Block Furnace By Comparison Method Using "S" Type Thermocouple with 6½ Digital Multimeter And Dry Block Furnace By Comparison Method

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 17 of 18

Validity 10.10.2018 to 09.10.2020 **Last Amended on** 13.12.2018

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4.	Temperature Indicator Of Deep Freezer, Chambers, Oven, Autoclave (for Non-Medical Applications), Incubators (for Non-Medical Applications),, Furnace, Dry Block & Oil Bath [#]	(-) 80 °C to 400 °C 400 °C to 1000 °C 1000 °C to 1200 °C	0.47 °C 1.83 °C 2.56 °C	Using RTD (PT-100) with DMM by Single Position Calibration By Comparison Method Using "S" Type Thermocouple with 6½ DMM by Single Position Calibration By Comparison Method
II	SPECIFIC HEAT AND HUMIDITY			
1.	Humidity/ Temperature, RH Sensor With Indicator/ Data Logger, Thermohygrometer ^{\$}	10 % RH to 90 % RH At $\approx$ 25 °C 5°C to 60 °C At $\approx$ 50 % RH	2.4 % RH 0.63 °C	Using Temperature / RH Indicator with Sensor and Humidity & Temperature Chamber By Comparison Method
2.	Chamber, Deep Freezer, Incubators (for Non-Medical Applications), Ovens, Auto Clave (for Non-Medical Applications) Furnace [*]	(-) 60 °C to 300 °C	2.8 °C	Using T Type Thermocouple (Minimum 9 Sensor) with Data Logger with Multiposition Calibration By Special Mapping
3.	Humidity & Temperature	30% RH to 90% RH At $\approx$ 25 °C	3.56% RH	Using Wireless Data Logger (Minimum 9 Data

Laboratory Tru Cal Metrology Services, 2- B, Civil Lines, Yukti Business Centre, Ambala City, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2865 **Page** 18 of 18

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ($\pm$)	Remarks
	Chambers, Stability Chamber, Rooms*	20°C to 50°C At $\approx$ 50 % RH	1.17°C	Logger) with Multiposition Calibration By Special Mapping
4.	Indicator Of Humidity Generators / Calibrator Chamber*	15% RH to 90% RH At $\approx$ 25	1.8 % RH	Using RH Indicator with Sensor by Single Position Calibration
5.	Industrial Furnaces*	300°C to 1200°C	5.98°C	Using "N" Type Thermocouples (Minimum 9 Sensors) with Data Logger By Special Mapping Multiposition Calibration

* Measurement Capability is expressed as an uncertainty ($\pm$) 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.