Laboratory	**Hi Tech Calibration Services, No. 130, 2nd Floor, VGP Nagar, Mugappair West, Chennai, Tamil Nadu**		
Accreditation Standard	**ISO/IEC 17025:2005**		
Discipline	**Mechanical Calibration**	**Issue Date**	**11.09.2015**
Certificate Number	**C-1263**	**Valid Until**	**10.09.2017**
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	Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
I.	**PRESSURE AND VACUUM**			
1.	**PRESSURE-PNEUMATIC**♯ **(Pressure Gauge, Pressure Indicator, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder, Magnehelic Gauge, Level Gauge, Manometer, BP Apparatus)**	0 to 0.25 bar 0 to 0.6 bar 0 to 2 bar 0 to 25 bar	0.000065 bar 0.00011 bar 0.00055 bar 0.0026 bar	Using Pressure Calibrator By Comparison Method based on DKD – R6-1
2.	**PRESSURE-HYDRAULIC**♯ **(Pressure Gauge, Pressure Indicator, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder)**	0 to 400 bar 0 to 1000 bar	0.14 bar 0.16 bar	Using Pressure Calibrator By Comparison Method based on DKD – R6-1
3.	**VACUUM- PNEUMATIC**♯ **(Vacuum Gauge, Vacuum Indicator, Vacuum Transmitter, Vacuum Transducer, Vacuum Switch, Vacuum Recorder)**	(-) 0.6 bar to 0 bar (-) 0.95 bar to 0 bar	0.00012 bar 0.00049 bar	Using Pressure Calibrator By Comparison Method based on ISO 3567:2011 ISO -27893: 2011

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Convenor

Avijit Das
Program Manager

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II.	**ACCELERATION AND SPEED**			
1.	**RPM[#] (Indicator of Centrifuge, RPM Meter, RPM Source)**	200 RPM to 14000 RPM	11 RPM	Using Digital Tachometer by Comparison Method Procedure based on SANAS TR 45-01
III.	**MASS**			
1.	**WEIGHTS[$]**	1 mg	0.007 mg	Using Weights of Accuracy Class E1 & Precision Balance by Substitution Method of Weighing & ABBA Weighing Cycle Procedure based on OIML R 111
	Accuracy Class F1 & Coarser	2 mg	0.007 mg	
		5 mg	0.007 mg	
		10 mg	0.009 mg	
		20 mg	0.009 mg	
		50 mg	0.009 mg	
		100 mg	0.009 mg	
		200 mg	0.009 mg	
		500 mg	0.009 mg	
	Accuracy Class E2 & Coarser	1 g	0.009 mg	
		2 g	0.009 mg	
		5 g	0.011 mg	
		10 g	0.014 mg	
		20 g	0.015 mg	
		50 g	0.02 mg	
		100 g	0.07 mg	
		200 g	0.075 mg	
	Accuracy Class F2 & Coarser	500 g	0.007 g	Using Weights of Accuracy Class E2 & Precision Balance by Substitution Method of Weighing & ABBA Weighing Cycle Procedure based on OIML R 111
		1 kg	0.008 g	
	Accuracy Class F1 & Coarser	2 kg	0.008 g	
		5 kg	0.008 g	
		10 kg	0.07 g	

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
Accuracy Class M1 & Coarser	20 kg	0.27 g	Using Weights of Accuracy Class F2 & Precision Balance by Substitution Method of Weighing & ABBA Weighing Cycle Procedure based on OIML R 111
2 WEIGHING BALANCE♣			
Readability 0.001 mg	Upto 21 g	0.015 mg	
Readability 0.01 mg	Upto 220 g	0.053 mg	Using Standard Weights of Accuracy Class E1 based on OIML R 76 (2006)
Readability 1 mg	Upto 620 g	0.24 mg	
Readability 10 mg	Upto 6.2 kg	0.006 g	Using Standard Weights of Accuracy Class E2 based on OIML R 76 (2006)
Readability 0.1 g	Upto 10 kg	0.040 g	
Readability 1 g	Upto 32 kg	0.4 g	Using Standard Weights of Accuracy Class F2 based on OIML R 76 (2006)
Readability 5 g	Upto 50 kg	0.45 g	Using Standard Weights of Accuracy Class M1 based on OIML R 76 (2006)
Readability 10 g	Upto 100 kg	3.2 g	
Readability 20 g	Upto 300 kg	3.4 g	
IV. VOLUME			
1. MICRO PIPETTE$	10 µl to 50 µl	0.07 µl	Using Precision Balance & Distilled Water with Known Density by Gravimetric Method Procedure based on ISO 8655-6:2002
	50 µl to 100 µl	0.1 µl	
	100 µl to 1000 µl	0.28 µl	
2. PIPETTE$	0.1 ml to 1 ml	0.67 µl	Using Precision Balance & Distilled Water with Known Density by Gravimetric Method Procedure based on ISO 4787:2010
	1 ml to 20 ml	3.08 µl	

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	Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (±)	Remarks
3.	**BURETTE[$]**	1 ml to 10 ml 10 ml to 50 ml	0.84 µl 4.0 µl	Using Precision Balance & Distilled Water with Known Density by Gravimetric Method Procedure based on ISO 4787:2010
4.	**STANDARD FLASK CONICAL FLASK, BEAKER[$]**	10 ml to 50 ml 50 ml to 100 ml 100 ml to 500 ml 500 ml to 1000 ml	5.7 µl 0.02 ml 0.04 ml 0.07 ml	Using Precision Balance & Distilled Water with Known Density by Gravimetric Method Procedure based on ISO 4787:2010
5.	**MEASURING CYLINDER[$]**	10 ml to 50 ml 50 ml to 100 ml 100 ml to 1000 ml 1000 ml to 5000 ml 5000 ml to 10000 ml	0.05 ml 0.06 ml 0.13 ml 0.51 ml 1.7 ml	Using Precision Balance & Distilled Water with Known Density by Gravimetric Method Procedure based on ISO 4787:2010
6.	**MEASURING JAR/CANE[$]**	10000 ml to 20000 ml	1.7 ml	Using Precision Balance & Distilled Water with Known Density

*** 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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