

**Laboratory** Eppendorf Calibration Services, Plot No: 18, 19, 20 (Part), Ambit Park Road, SIDCO Industrial Estate (South Phase), Ambattur, Chennai, Tamil Nadu

**Accreditation Standard** ISO/IEC 17025: 2005

**Certificate Number** CC-2481 (in lieu of C-0773, C-1159 & C-1160) **Page** 1 of 3

**Validity** 15.11.2017 to 14.11.2019 **Last Amended on** 06.12.2017

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability ( $\pm$ )	Remarks
<b><u>ELECTRO-TECHNICAL CALIBRATION</u></b>				
1.	Time & Frequency Timers of Centrifuge, Mixmate, Incubator, Shaker, Water Bath, Autoclave, Oven, Dry Bath	60 s to 3600 s	0.59 s to 8.3 s	Using Digital Stop Watch by Comparison Method

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Ashish Kakran  
Convenor

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Avijit Das  
Program Director

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<b><u>MECHANICAL CALIBRATION</u></b>				
<b>I.</b>	<b>ACCELERATION AND SPEED</b>			
1.	Speed - RPM, Centrifuges, Shakers and Mixers*	25 rpm to 30000 rpm	22 rpm	Using Digital Tachometer (Non-Contact) By Comparison Method
<b>II.</b>	<b>VOLUME</b>			
1.	Volume-Micropipette <sup>s</sup> (Piston Operated)	10 $\mu$ l to 20 $\mu$ l >20 $\mu$ l to 100 $\mu$ l >100 $\mu$ l to 200 $\mu$ l >200 $\mu$ l to 300 $\mu$ l >300 $\mu$ l to 1000 $\mu$ l >1 ml to 5 ml >5 ml to 10ml	0.13 $\mu$ l 0.13 $\mu$ l 0.15 $\mu$ l 0.18 $\mu$ l 0.26 $\mu$ l 1.07 $\mu$ l 2.69 $\mu$ l	Using Electronic Balance with least count of 0.01mg/0.1mg (100g/220g) and Distilled Water as per ISO 8655-6 and uncertainty evaluation as per ISO 20461

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<b><u>THERMAL CALIBRATION</u></b>				
<b>I.</b>	<b>TEMPERATURE</b>			
1.	Temperature Indicator/Controller of Oven, Incubator, Centrifuge, Deep Freezer, Refrigerator, Autoclave, Furnace, Water Bath, Dry Bath (Single Point) *	(-) 196 °C (-) 80 °C to 37 °C 37 °C to 200 °C	0.9 °C 0.6 °C 1.2 °C	Using Digital Thermometer with Probe Sensor By Comparison Method

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

\$ Only in Permanent Laboratory

\* Only for Site Calibration

\*\* Relative accuracy error has not been considered for CMC estimation.

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