Laboratory	**Pooja Precision Instruments, No. 423/14, 22nd Main Road, 19th Cross, J. P. Nagar, 5th Phase, Bangalore, Karnataka**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
Certificate Number	**CC-2696**	**Page**	**1 of 11**	
Validity	**18.05.2018 to 17.05.2020**	**Last Amended on**	**26.09.2018**	

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	MECHANICAL CALIBRATION			
I.	**DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)**			
1.	Calipers[$] (Vernier/Dial/Digital) LC:10 µm	Upto 600 mm Above 600 mm Upto 1000 mm	11.6 µm 18.8 µm	Using Caliper Checker / Gauge Blocks / Length Bars By Comparison based on IS:3651 (Part 1,2 &3)
2.	Depth Gauge[$] (Vernier/Dial/ Digital) LC:10 µm	Upto 300 mm	9.4 µm	Using Caliper Checker Gauge Blocks, Length Bars By Comparison based on IS:4213
3.	External Micrometer[$] (Analog/Digital) LC:1 µm	Upto 300 mm Above 300 mm Upto 600 mm	2.6 µm 5.5 µm	Using Caliper Checker / Gauge Blocks / Length Bars By Comparison based on IS:2967
	LC:10 µm	Above 600 mm Upto 1000 mm	9.3 µm	

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4.	Internal / Stick Micrometer $ LC:10µm	5 mm to 30 mm Above100 mm Upto 300 mm Above 300 mm Upto 1000 mm	6.7 µm 6.9 µm 7.3 µm	Using Length Measuring M/c / Gauge Blocks & Accessories By Comparison based on IS:2966
5.	Depth Micrometer (Analog/Digital) $ LC:1 µm	Upto 300 mm	1.9 µm	Using Gauge Blocks By Comparison based on IS:6468
6.	Micrometer Head $ Lc:1 µm	Upto 25 mm	1.4 µm	Using Electronic comparator By Comparison based on IS:9483
7.	Plunger Dail Gauge $ (Analog/Digital) Lc:1 µm	Upto 25 mm	1.5 µm	Using Electronic Dial Calibration Tester / Gauge Blocks By Comparison based on IS:2092
	LC:10 µm	Upto 50 mm	6.0 µm	
8.	Lever Type Dial Gauge $ (Analog/Digital) Lc:1 µm	Upto 0.2 mm	1.6 µm	Using Electronic Dial Calibration Tester By Comparison based on IS:11498

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
9.	Bore Gauge$ (Analog/Digital) LC:1 µm	Dia Range Ø 6- 500 mm Probing range: Upto 2.5 mm	1.9 µm	Using Electronic Dial Calibration Tester By Comparison based on JIS: B7515
10.	Dial Thickness Gauge$ (Analog/Digital) LC:1 µm	Upto 25 mm	1.4 µm	Using Gauge Blocks By Comparison based on IS:14271
11.	Pistol Caliper$ (Vernier/Dial/Digital) LC:0.1 mm	Upto 100 mm	66.4 µm	Using Gauge Blocks By Comparison
12.	Plain Plug Gauge/Setting Master $	Upto Ø 2 to 100mm Above 100mm upto 300mm	9.4 µm 2.5µm	Using -Length Measuring M/c By Comparison based on IS: 3455
13.	Plain / Setting Ring Gauges$	Upto Ø 2 to 100mm Above 100mm upto 300mm	1.4 µm 2.3 µm	Using -Length Measuring M/c By Comparison based on IS: 3455 & IS: 3485
14.	Thread Plug Gauge$	Upto Ø 2 to 100mm Above 100mm Upto 200 mm	2.3 µm 2.8 µm	Using -Length Measuring M/c By Comparison based on IS: 2334, IS: 4218

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
15.	Thread Ring Gauge[$]	Upto Ø 3 to 100mm Above 100mm upto 300mm	1.5 µm 2.8 µm	Using -Length Measuring M/c By Comparison based on IS: 2334, IS: 4218, IS: 14962, IS: 4218 IS: 4218, ANSI/ASME B 1.2
16.	Taper Plug Gauge[$]	Diameter: Ø 6-100mm Taper Angle: Upto 60º	1.7 µm 9.0 ArcSecs	Using -Length Measuring M/c By Comparison based on IS: 2251 & IS: 7615
17.	Taper Ring Gauge[$]	Diameter: Ø 6-100mm Taper Angle: Upto 60º	1.7 µm 9.0 ArcSecs	Using -Length Measuring M/c By Comparison based on IS: 8999 & IS: 554, ANSI/ASME B 1.20.3
18.	Taper Thread Plug Gauge[$]	Upto 100 mm	3 µm	Using -Length Measuring M/c Calibration Tester By Comparison based on IS:11498
19.	Taper Thread Ring Gauge[$]	Dia Range Ø 3- 100 mm	2.7 µm	Using -Length Measuring M/c Calibration Tester By Comparison based on IS:11498

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
20.	Snap Gauge $ (Fixed/Adjustable)	2.0 to 100mm Above 100mm Upto 200mm	1.6 µm 2.2 µm	Using Gauge Blocks/ Long Gauge Blocks By Comparison on IS: 3455
21.	Cylindrical Measuring Pin $	Ø0.1 to 20mm	0.6 µm	Using Length Measuring M/c By Comparison based on IS: 11103
22.	Thread Measuring Wire $	Ø0.17 to 6.35mm	0.3 µm	Using Length Measuring M/c By Comparison based on IS: 6311
23.	Width Gauge $	2 to 100mm	1.5 µm	Using Length Measuring M/c By Comparison
24.	Micrometer Setting Standard $	12.5 mmto 300mm Above 300mm upto 600mm Above 600mm upto 975mm	1.8 µm 2.4 µm 3.5 µm	Using Gauge Blocks / Electronic Comparator By Comparison
25.	Feeler Gauge$	Upto 2 mm	1.0 µm	Using Length Measuring M/c By Comparison based on IS 3179
26.	Radius Gauge $	R0.6 to 25m	7.8µm	Using Profile Projector By Comparison based on IS 5273

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
27.	Thread Pitch Gauge $	Pitch 0.6 to 25mm Angle 30-75°	4.5 µm 5.6 ArcMin	Using Profile Projector By Comparison based on IS 4211
28.	Bevel Protractor $ LC: 5 Arc Min	Upto 360°	5.8 Arc Min	Using Profile Projector By Comparison based on IS: 5812 & 4239
29.	Spirit Level $ Sensitivity: 0.01 Mm/M	± 0.2mm/M	0.014mm/M	Using Electronic Level By Comparison based on IS: 5706
30.	Groove / Leg Caliper (Int. & Ext.) LC: 10 µm	10 mm to150mm	6.0µm	Using Gauge Blocks & Accessories by Comparison Method
31.	Master / Thickness Foils $	0.01 mm to 1.25mm	1.1 µm	Using Length Measuring M/c By Comparison Method
32.	Coating Thickness Gauge $ LC: 0.1 µm$	0.01 to 2mm	2.7 µm	Using Standard Foil By Comparison based on IS: 6012
33.	Measuring Scale $ LC: 0.5mm	Upto 1000mm	31(√(L/1000)) µm "L" in mm	Using Scale & Tape Calibrator By Comparison based on IS 1481

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
34.	Measuring Tape $ LC: 1mm	Upto 50 Metres	40√(L/1000)µm "L" in mm	Using Scale & Tape Calibrator By Comparison based on IS 1269
35.	Comparator Stand # (Flatness Of Base)	300 mm x 400mm	2.6 µm	Using Electronic Micro Indicator By Comparison based on IS: 12937
36.	V-Block $ (Parallelism & Symmetry)	Upto 150mm	4.8 µm	Using Micro Indicator& Test Mandrel By Comparison based on IS: 2949
37.	Engineering Square / Try Square $	Upto 300mm	6.8µm	Using – Granite L Square, Precision Dial Indicator By Comparison based on IS: 2103, IS: 6923
38.	Test Sieves $	0.16 to 1mm 1mm to 100mm	5.0 µm 20.0 µm	Using - Profile Projector, Digital Caliper By Comparison based on IS:460
39.	Surface Plate # (Granite/Cast Iron)	3000mm x 3000mm	1.25√((W+L/125)) µm W=Width, L=Length W & L in mms	Using –Electronic Level In-direct method based on IS: 7327 & 12937

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
40.	Profile Projector # LC : 1µm LC: 6 Arc Min	Linear: Upto 300mm Angle: Upto 360º Magn.: Upto 50x	5.3 µm 3.6 Arc Min 0.64%	Using Glass scale, Angle Gauge Blocks, Digital Calipers & Gauge Blocks By Comparison Method based on JIS: B7184
41.	Height Gauge # (Vernier / Dial/ Digital) LC: 10µm	Upto 600mm Above 600mm upto 1000mm	8.0 µm 10.8 µm	Using Caliper Checker / Long Gauges By Comparison based on IS 2921
42.	Electronic Height Gauge (1d/2d) # LC.: 0.1 µm	Upto 1000mm	3.4 µm	Using Gauge Blocks / Long Gauge Blocks By Comparison based on IS 2921
43.	Bench Centre #	Centre Height Upto 300mm Admit between Centres: 300mm	2.4 µm	Using Mandrel & Dial Indicator Direct Method based on IS: 5980
44.	Straight Edge #	Upto 3000 mm	± (3.5√(L/1000)) µm	Using Electronic Level In-direct Method based on IS: 2220 & IS: 12937
45.	Video Measuring System # LC : 1µm LC: 12 Arc Sec	Linear: Upto 300mm Angle: Upto 360º	±5.3 µm 15 Arc sec	Using Glass scale, Angle Gauge Blocks, Digital Calipers & Gauge Blocks By Comparison Method based on JIS: C 6802

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46.	Shore Hardness Tester $ (Shore A/D) LC: 0.5 Shore	Upto 100 shore	1.7 Shore	Using rubber Hardness Calibrator By Comparison Method
II.	**TORQUE GENERATING DEVICES**			
1.	Torque Generating Devices # (Digital/Dial Torque Wrench, Torque Screw Driver & Leader) Type I(Class B,C,D,E) Type II(A,B,D,E)	0 to 10 Nm Above 10 Upto 200 Nm Above 200 Upto 2000 Nm	0.68 % FS 0.62 % FS 0.89 % FS	Using Electronic Troque Wrench Tester with Motorized drive
III.	**PRESSURE INDICATING DEVICES**			
1.	Pressure Gauges# (Digital/Analogue)	0 to 2 bar 2 bar to 20 bar	0.313 % rdg 0.032 % rdg	Using Digital Pressure Gauge As per DKD-R-1-6
2.	Vacuum Gauges# (Digital/Analogue)	0 to (-) 0.89 bar	1.11 % rdg	Using Digital Vacuum Gauge As per DKD-R-1-6
3.	Pressure Gauges# (Digital/Analogue)	1 bar to 700 bar 700 bar to 1000 bar	0.42 % rdg 0.63 % rdg	Using Digital Pressure Gauge As per DKD-R-1-6
4.	Low Pressure Gauges / Magnehelic# (Digital/Analogue)	0 to 250 mmWc 250 to 1000 mmWc	0.15 % rdg 1.25 % rdg	Using Digital Pressure Gauge As per DKD-R-1-6

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
IV.	**WEIGHING SCALE AND BALANCE**			
1.	Non-Automatic Weighing Balance/Scale	0 to 21 g 0 to 220 g	0.047 mg 0.7 mg	Using E1 Class Standard Weights Weighing Balance Class I as per OIML R76-1:2006 (d:0.001 mg) (d:0.1 mg)
		0 to 610 g	1.2 mg	Using E2 Class Standard Weights Weighing Balance Class II as per OIML R76-1:2006 (d: 1 mg)
		0 to 6.2 Kg 0 to 20 Kg 0 to 52 Kg 0 to 100 Kg	25 mg 20 mg 2 g 20 g	Using F1 Class Standard Weights Weighing Balance Class I as per OIML R76-1:2006 (d:10 mg) (d:100 mg) (d:1 g) (d:10mg)
		0 to 200 Kg	257 g	Using F Class Standard Weights,F2 &M1 Weighing Balance Class I as per OIML R76-1:2006 (d:100 g)

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Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
		THERMAL CALIBRATION		
I.	**TEMPERATURE**			
1.	RTDs / Thermocouple with or without Temperature Indicator / Data logger, Digital Thermometer, Temperature Gauge #	(-) 30° C to 150 °C 150 °C to 600 °C 600 °C to 1200 °C	0.32 °C 1.67 °C 2.76 °C	Using RTD, S type Thermocouple, Digital Multimeter, Dry Block Calibrator / Liquid Bath, Comparison Calibration.
2.	Temperature Indicator with Sensor of Liquid Bath, Dry Block Calibrators#	(-) 30° C to 150 °C 150 °C to 600 °C 600 °C to 1200 °C	0.45 °C 1.72 °C 1.92 °C	Using RTD, S type Thermocouple, Digital Multimeter,
3.	Liquid in Glass Thermometer $	35 °C to 100 °C 100 °C to 250 °C	0.59 °C 0.69 °C	Using RTD, Digital Multimeter & Liquid Baths
4.	Calibration of Deep Freezers, Incubator for Industry, Ovens, Thermal Chambers, Furnace♣	(-) 30° C to 200 °C 200 °C to 1100 °C	2.1 °C 5.75 °C	Using RTD's(Minimum Nine Sensor) with Data Logger, N Type Thermocouples(Minimum Nine) with Data logger . Multi position Calibration

*** 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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