National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name : RAM TECHNOLOGY SERVICES, PLOT NO 2135, BAHADURGARH, JHAJJAR, HARYANA, INDIA

Accreditation Standard ISO/IEC 17025:2017

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S.No	Discipline / Group	Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument	Calibration or Measurement Method or procedure	Measurement range and additional parameters where applicable(Range and Frequency)	* Calibration and Measurement Capability(CMC)(±)
Permanent Facility					
1	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Ac Current @50Hz	Using 5½ Digit Digital Multimeter by Direct Method	1 A to 10 A	0.89 % to 0.92 %
2	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Ac Current@50 Hz	Using 5½ Digit Digital Multimeter by Direct Method	1 mA to 100 mA	1.770 % to 0.552 %
3	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Ac Current@50 Hz	Using 5½ Digit Digital Multimeter by Direct Method	100 mA to 1 A	0.55 % to 0.89 %
4	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Ac Voltage@50 Hz	Using 5½ Digit Digital Multimeter by Direct Method	10 V to 100 V	0.38%

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5	ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure)	Ac Voltage@50 Hz	Using 5½ Digit Digital Multimeter by Direct Method	100 V to 750 V	0.38 % to 0.33 %
6	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 5½ Digit Digital Multimeter by Direct Method	1 A to 10 A	0.27 % to 0.47 %
7	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Current	Using 5½ Digit Digital Multimeter by Direct Method	1 mA to 1000 mA	0.31 % to 0.27 %
8	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 5½ Digit Digital Multimeter by Direct Method	1 mV to 100 mV	1.12%
9	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 5½ Digit Digital Multimeter by Direct Method	1 V to 900 V	0.102 % to 0.083 %

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10	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	DC Voltage	Using 5½ Digit Digital Multimeter by Direct Method	100 mV to 1 V	0.102%
11	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	1 kohm	0.09%
12	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	1 Mohm	0.10%
13	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	10 kohm	0.09%
14	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	10 Mohm	1.01%
15	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	10 ohm	0.712%

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16	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	100 kohm	0.09%
17	ELECTRO-TECHNICAL-DIRECT CURRENT (Measure)	Resistance (2 wire)	Using 5½ Digit Digital Multimeter by Direct Method	100 ohm	0.091%
18	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	1 kohm to 10 kohm	0.7%
19	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	1 Mohm to 10 Mohm	1.14%
20	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	1 ohm to 10 ohm	0.9%
21	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	10 kohm to 100 kohm	0.7%

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22	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	10 ohm to 100 ohm	0.9 % to 0.8 %
23	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	100 kohm to 1 Mohm	1.14%
24	ELECTRO-TECHNICAL-DIRECT CURRENT (Source)	Resistance (2 wire)	Using Decade Resistance Box by Direct Method	100 ohm to 1 kohm	0.9%
25	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for B Type Thermocouple	Using Universal Calibrator by Simulation Method	600 °C to 1490 °C	2.5°C
26	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for E Type Thermocouple	Using Universal Calibrator by Simulation Method	-100 °C to 490 °C	0.91°C
27	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for J Type Thermocouple	Using Universal Calibrator by Simulation Method	0 °C to 750 °C	0.96°C

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28	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for K Type Thermocouple	Using Universal Calibrator by Simulation Method	0 °C to 1190 °C	1.0°C
29	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for R Type Thermocouple	Indicator for Using Universal Calibrator by Simulation Method	300 °C to 1690 °C	1.6°C
30	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for RTD PT - 100	Using Universal Calibrator by Simulation Method	-190 °C to 790 °C	0.87°C
31	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for S Type Thermocouple	Using Universal Calibrator by Simulation Method	300 °C to 1690 °C	1.6°C
32	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for T Type Thermocouple	Using Universal Calibrator by Simulation Method	-150 °C to 380 °C	1.0°C
33	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Frequency	Using 5½ Digit Digital Multimeter by Direct Method	50 Hz to 1 kHz	0.082%

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34	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Timer Calibrator by Comparison Method	10 minute to 60 minute	0.7 s to 2.19 s
35	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Timer Calibrator by Comparison Method	10 s to 10 minute	0.7s
36	MECHANICAL-ACCELERATION AND SPEED	Tachometer (non contact type)	Using Digital Tachometer and Speed Source by Comparison Method	>8000 rpm to 16000 rpm	0.13%
37	MECHANICAL-ACCELERATION AND SPEED	Tachometer (non contact type)	Using Digital Tachometer and Speed Source by Comparison Method	80 rpm to 8000 rpm	10.7%
38	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Cube Mould	Using Digital Vernier Caliper by Comparison Method	50x50x50 mm to 150x150x150 mm	40µm
39	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Depth Caliper (L.C.: 0.01 mm)	Using Slip Gauge Set & Caliper Checker by Comparison Method	0 to 150.0 mm	14.3µm

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40	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Dial thickness gauge (L.C.: 0.01 mm)	Using Slip Gauge Set by Comparison Method	0 to 25 mm	6.50µm
41	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm)	Using Slip Gauge Set by Comparison Method	>25 mm to 75 mm	1.5µm
42	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	External Micrometer (L.C.: 0.001 mm)	Using Slip Gauge Set by Comparison Method	0 to 25 mm	1.0µm
43	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Feeler gauge	Using Digital Micrometer by Comparison Method	0.05 mm to 1 mm	2.2µm
44	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Height Gauge - Dial, Digital and Analog (L.C.: 0.01 mm)	Using Caliper Checker, Slip Gauge Set, Lever Type Dial Gauge and Surface Plate by Comparison Method	0 to 300 mm	14µm

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45	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Lever Type Dial gauge (L.C.: 0.01 mm)	Using Slip Gauge Set and Comparator Stand by Comparison Method	0 to 0.8 mm	9.60µm
46	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Micrometer Setting Rod	Using Plunger Type Dial Gauge, Slip Gauge Set & Comparator Stand by Comparison Method	25 mm to 150 mm	3.3µm
47	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plain Plug Gauge	Plunger Dial Gauge Set, Slip Gauge Set & Comparator Stand by Comparison Method	5 mm to 25 mm	4.7µm
48	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Plunger Type Dial Gauge (L.C.: 0.001 mm)	Using Slip Gauge Set and Comparator Stand by Comparison Method	0 to 25 mm	3.8µm
49	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Test Sieves	Using Digital Vernier Caliper by Comparison Method	5.0 mm to 25.0 mm	89.40µm

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50	MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)	Vernier Caliper (L.C.: 0.01 mm)	Using Caliper Checker by Comparison Method	0 to 600 mm	14µm
51	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure Gauge (Digital and Dial)	Using Digital Pressure Gauge and Hydraulic Comparator by Comparison Method as per DKD-R-6-1	0 to 35 bar	0.4bar
52	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure Gauge (Digital and Dial)	Using Digital Pressure Gauge and Hydraulic Comparator by Comparison Method as per DKD-R-6-1	0 to 700 bar	0.88bar

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Site Facility					
1	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for B Type Thermocouple	Using Universal Calibrator by Simulation Method	600 °C to 1490 °C	2.5°C
2	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for E Type Thermocouple	Using Universal Calibrator by Simulation Method	-100 °C to 490 °C	0.91°C
3	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for J Type Thermocouple	Using Universal Calibrator by Simulation Method	0 °C to 750 °C	0.96°C
4	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for K Type Thermocouple	Using Universal Calibrator by Simulation Method	0 °C to 1190 °C	1.0°C
5	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for R Type Thermocouple	Using Universal Calibrator by Simulation Method	300 °C to 1690 °C	1.6°C

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6	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for RTD PT - 100	Using Universal Calibrator by Simulation Method	-190 °C to 790 °C	0.87°C
7	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for S Type Thermocouple	Using Universal Calibrator by Simulation Method	300 °C to 1690 °C	1.6°C
8	ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source)	Indicator for T Type Thermocouple	Using Universal Calibrator by Simulation Method	-150 °C to 380 °C	1.0°C
9	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Timer Calibrator by Comparison Method	10 minute to 60 minute	0.7 s to 2.19 s
10	ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure)	Time	Using Digital Timer Calibrator by Comparison Method	10 s to 10 minute	0.7s

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11	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure Gauge (Digital and Dial)	Using Digital Pressure Gauge and Hydraulic Comparator by Comparison Method as per DKD-R-6-1	0 to 35 bar	0.4bar
12	MECHANICAL-PRESSURE INDICATING DEVICES	Hydraulic Pressure Gauge (Digital and Dial)	Using Digital Pressure Gauge and Hydraulic Comparator by Comparison Method as per DKD-R-6-1	0 to 700 bar	0.88bar

*** CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.**