Laboratory	**Synchro Calibration Laboratory, P-278, C.I.T. Road, Scheme - VI (M) , Kolkata, West Bengal**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Electro-Technical Calibration**	**Issue Date**	**03.02.2015**
Certificate Number	**C- 1183**	**Valid Until**	**02.02.2017**
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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
	SOURCE			
1.	**DC VOLTAGE$**	1mV to 329 mV	0.004 % to 0.01%	Using Calibrator by Direct Method
		329 mV to 3.29 V	0.01%	
		3.29 V to 32 V	0.01% to 0.002%	
		32 V to 300 V	0.002% to 0.01%	
		300 V to 990 V	0.01%	
2.	**DC CURRENT$**	50 µA to 3.29 mA	0.20% to 0.02%	Using Calibrator by Direct Method
		3.29 mA to 32 mA	0.02% to 0.014%	
		32 mA to 329 mA	0.014% to 0.025%	
		329 mA to 1.9 A	0.025% to 0.10%	
		1.9 A to 10 A	0.10% to 0.11%	
		10 A to 550 A	0.14%	Using 50 Turn Current Coil
3.	**RESISTANCE$**	1Ω to 33 Ω	0.90% to 0.06%	Using Calibrator by Direct Method
		33 Ω to 1.1kΩ	0.06% to 0.02%	
		1.1 kΩ to 110 kΩ	0.02 %	
		110 kΩ to 1.1MΩ	0.02% to 0.023%	
		1.1 MΩ to 11 MΩ	0.023% to 0.12%	
		11 MΩ to 110 MΩ	0.12% to 0.60%	
		110 MΩ to 330 MΩ	0.60%	
		1 MΩ to 1 GΩ	0.20%	Using reference high Resistance Box
4.	**AC VOLTAGE$**	**50 Hz to 1 kHz**		
		1 mV to 100 mV	2.5% to 0.14%	Using Calibrator by Direct Method
		100 mV to 500 mV	0.14% to 0.05%	
		500 mV to 300 V	0.05 %to 0.06%	
		300 V to 500 V	0.06% to 0.08%	
		500 V to 990 V	0.08% to 0.07%	

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Program Manager

	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
5.	**AC CURRENT$**	**50 Hz to 1 kHz**		
		33 µA to 100 µA	1.0 % to 0.32 %	Using Calibrator
		110 µA to 1 mA	0.32 % to 0.60 %	by Direct Method
		1 mA to 100 mA	0.60 % to 0.20 %	
		100 mA to 1 A	0.20 % to 1.0 %	
		1 A to 10 A	1.0 % to 0.10 %	
		10 A to 550 A	0.10 % to 0.30 %	Using 50 Turn Current Coil
6.	**FREQUENCY$**			
	(At 3 V)	10 Hz to 100 kHz	0.10 % to 0.04 %	Using Calibrator by Direct Method
7.	**TEMPERATURE SIMULATION$**			
	Thermocouple			
	K Type	(-) 200°C to 1200 °C	0.50°C	Using Calibrator
	J Type	(-) 200°C to 1000 °C	0.31°C	Fluke, 5500E
	R Type	0 °C to 1700 °C	0.70°C to 0.50°C	by Direct Method
	S Type	0 °C to 1700 °C	0.54°C	
	T Type	(-) 200°C to 390 °C	0.2°C to 0.20 °C	
	MEASURE			
1.	**DC VOLTAGE$**	1 mV to 10 mV	0.43 % to 0.05 %	Using 6½ Digit
		10 mV to 1 V	0.05 % to 0.004 %	Precision Multimeter
		1 V to 100 V	0.004 % to 0.005 %	by Direct Method
		100 V to 990 V	0.005 % to 0.006 %	
2.	**DC CURRENT$**	10 µA to 100 µA	0.42 % to 0.095 %	Using 6½ Digit
		100 µA to 1 A	0.095 % to 0.08 %	Precision Multimeter
		1 A to 10 A	0.08 % to 0.20 %	by Direct Method
3.	**RESISTANCE$**	1Ω to 100 Ω	0.05 % to 0.02 %	Using 6½ Digit
		100 Ω to 10 kΩ	0.02 % to 0.013 %	Precision Multimeter
		10 kΩ to 100 kΩ	0.013 %	by Direct Method
		100 kΩ to 1MΩ	0.013 %	
		1 MΩ to 90 MΩ	0.013 % to 0.92 %	

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	Quantity Measured/ Instrument	Range / Frequency	*Calibration Measurement Capability (±)	Remarks
4.	**AC VOLTAGE$**	**50 Hz to 1 kHz**		
		1 mV to 100 mV	4.7 % to 0.14 %	Using 6½ Digit Precision Multimeter by Direct Method
		100 mV to 1 V	0.14 % to 0.12 %	
		1 V to 100 V	0.12 %	
		100 V to 990 V	0.12 % to 0.10 %	
5.	**AC CURRENT$**	**50 Hz to 1 kHz**		
		50 µA to 100 µA	0.50 % to 0.35 %	Using 6½ Digit Precision Multimeter by Direct Method
		100 µA to 10 mA	0.35 % to 0.25 %	
		10 mA to 100 mA	0.25 % to 0.20 %	
		100 mA to 1 A	0.20 %	
		1 A to 10 A	0.20 % to 0.25 %	
6.	**AC HIGH VOLTAGE$**	1 kV to 5 kV	9.4 %	Using High Voltage Probe, and Digital Multimeter by Direct Method
7.	**FREQUENCY$ (At 3 V)**	5 Hz to 10 Hz	0.20 % to 0.13 %	Using 6½ Digit Precision Multimeter by Direct Method
		10 Hz to 100 kHz	0.13 % to 0.014 %	
		300 kHz to 1 MHz	0.014 % to 0.012 %	
8.	**CAPACITANCE$**	10 nF to 1 µF	1.80 %	Using 6½ Digit Precision Multimeter by Direct Method
		1 µF to 1 mF	1.80 % to 2.33 %	
		1 mF to 10 mF	2.33 % to 1.80 %	

*** Measurement Capability is expressed as an uncertainty (±) at a confidence probability of 95%**
$Only in Permanent Laboratory

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