

Laboratory Sree Chitra Tirunal Institute for Medical Sciences & Technology,
Biomedical Technology Wing, Satelmond Palace Campus,
Poojappura, Trivandrum, Kerala

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2574 (In lieu of C-0589,C-0590) **Page** 1 of 5

Validity 14.02.2018 to 13.02.2020 **Last Amended on** 28.05.2018

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage ^s	20 mV to 100 mV 100 mV to 1 V 1 V to 10 V	0.016 mV to 0.90 mV 0.90 mV to 0.28 mV 0.28 mV to 3.5 mV	Using Process calibrator Fluke 743 B by Direct Method
2.	DC Current ^s	10 mA to 16 mA	0.58 mA	Using Process calibrator Fluke 743 B by Direct Method
3.	DC Resistance ^s	10 Ω to 100 Ω 100 Ω to 1 k Ω 1 k Ω to 8k Ω	0.051 Ω to 0.074 Ω 0.074 Ω to 1 Ω 1 Ω to 11 Ω	Using Process calibrator Fluke 743 B by Direct Method
4.	Frequency ^s	50 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 50 kHz	0.12 Hz 0.12 Hz to 0.16 Hz 0.16 Hz to 17 Hz	Using Process calibrator Fluke 743 B by Direct Method
II.	MEASURE			
1.	DC Voltage ^s	10mV to 100mV 100mV to 1V 1V to 15V	0.6 mV to 0.70 mV 0.70 mV to 1 mV 1 mV to 24 mV	Using Documenting process Calibrator Model Fluke 743 B by Direct method
2.	Frequency ^s	50Hz to 100 Hz 100Hz to 1K Hz 1KHz to 50K Hz	0.06 Hz 0.06 Hz to 0.59 Hz 0.59 Hz to 63.2 Hz	Using Documenting process Calibrator Model Fluke 743 B by Direct method

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Convenor

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<u>MECHANICAL CALIBRATION</u>				
I.	WEIGHTS			
1.	Mass Weights ^s	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 100 g 200 g	0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.06 mg 0.07 mg 0.07mg 0.07mg 0.07mg 0.07mg 0.07mg 0.07mg 0.07mg 0.08 mg 0.09 mg 0.12 mg	Using E2 class standard weights and weighing Balance of readability:0.01 mg & Calibration of F2 class weights and coarser by ABA method as per OIML R-111
	Using E2 class standard weights and weighing Balance of readability:10 mg	500 g 1 kg 2 kg	10 mg 10 mg 10 mg	

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II.	WEIGHING SCALE AND BALANCE			
1.	Mass Electronic Weighing Balance* Readability 0.1mg Readability 0.1mg Readability 0.5mg Readability 1mg Readability 5mg	1mg to 500 mg >500 mg to 10 g >10 g to 50 g >50 g to 200 g >200 g to 500g	0.01 mg 0.05 mg 0.1 mg 0.2 mg 0.25 mg	Using E2 Class Standard Weights by Comparison method as per OIML R76-1
III.	VOLUME			
1.	Micro pipettes ^s	10 μ l to 100 μ l >100 μ l to 200 μ l >200 μ l to 1000 μ l >1ml to 5ml	0.05 μ l 0.2 μ l 0.5 μ l 1 μ l	Using weighing balance of readability 0.01 mg and distilled water Gravimetric method based on ISO 8655
2.	Volume Glassware, Burette, Pipettes, Measuring Cylinder, Standard Flasks ^s	1ml to 10ml >10ml to 20ml >20ml to 100ml >100 ml to 500 ml	5 μ l 25 μ l 50 μ l 0.31ml	Using weighing balance of readability 0.1 mg and distilled water
IV.	ACCELERATION AND SPEED			
1.	Speed ^s - RPM	200 RPM to 20,000 RPM	2.8 rpm	Using reference Stroboscope of resolution: 0.01RPM Comparison Method

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<u>THERMAL CALIBRATION</u>				
I.	TEMPERATURE			
1.	Thermal & Temperature ,Liquid in Glass Thermometers, Sensors (TC, RTD,Thermistors) With Indicator, Temperature Gauges [§]	(-)-20°C to 120°C >120°C to 200°C	0.13°C 0.37°C	Using Secondary PRT'S with readout (Fluke 1523,Hart Scientific-1529,Calibration baths, dry bath)
2.	Thermal & Temperature ,Liquid in Glass Thermometers, Sensors (TC, RTD,Thermistors) With Indicator, Temperature Gauges [*]	(-)-20°C to 120°C >120°C to 200°C	0.13°C 0.37°C	Using Secondary PRT'S with readout (Fluke 1523,Hart Scientific-1529,Calibration baths, dry bath)
3.	Ovens /Baths [*]	(-)-5°C to +200°C	0.63°C	Using RTD with data acquisition system as per ASTM E 145

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II.	SPECIFIC HEAT AND HUMIDITY			
1.	Thermal & Humidity [§]	@45%RH @53%RH @75%RH @83%RH	2%	Using Thermo-Hygrometer as per ASTM E 145

* Measurement Capability is expressed as an uncertainty (\pm) at a confidence probability of 95%

[§] Only in Permanent Laboratory

* Only for Site Calibration

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