

Laboratory ACS Engineering Pvt. Ltd., Shop No. 4, Ekta Vihar Colony, Ujha Road, Panipat, Haryana

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number CC-2703

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Validity 28.05.2018 to 27.05.2020

Last Amended on -

Sl.	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (\pm)	Remarks
<u>ELECTRO-TECHNICAL CALIBRATION</u>				
I.	SOURCE			
1.	DC Voltage ^s	1 mV to 200 mV 1 V to 10 V	0.80 % to 0.05 % 0.3 % to 0.11%	Using Universal Calibrator (Masibus) By Direct Method
2.	DC Current ^s	4 mA to 60 mA	0.2% to 0.12%	Using Universal Calibrator (Masibus) By Direct Method
3.	Resistance ^s	1 Ω to 10 Ω 10 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 10 M Ω	1.7 % to 0.31% 0.31 % to 1.6 % 1.6 % to 0.48% 0.48 % 0.48 % to 0.58% 0.58 % to 0.58% 0.58 % to 1.16 %	Using Toshniwal Decade box By Direct Method
4.	Temperature Simulation ^s (Indicator / Temperature Controller / Pid / Temperature Recorder & Thermocouple Indicator)			
	RTD (PT-100)	(-)190 °C to 790 °C	0.8 °C	Using Universal Calibrator (Masibus) By Direct Method
	Thermocouple			
	'J' Type	0 °C to 750 °C	0.85°C	Using 5½ DMM, Fluke 8808A By Comparison/ Direct Method
	'B' Type	500 °C to 1650 °C	2.46°C	
	'E' Type	-100 °C to 580 °C	0.84°C	
	'K' Type	0 °C to 1280 °C	1.05°C	
	'R' Type	200 °C to 1680 °C	1.44 °C	
	'S' Type	100 °C to 1680 °C	1.32 °C	
	'T' Type	150 °C to 380 °C	0.67 °C	

Shally Sharma
Convenor

Alok Jain
Program Director

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5.	Timer [§]	10 s to 10 min. 10 min. to 90 min.	0.7 s 0.7 s to 1.7 s	Using Digital time calibrator, Selec T1103A
6.	Stop Watch [§]	10 s to 30 s 30 s to 10 min 30 min to 60 min	1.17 s 1.26 s 1.3 s	Using Digital Stop watch, Racer by Comparison Method
II.	MEASURE			
1.	DC Voltage [§]	1 mV to 100 mV 1 V to 900 V	0.09 mV to 0.2 mV 0.001 V to 1.9 V	Using 5½ DMM, Fluke 8808A By Comparison/ Direct Method
2.	AC Voltage [§]	50 Hz 10 V to 100 V 100V to 750 V	0.58 V to 1.9 V 2.38 V	Using 5½ DMM, Fluke 8808A By Comparison/ Direct Method
3.	DC Current [§]	1 mA to 1000 mA 1 A to 10 A	0.006 mA 0.006 A to 0.02 A	Using 5½ DMM, Fluke 8808A By Direct Method
4.	AC Current [§]	50 Hz 1 mA to 100 mA 1A to 10 A	0.04 mA to 1 mA 0.35 A to 0.14 A	Using 5½ DMM, Fluke 8808A By Direct Method
5.	Frequency [§]	50 Hz 5kHz	0.09 Hz 0.76 Hz	Using 5½ DMM, Fluke 8808A By Direct Method

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6.	Resistance [§]	10 Ω 100 Ω 1 k Ω 10 k Ω 100 k Ω 1 M Ω 10 M Ω	0.2 Ω 0.6 Ω 1 Ω 0.013 k Ω 0.11 k Ω 0.002 M Ω 0.02 M Ω	Using 5½ DMM, Fluke 8808A By Direct Method

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

§Only in Permanent Laboratory

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