# National Accreditation Board for Testing and Calibration Laboratories

## SCOPE OF ACCREDITATION

| | | | |
|---|---|---|---|
| **Laboratory Name :** | PV CALIBRATION LABORATORY PRIVATE LIMITED, 16SCP-38, SECTOR-16A, VASUNDHARA, GHAZIABAD, UTTAR PRADESH, INDIA | | |
| **Accreditation Standard** | ISO/IEC 17025:2017 | | |
| **Certificate Number** | CC-4027 | **Page No** | 1 of 103 |
| **Validity** | 27/08/2024 to 26/08/2026 | **Last Amended on** | 17/09/2024 |

| 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) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 3 kWh | 0.08 % |
| 2 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 3 kWh | 0.09 % to 0.07 % |
| 3 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 30 kWh | 0.23 % to 0.24 % |
| 4 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 30 kWh | 0.25 % |

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| 5 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 3 kW | 0.08 % to 0.09 % |
| 6 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 3 kW | 0.07 % |
| 7 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 30 kW | 0.23 % to 0.24 % |
| 8 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 30 kW | 0.25 % |
| 9 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 3 kVarh | 0.07 % |

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| 10 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 3 kVarh | 0.08 % |
| 11 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 30 kVarh | 0.23 % |
| 12 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 30 kVarh | 0.25 % |
| 13 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 3 kVar | 0.07 % |
| 14 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 3 kVar | 0.08 % |

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| 15 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 30 Var | 0.25 % |
| 16 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 30 Var | 0.23 % |
| 17 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 9 kWh | 0.08 % to 0.09 % |
| 18 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 90 kWh | 0.25 % |
| 19 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 90 kWh | 0.23 % |

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| 20 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 9 kW | 0.07 % |
| 21 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 9 kW | 0.08 % to 0.09 % |
| 22 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 90 kW | 0.23 % |
| 23 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 90 kW | 0.24 % |
| 24 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 9 kVarh | 0.09 % to 0.07 % |

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| 25 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 9 kVarh | 0.08 % |
| 26 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 90 kVarh | 0.23 % |
| 27 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 90 kVarh | 0.25 % |
| 28 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 9 kVar | 0.07 % |
| 29 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 9 kVar | 0.08 % |

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| 30 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 90 kVar | 0.23 % |
| 31 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 90 kVar | 0.25 % |
| 32 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 9 kWh | 0.07 % |
| 33 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 9 kWh | 0.08 % to 0.09 % |
| 34 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 90 kWh | 0.23 % to 0.24 % |

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| 35 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 90 kWh | 0.25 % |
| 36 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 9 kW | 0.08 % to 0.09 % |
| 37 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 9 kW | 0.07 % |
| 38 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 90 kW | 0.25 % |
| 39 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 90 kW | 0.23 % |

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| 40 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 9 kVarh | 0.07 % |
| 41 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 9 kVarh | 0.08 % |
| 42 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 90 kVarh | 0.23 % |
| 43 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 90 kVarh | 0.25 % |
| 44 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 9 kVar | 0.08 % |

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| 45 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 9 kVar | 0.09 % to 0.07 % |
| 46 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 90 kVar | 0.25 % |
| 47 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 90 kVar | 0.23 % to 0.24 % |
| 48 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 9 kWh | 0.07 % |
| 49 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Reference Standard Meter with CT by Direct Method | 10 A to 100 A | 0.25 % to 0.23 % |

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| 50 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Three Phase Reference Standard Meter with CT & Three Phase Energy Test Bench by Comparison Method | 10 A to 100 A | 0.26 % to 0.24 % |
| 51 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Current Transformer with DMM by Direct Method | 10 A to 1000 A | 0.5 % to 0.6 % |
| 52 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 A to 20 A | 0.009 % to 0.11 % |
| 53 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter by Direct Method | 10 A to 30 A | 0.009 % to 0.09 % |
| 54 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 10 µA to 100 µA | 0.84 % to 0.07 % |

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| 55 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 100 µA to 100 mA | 0.07 % to 0.005 % |
| 56 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 100 µA to 100 mA | 0.07 % to 0.06 % |
| 57 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 100 mA to 10 A | 0.06 % to 0.009 % |
| 58 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 29 µA to 100 µA | 0.4 % to 0.07 % |
| 59 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 5 kHz | Using 8½ Digit Multimeter by Direct Method | 100 mA to 10 A | 0.06 % to 0.12 % |

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|---|---|---|---|---|---|
| 60 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using AC / DC HV Probe with DMM by Direct Method | 1 kV to 30 kV | 4 % to 4.33 % |
| 61 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using AC / DC HV Probe with DMM & High Voltage Source by Comparison Method | 1 kV to 30 kV | 4.4 % to 4.46 % |
| 62 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 10 kHz to 100 kHz | Using 8½ Digit Multimeter by Direct Method | 10 mV to 300 V | 0.067 % to 0.016 % |
| 63 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 10 kHz to 100 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 mV to 300 V | 0.07 % to 0.02 % |
| 64 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter by Direct Method | 1 mV to 10 mV | 0.48 % to 0.067 % |

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|---|---|---|---|---|---|
| 65 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mV to 10 mV | 0.5 % to 0.07 % |
| 66 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 10 mV to 1000 V | 0.067 % to 0.02 % |
| 67 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 mV to 1000 V | 0.1 % to 0.02 % |
| 68 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Capacitance @ 1 kHz | Using LCR Meter by Direct Method | 10 pF to 10 µF | 1.93 % to 1.2 % |
| 69 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Current Transformer Phase Error (Primary 25 A to 500 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Current Source by Direct / Comparison Method | 5 % to 120 % | 5 minute |

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|---|---|---|---|---|---|
| 70 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (2nd to 40th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 0.05 A to 10 A | 0.71 % to 0.65 % |
| 71 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (2nd to 40th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 63.5 V to 240 V | 0.65 % to 0.71 % |
| 72 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (3rd to 39th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter by Direct Method | 0.05 A to 10 A | 0.63 % |
| 73 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (3rd to 39th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter by Direct Method | 40 V to 240 V | 0.63 % to 0.71 % |
| 74 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Inductance @ 1 kHz | Using LCR Meter by Direct Method | 10 µH to 10 H | 1.2 % |

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|---|---|---|---|---|---|
| 75 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Phase Angle @ (50 Hz, 240 V,10 A) | Using Reference Standard Meter by Direct Method | 0 ° to 330 ° | 0.05 ° to 0.12 ° |
| 76 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Phase Angle @ (50 Hz, 240 V,10 A) | Using Reference Standard Meter & Three Phase Test Bench by Comparison Method | 0 °<br>to 330 ° | 0.08 ° to 0.15 ° |
| 77 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Power Factor @ (50 Hz, 30 V to 300 V, 50 mA to 10 A, Lead / Lag) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 0.1 PF to 1 PF | 0.007 PF |
| 78 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Power Factor @ (50 Hz, 30 V to 300 V, 50 mA to 10 A, Lead / Lag) | Using Reference Standard Meter by Direct Method | 0.1 PF to 1 PF | 0.007 PF to 0.006 PF |
| 79 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Resistance @ 1 kHz | Using LCR Meter by Direct Method | 1 ohm to 10 kohm | 0.88 % to 0.4 % |

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|---|---|---|---|---|---|
| 80 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | 1Ø, AC Power @ (50 Hz to 60 Hz, 0.1 Lead / Lag to UPF, 240 V to 1000 V, 0.1 A to 20 A) | Using Multiproduct Calibrator by Direct Method | 2.4 W to 20 kW | 0.2 % to 0.24 % |
| 81 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | 1Ø, AC Power @ (50 Hz to 60 Hz, 0.1 Lead / Lag to UPF, 30 V to 240 V, 1 mA to 20 A) | Using Multiproduct Calibrator by Direct Method | 3 mW to 4800 W | 0.47 % to 0.18 % |
| 82 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 29 µA to 300 µA | 0.6 % to 0.2 % |
| 83 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 3 A to 20 A | 0.17 % |
| 84 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 300 µA to 3 A | 0.2 % to 0.17 % |
| 85 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC High Current @ 50 Hz | Using Multifunction Calibrator with Current Coil (50 Turns) by Direct Method | 20 A to 1000 A | 0.56 % to 1 % |

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|---|---|---|---|---|---|
| 86 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 1 mV to 30 mV | 0.29 % to 0.04 % |
| 87 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 30 mV to 300 V | 0.04 % to 0.059 % |
| 88 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 300 V to 1000 V | 0.059 % to 0.06 % |
| 89 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Capacitance @ 1 kHz | Using Capacitance Box by Direct Method | 10 pF to 10 µF | 2.1 % to 2.72 % |
| 90 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Inductance @1 kHz | Using Decade Inductance Box by Direct Method | 100 µH to 10 H | 1.4 % to 2.46 % |
| 91 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Power Factor @ {50 Hz, 10 V to 300 V, 10 mA to 10 A, (Lead / Lag)} | Using Multiproduct Calibrator by Direct Method | 0.1 PF to 1 PF | 0.0008 PF to 0.00071 PF |

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|---|---|---|---|---|---|
| 92 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Resistance @ 1 kHz | Using Decade Resistance Box by Direct Method | 1 ohm to 10 kohm | 0.8 % to 0.5 % |
| 93 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Capacitance | Using 8½ Digit Multimeter by Direct Method | 1 nF to 100 µF | 1.74 % to 0.65 % |
| 94 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 µA to 10 µA | 0.71 % to 0.14 % |
| 95 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 1 µA to 10 µA | 0.71 % to 0.14 % |
| 96 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 1 mA to 20 A | 0.006 % to 0.004 % |
| 97 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mA to 20 A | 0.006 % to 0.004 % |

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|---|---|---|---|---|---|
| 98 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 µA to 1 mA | 0.14 % to 0.006 % |
| 99 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 10 µA to 1 mA | 0.14 % to 0.006 % |
| 100 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 20 A to 30 A | 0.004 % to 0.003 % |
| 101 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using AC / DC HV Probe with DMM by Direct Method | 1 kV to 30 kV | 3 % to 3.79 % |
| 102 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using AC / DC HV Probe with DMM, High Voltage Source by Comparison Method | 1 kV to 30 kV | 3.4 % to 3.8 % |
| 103 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 0.1 mV to 1 mV | 0.4 % to 0.06 % |

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|---|---|---|---|---|---|
| 104 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 0.1 mV to 1 mV | 0.5 % to 0.07 % |
| 105 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 1 mV to 100 mV | 0.06 % to 0.003 % |
| 106 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mV to 100 mV | 0.07 % to 0.006 % |
| 107 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 100 mV to 1000 V | 0.003 % to 0.006 % |
| 108 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 100 mV to 1000 V | 0.006 % to 0.01 % |
| 109 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 Gohm to 10 Gohm | 1.84 % to 2.09 % |

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|---|---|---|---|---|---|
| 110 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 Mohm to 100 Mohm | 0.006 % to 0.024 % |
| 111 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 1 Mohm to 100 Mohm | 0.009 % to 0.037 % |
| 112 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 1 ohm to 10 kohm | 0.07 % to 0.007 % |
| 113 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 ohm to 100 ohm | 0.06 % to 0.004 % |
| 114 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 10 kohm to 1 Mohm | 0.006 % |
| 115 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 10 kohm to 1 Mohm | 0.007 % to 0.009 % |

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|---|---|---|---|---|---|
| 116 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 100 Mohm to 1 Gohm | 0.024 % to 1.84 % |
| 117 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 100 Mohm to 1000 Mohm | 0.037 % to 1.84 % |
| 118 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 100 ohm to 10 kohm | 0.006 % |
| 119 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter by Direct Method | 0.1 ohm to 10 kohm | 0.24 % to 0.0003 % |
| 120 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 0.1 ohm to 10 kohm | 0.26 % to 0.0005 % |
| 121 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter by Direct Method | 1 mohm to 1 ohm | 0.71 % to 0.06 % |

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|---|---|---|---|---|---|
| 122 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter & Multiproduct Calibrator by V / I Method | 50 µohm to 10 ohm | 0.24 % to 0.1 % |
| 123 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | 1Ø, DC Power @ (1 V to 1000 V, 1 mA to 20 A) | Using Multiproduct Calibrator by Direct Method | 1 mW to 20 kW | 0.12 % to 0.15 % |
| 124 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Capacitance | Using Multiproduct Calibrator by Direct Method | 1 nF to 100 µF | 1.74 % to 0.52 % |
| 125 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 1 µA to 300 µA | 0.93 % to 0.003 % |
| 126 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 1 A to 20 A | 0.021 % to 0.05 % |
| 127 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 300 µA to 300 mA | 0.003 % to 0.03 % |

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|---|---|---|---|---|---|
| 128 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 300 mA to 1 A | 0.03 % to 0.021 % |
| 129 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Current | Using Multiproduct Calibrator with Current Coil (50 Turns) by Direct Method | 20 A to 1000 A | 1.14 % to 0.904 % |
| 130 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 1 Gohm | 4.51 % |
| 131 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 10 Gohm | 5 % |
| 132 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 100 Gohm | 8.3 % |
| 133 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 1000 Gohm | 8.2 % |

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|---|---|---|---|---|---|
| 134 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 200 Gohm | 8.2 % |
| 135 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 500 Gohm | 8.2 % |
| 136 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 0.1 mV to 1 mV | 1.8 % to 0.15 % |
| 137 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 1 mV to 300 mV | 0.15 % to 0.009 % |
| 138 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 30 V to 1000 V | 0.009 % |
| 139 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 300 mV to 30 V | 0.009 % |

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|---|---|---|---|---|---|
| 140 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 1 kohm to 100 kohm | 0.007 % to 0.02 % |
| 141 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 1 ohm to 100 ohm | 0.06 % to 0.015 % |
| 142 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 kohm to 1 Mohm | 0.02 % to 0.007 % |
| 143 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 Mohm to 1000 Mohm | 0.58 % to 0.173 % |
| 144 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 ohm to 100 kohm | 0.015 % to 0.02 % |
| 145 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Multiproduct Calibrator by Direct Method | 0.1 ohm to 10 ohm | 0.91 % to 0.016 % |

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|---|---|---|---|---|---|
| 146 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 1 mohm to | 3.45 % |
| 147 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 1 ohm | 0.8 % |
| 148 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 10 mohm | 1.95 % |
| 149 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Multiproduct Calibrator by Direct Method | 10 ohm to 300 kohm | 0.016 % to 0.002 % |
| 150 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 100 mohm | 1.95 % |

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|---|---|---|---|---|---|
| 151 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Phase Error (Primary 1 A to 100 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Three Phase Energy Test Bench by Direct / Comparison Method | 5 % to 120 % | 4.6 minute |
| 152 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Ratio Error (Primary Injection 1 A to 100 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Three Phase Energy Test Bench by Direct / Comparison Method | 5 % to 120 % | 0.25 % |
| 153 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Ratio Error (Primary Injection 25 A to 500 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Current Source by Comparison Method | 5 % to 120 % | 0.5 % |
| 154 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source) | Oscilloscope - Bandwidth | Using Signal Generator byDirect Method | 1 MHz to 500 MHz | 0.2 % |
| 155 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source) | Oscilloscope Amplitude (Deflection Factor) @ 100 Hz, 1 kHz & DC Function | Using Oscilloscope Calibrator Direct Method | 10 mV to 100 V | 0.7 % to 0.6 % |

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|---|---|---|---|---|---|
| 156 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source) | Oscilloscope Amplitude (Deflection Factor) @10 kHz & DC function | Using Oscilloscope Calibrator by Direct Method | 25 mV to 100 V | 0.7 % to 0.6 % |
| 157 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source) | Oscilloscope Time Base (Marker) | Using Oscilloscope Calibrator Direct Method | 50 ns to 1 s | 0.2 % to 0.7 % |
| 158 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | RTD (PT 100) | Using Universal Calibrator by Direct Method | (-) 200 °C to 800 °C | 0.28 °C |
| 159 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple B Type | Using Multiproduct Calibrator by Direct Method | 600 °C to 1800 °C | 0.51 °C |
| 160 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple E Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1000 °C | 0.58 °C |
| 161 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple J Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1200 °C | 0.27 °C |

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|---|---|---|---|---|---|
| 162 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple K Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.46 °C |
| 163 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple N Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.46 °C |
| 164 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple R Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.6 °C |
| 165 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple S Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.56 °C |
| 166 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple T Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 400 °C | 0.16 °C |
| 167 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | RTD (PT 100) | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 800 °C | 0.28 °C |

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|---|---|---|---|---|---|
| 168 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple B Type | Using Multiproduct Calibrator by Direct Method | 600 °C to 1800 °C | 0.38 °C |
| 169 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple E Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1000 °C | 0.24 °C |
| 170 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple J Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1200 °C | 0.27 °C |
| 171 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple K Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.3 °C |
| 172 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple N Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.31 °C |
| 173 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple R Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.66 °C |

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|---|---|---|---|---|---|
| 174 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple S Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.43 °C |
| 175 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple T Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 400 °C | 0.16 °C |
| 176 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using 8½ Digit Multimeter by Direct Method | 10 Hz to 100 MHz | 0.0006 % to 0.0008 % |
| 177 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using Frequency Counter by Direct Method | 100 MHz to 990 MHz | 0.0006 % to 0.0009 % |
| 178 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Time | Using Time Calibrator by Comparison Method | 0.1 s to 60 s | 0.01 s to 0.035 s |
| 179 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Time | Using Time Calibrator by Comparison Method | 60 s to 86400 s | 0.035 s to 51.84 s |

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|---|---|---|---|---|---|
| 180 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multiproduct Calibrator by Direct Method | 1 Hz to 10 Hz | 0.59 % to 0.059 % |
| 181 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Signal Generator by Direct Method | 1 MHz to 990 MHz | 0.003 % to 0.006 % |
| 182 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multiproduct Calibrator by Direct Method | 10 Hz to 2 MHz | 0.059 % to 0.048 % |
| 183 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge - Non - Contact Type | Using Digital Tachometer by Direct Method | 40000 rpm to 90000 rpm | 11.95 rpm |
| 184 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 10 rpm to 30 rpm | 0.64 rpm |
| 185 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 1000 rpm to 10000 rpm | 2.85 rpm |
| 186 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 30 rpm to 1000 rpm | 1.2 rpm |

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| 187 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 1000 rpm to 10000 rpm | 2.85 rpm |
| 188 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 30 rpm to 1000 rpm | 1.2 rpm |
| 189 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | 10 rpm to 30 rpm | 0.64 rpm |
| 190 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 10000 rpm to 40000 rpm | 6.17 rpm |
| 191 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 40000 rpm to 90000 rpm | 11.95 rpm |
| 192 | MECHANICAL-ACOUSTICS | Sound Level Meter @ 1 kHz | Using Sound Calibrator by Direct Method | 114 dB | 1.2 dB |
| 193 | MECHANICAL-ACOUSTICS | Sound Level Meter @ 1 kHz | Using Sound Calibrator by Direct Method | 94 dB | 1.4 dB |

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|---|---|---|---|---|---|
| 194 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Bevel Protractor, Angle Protractor, Combination Set (L.C.: 5 minute of arc) | Using Angle Gauge by Comparison Method | 0 ° to 180 ° | 5.2 minute of arc |
| 195 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Gauge Block Set & Long Gauge Block by Comparison Method as per IS 15468 | 0 to 300 mm | 16.1 µm |
| 196 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Caliper - Vernier / Dial / Digital (L.C.: 0.01 mm) | Using Gauge Block Set & Long Gauge Block by Comparison Method as per IS 15468 | 0 to 600 mm | 18.4 µm |
| 197 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Coating Thickness Gauge (L.C.: 0.1 µm) | Using Standard Foils Comparison Method | 0.05 mm to 1 mm | 11.6 µm |
| 198 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Dial Gauge Plunger Type - Dial / Digital (L.C.: 0.001 mm) | Using Gauge Block Set & Comparator Stand by Comparison Method | 0 to 50 mm | 4.6 µm |

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| 199 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Dial Thickness Gauge (L.C.: 0.001 mm) | Using Slip Gauges by Comparison Method | Up to 20 mm | 7 µm |
| 200 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | External Micrometer (L.C.: 0.001 mm) | Using Slip Gauges Comparison Method | Up to 100 mm | 2.9 µm |
| 201 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Feeler Gauge | Using Digital Micrometer by Comparison Method | 0.03 mm to 1 mm | 2.2 µm |
| 202 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge (L.C.: 0.01 mm) | Using Gauge Block Set, Long Gauge Block & Granite Surface Plate by Comparison Method | 0 to 300 mm | 8 µm |
| 203 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Height Gauge (L.C.: 0.01 mm) | Using Gauge Block Set, Long Gauge Block & Granite Surface Plate by Comparison Method | 0 to 600 mm | 16.3 µm |

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|---|---|---|---|---|---|
| 204 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Test Sieve | Using Digital Caliper by Comparison Method | 4 mm to 150 mm | 33.2 µm |
| 205 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Pressure Calibrator, Low Pressure Comparator & DMM by Comparison Method as per DKD-R 6-1 | 0 to 2000 Pa | 1.28 Pa |
| 206 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Manometer, Low Pressure Comparator, DMM & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 10000 Pa | 7.5 Pa |

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|---|---|---|---|---|---|
| 207 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Manometer, Low Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | (-) 10000 Pa to 0 Pa | 4.5 Pa |
| 208 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 2 bar | 0.0014 bar |

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| 209 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 20 bar | 0.006 bar |
| 210 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Pressure Controller, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Hydraulic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 700 bar | 0.17 bar |

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| 211 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Pressure Controller, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder, Manometer, Barometer - Pneumatic Pressure | Using Barometric Pressure Indicator & DMM by Comparison Method as per DKD-R 6-1 | 300 mbar (abs) to 1050 mbar (abs) | 2.2 mbar |
| 212 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Vacuum Gauge, Vacuum Transmitter, Manometer, Pressure Calibrator, Vacuum Switch, Vacuum Indicator, Vacuum Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Calibrator by Comparison Method as per DKD-R 6-1 | (-) 0.99 bar to 0 bar | 0.0014 bar |
| 213 | MECHANICAL-VOLUME | Micropipette | Using Electronic Balance of Range 220 g (Readability: 0.01 mg) and Distilled Water by Gravimetric Method as per ISO 8655-6:2022 | 1000 µl to 10000 µl | 3.5 µl |

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|---|---|---|---|
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|---|---|---|---|---|---|
| 214 | MECHANICAL-VOLUME | Micropipette | Using Electronic Balance of Range 220 g (Readability: 0.01 mg) and Distilled Water by Gravimetric Method as per ISO 8655-6:2022 | 20 µl to 1000 µl | 0.81 µl |
| 215 | MECHANICAL-VOLUME | Pipette, Burette, Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 220 g (Readability: 0.01 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 1 ml to 50 ml | 16 µl |
| 216 | MECHANICAL-VOLUME | Pipette, Burette, Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 220 g (Readability: 0.01 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 0.1 ml to 1 ml | 2.6 µl |

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|---|---|---|---|---|---|
| 217 | MECHANICAL-VOLUME | Pipette, Burette, Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 220 g (Readability: 0.01 / 0.1 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 50 ml to 100 ml | 390 µl |
| 218 | MECHANICAL-VOLUME | Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 220 g (Readability: 0.1 mg) & Range 1000 g (Readability: 1 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 100 ml to 500 ml | 390 µl |
| 219 | MECHANICAL-VOLUME | Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 6200 g (Readability: 10 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 1000 ml to 5000 ml | 3.35 ml |

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|---|---|---|---|---|---|
| 220 | MECHANICAL-VOLUME | Volumetric Flask, Measuring Cylinder, Beaker, Measuring Jar, Pycnometer, Specific Gravity Bottle / Cup | Using Electronic Balance of Range 1000 g (Readability: 1 mg) and Distilled Water by Gravimetric Method as per ISO 4787:2021 | 500 ml to 1000 ml | 0.47 ml |
| 221 | MECHANICAL-WEIGHING SCALE AND BALANCE | Spring Balance (Readability: 10 g) | Using E1, F1 Class Weights by Comparison Method | 0 to 50 kg | 7.6 g |
| 222 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 1 g | 0.034 mg |
| 223 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 10 g | 0.034 mg |

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|---|---|---|---|---|---|
| 224 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.1 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 100 g | 0.14 mg |
| 225 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 20 g | 0.06 mg |
| 226 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.1 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 200 g | 0.15 mg |

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|---|---|---|---|---|---|
| 227 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 5 g | 0.034 mg |
| 228 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 2 g | 0.034 mg |
| 229 | MECHANICAL-WEIGHTS | Accuracy Class F1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 50 g | 0.06 mg |

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|---|---|---|---|---|---|
| 230 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 50 mg | 0.034 mg |
| 231 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using F1 Class Weight and Electronic Balance (Readability: 1 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 1 kg | 1.9 mg |
| 232 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 100 mg | 0.034 mg |

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|---|---|---|---|---|---|
| 233 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using F1 Class Weight and Electronic Balance (Readability: 10 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 2 kg | 10 mg |
| 234 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 20 mg | 0.03 mg |
| 235 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 200 mg | 0.034 mg |

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|---|---|---|---|---|---|
| 236 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using F1 Class Weight and Electronic Balance (Readability: 10 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 5 kg | 26 mg |
| 237 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 1 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 500 g | 1.61 mg |
| 238 | MECHANICAL-WEIGHTS | Accuracy Class F2 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 500 mg | 0.034 mg |

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|---|---|---|---|---|---|
| 239 | MECHANICAL-WEIGHTS | Accuracy Class M1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 1 mg | 0.021 mg |
| 240 | MECHANICAL-WEIGHTS | Accuracy Class M1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 10 mg | 0.03 mg |
| 241 | MECHANICAL-WEIGHTS | Accuracy Class M1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 2 mg | 0.025 mg |

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|---|---|---|---|---|---|
| 242 | MECHANICAL-WEIGHTS | Accuracy Class M1 & Coarser | Using E1 Class Weight and Electronic Balance (Readability: 0.01 mg) by Substitution Method (ABBA Cycle) as per OIML R 111-1 | 5 mg | 0.026 mg |
| 243 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor / Probe, Humidity Transmitter, Thermohygrometer, Dew Point Meter (Only Temperature and Humidity), Temperature & Humidity Indicator @ 20°C to 60°C | Using Temperature & Humidity Indicator with Sensor, Humidity Chamber & DMM by Comparison Method | 15 % RH to 90 % RH | 1.67 % RH |
| 244 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor / Probe, Humidity Transmitter, Thermohygrometer, Dew Point Meter(Only Temperature & Humidity), Temperature & Humidity Indicator - @ 15 % RH to 95 % RH | Using Temperature & Humidity Indicator with Humidity Chamber & DMM by Comparison Method | 10 °C to 50 °C | 0.44 °C |

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|---|---|---|---|---|---|
| 245 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Indicator with Sensor / Probe, Humidity Transmitter, Thermohygrometer, Dew Point Meter(Only Temperature & Humidity), Temperature & Humidity Indicator with Sensor @ 25°C | Using Temperature & Humidity Indicator with Sensor, Humidity Chamber & DMM by Comparison Method | 15 % RH to 95 % RH | 1.68 % RH |
| 246 | THERMAL-TEMPERATURE | Indicator with Sensor of Black Body Source (Emissivity 0.95) | Using Standard Infrared Thermometer by Comparison Method | > 200 °C to 500 °C | 2.3 °C |
| 247 | THERMAL-TEMPERATURE | Indicator with Sensor of Black Body Source (Emissivity 0.95) | Using Standard Infrared Thermometer by Comparison Method | 50 °C to 200 °C | 2.01 °C |

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|---|---|---|---|---|---|
| 248 | THERMAL-TEMPERATURE | Indicator with Sensor of Freezer, Deep Freezer, Environment / Climatic / Humidity Chamber, Cold Room / Chamber, UV Chamber, Liquid / Dry Bath, Walk in Chamber, Oven, Incubator, Autoclave - Single Position | Using SPRT with Super DAQ Temperature Scanner by Comparison Method | (-) 80 °C to 600 °C | 0.14 °C |
| 249 | THERMAL-TEMPERATURE | Indicator with Sensor of Muffle Furnace, Dry Block Furnace, Oven - Single Position | Using R Type Thermocouple with Indicator by Comparison Method | > 600 °C to 1200 °C | 1.93 °C |
| 250 | THERMAL-TEMPERATURE | Infrared / Non - Contact Thermometer, Pyrometer, Thermal Imager (Only Temperature) @ (Emissivity 0.95) | Using Standard Infrared Thermometer & Black Body Source by Comparison Method | 50 °C to 500 °C | 2.31 °C |
| 251 | THERMAL-TEMPERATURE | Liquid In Glass Thermometer | Using SPRT with Super DAQ Temperature Scanner & Micro Bath by Comparison Method | (-) 30 °C to 125 °C | 0.13 °C |

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|---|---|---|---|---|---|
| 252 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD / Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer & Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner, 6½ Digit Multimeter & Liquid Bath Furnace by Comparison Method | (-) 30 °C to 125 °C | 0.063 °C |
| 253 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD / Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer & Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner & Micro Bath by Comparison Method | (-) 80 °C to (-) 30 °C | 0.062 °C |

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|---|---|---|---|---|---|
| 254 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD, Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer, Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner, 6½ Digit Multimeter & Dry Block Furnace by Comparison Method | > 125 °C to 600 °C | 0.39 °C |
| 255 | THERMAL-TEMPERATURE | Temperature Transmitter, Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge | Using R Type Thermocouple with Digital Thermometer, 6½ Digit Multimeter & Dry Block Furnace by Comparison Method | > 600 °C to 1200 °C | 1.93 °C |

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|---|---|---|---|---|---|
| Site Facility | | | | | |
| 1 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 3 kWh | 0.08 % |
| 2 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 3 kWh | 0.09 % to 0.07 % |
| 3 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 30 kWh | 0.23 % to 0.24 % |
| 4 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 30 kWh | 0.25 % |

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|---|---|---|---|---|---|
| 5 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 3 kW | 0.08 % to 0.09 % |
| 6 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 3 kW | 0.07 % |
| 7 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 30 kW | 0.23 % to 0.24 % |
| 8 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 30 kW | 0.25 % |
| 9 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 3 kVarh | 0.07 % |

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|---|---|---|---|---|---|
| 10 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 3 kVarh | 0.08 % |
| 11 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 30 kVarh | 0.23 % |
| 12 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 30 kVarh | 0.25 % |
| 13 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 3 kVar | 0.07 % |
| 14 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 3 kVar | 0.08 % |

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|---|---|---|---|
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|---|---|---|---|---|---|
| 15 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 30 Var | 0.25 % |
| 16 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 1Ø, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 30 Var | 0.23 % |
| 17 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 9 kWh | 0.08 % to 0.09 % |
| 18 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 90 kWh | 0.25 % |
| 19 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 90 kWh | 0.23 % |

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|---|---|---|---|---|---|
| 20 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 9 kW | 0.07 % |
| 21 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 9 kW | 0.08 % to 0.09 % |
| 22 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 90 kW | 0.23 % |
| 23 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 90 kW | 0.24 % |
| 24 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 9 kVarh | 0.09 % to 0.07 % |

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| 25 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 9 kVarh | 0.08 % |
| 26 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 90 kVarh | 0.23 % |
| 27 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 90 kVarh | 0.25 % |
| 28 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 9 kVar | 0.07 % |
| 29 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 9 kVar | 0.08 % |

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|---|---|---|---|---|---|
| 30 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 90 kVar | 0.23 % |
| 31 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 3 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 90 kVar | 0.25 % |
| 32 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 9 kWh | 0.07 % |
| 33 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 9 kWh | 0.08 % to 0.09 % |
| 34 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 90 kWh | 0.23 % to 0.24 % |

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| 35 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Wh to 90 kWh | 0.25 % |
| 36 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 9 kW | 0.08 % to 0.09 % |
| 37 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 W to 9 kW | 0.07 % |
| 38 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 W to 90 kW | 0.25 % |
| 39 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Active Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 W to 90 kW | 0.23 % |

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|---|---|---|---|---|---|
| 40 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 9 kVarh | 0.07 % |
| 41 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 9 kVarh | 0.08 % |
| 42 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Varh to 90 kVarh | 0.23 % |
| 43 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Varh to 90 kVarh | 0.25 % |
| 44 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 9 kVar | 0.08 % |

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|---|---|---|---|---|---|
| 45 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Var to 9 kVar | 0.09 % to 0.07 % |
| 46 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 2 Var to 90 kVar | 0.25 % |
| 47 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, 4 Wire, AC Reactive Power @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 100 A) | Using Reference Standard Meter by Direct Method | 2 Var to 90 kVar | 0.23 % to 0.24 % |
| 48 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | 3Ø, AC Active Energy @ (50 Hz, 0.2 Lead / Lag to UPF, 40 V to 300 V, 0.05 A to 10 A) | Using Reference Standard Meter by Direct Method | 2 Wh to 9 kWh | 0.07 % |
| 49 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Reference Standard Meter with CT by Direct Method | 10 A to 100 A | 0.25 % to 0.23 % |

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|---|---|---|---|---|---|
| 50 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Three Phase Reference Standard Meter with CT & Three Phase Energy Test Bench by Comparison Method | 10 A to 100 A | 0.26 % to 0.24 % |
| 51 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz | Using Current Transformer with DMM by Direct Method | 10 A to 1000 A | 0.5 % to 0.6 % |
| 52 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 A to 20 A | 0.009 % to 0.11 % |
| 53 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter by Direct Method | 10 A to 30 A | 0.009 % to 0.09 % |
| 54 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 10 µA to 100 µA | 0.84 % to 0.07 % |

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| 55 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 100 µA to 100 mA | 0.07 % to 0.005 % |
| 56 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 100 µA to 100 mA | 0.07 % to 0.06 % |
| 57 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 100 mA to 10 A | 0.06 % to 0.009 % |
| 58 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multifunction Calibrator by Comparison Method | 29 µA to 100 µA | 0.4 % to 0.07 % |
| 59 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Current @ 50 Hz to 5 kHz | Using 8½ Digit Multimeter by Direct Method | 100 mA to 10 A | 0.06 % to 0.12 % |

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| 60 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using AC / DC High Voltage Probe with DMM by Direct Method | 1 kV to 100 kV | 4 % to 4.5 % |
| 61 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using AC / DC HV Probe with DMM by Direct Method | 1 kV to 30 kV | 4 % to 4.33 % |
| 62 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC High Voltage @ 50 Hz | Using AC / DC HV Probe with DMM & High Voltage Source by Comparison Method | 1 kV to 30 kV | 4.4 % to 4.46 % |
| 63 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 10 kHz to 100 kHz | Using 8½ Digit Multimeter by Direct Method | 10 mV to 300 V | 0.067 % to 0.016 % |
| 64 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 10 kHz to 100 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 mV to 300 V | 0.07 % to 0.02 % |

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|---|---|---|---|---|---|
| 65 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter by Direct Method | 1 mV to 10 mV | 0.48 % to 0.067 % |
| 66 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 1 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mV to 10 mV | 0.5 % to 0.07 % |
| 67 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter by Direct Method | 10 mV to 1000 V | 0.067 % to 0.02 % |
| 68 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | AC Voltage @ 50 Hz to 10 kHz | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 mV to 1000 V | 0.1 % to 0.02 % |
| 69 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Capacitance @ 1 kHz | Using LCR Meter by Direct Method | 10 pF to 10 µF | 1.93 % to 1.2 % |

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|---|---|---|---|---|---|
| 70 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Current Transformer Phase Error (Primary 25 A to 500 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Current Source by Direct / Comparison Method | 5 % to 120 % | 5 minute |
| 71 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (2nd to 40th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 0.05 A to 10 A | 0.71 % to 0.65 % |
| 72 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (2nd to 40th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 63.5 V to 240 V | 0.65 % to 0.71 % |
| 73 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (3rd to 39th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter by Direct Method | 0.05 A to 10 A | 0.63 % |
| 74 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Harmonic, Total Harmonic Distortion (3rd to 39th order Fundamental Frequency @ 50 Hz) | Using Reference Standard Meter by Direct Method | 40 V to 240 V | 0.63 % to 0.71 % |

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|---|---|---|---|---|---|
| 75 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Inductance @ 1 kHz | Using LCR Meter by Direct Method | 10 µH to 10 H | 1.2 % |
| 76 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Phase Angle @ (50 Hz, 240 V,10 A) | Using Reference Standard Meter by Direct Method | 0 ° to 330 ° | 0.05 ° to 0.12 ° |
| 77 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Phase Angle @ (50 Hz, 240 V,10 A) | Using Reference Standard Meter & Three Phase Test Bench by Comparison Method | 0 ° to 330 ° | 0.08 ° to 0.15 ° |
| 78 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Power Factor @ (50 Hz, 30 V to 300 V, 50 mA to 10 A, Lead / Lag) | Using Reference Standard Meter & Three Phase Energy Test Bench by Comparison Method | 0.1 PF to 1 PF | 0.007 PF |
| 79 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Power Factor @ (50 Hz, 30 V to 300 V, 50 mA to 10 A, Lead / Lag) | Using Reference Standard Meter by Direct Method | 0.1 PF to 1 PF | 0.007 PF to 0.006 PF |

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|---|---|---|---|---|---|
| 80 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Measure) | Resistance @ 1 kHz | Using LCR Meter by Direct Method | 1 ohm to 10 kohm | 0.88 % to 0.4 % |
| 81 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | 1Ø, AC Power @ (50 Hz to 60 Hz, 0.1 Lead / Lag to UPF, 240 V to 1000 V, 0.1 A to 20 A) | Using Multiproduct Calibrator by Direct Method | 2.4 W to 20 kW | 0.2 % to 0.24 % |
| 82 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | 1Ø, AC Power @ (50 Hz to 60 Hz, 0.1 Lead / Lag to UPF, 30 V to 240 V, 1 mA to 20 A) | Using Multiproduct Calibrator by Direct Method | 3 mW to 4800 W | 0.47 % to 0.18 % |
| 83 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 29 µA to 300 µA | 0.6 % to 0.2 % |
| 84 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 3 A to 20 A | 0.17 % |

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|---|---|---|---|---|---|
| 85 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Current @ 50 Hz to 1 kHz | Using Multiproduct Calibrator by Direct Method | 300 µA to 3 A | 0.2 % to 0.17 % |
| 86 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC High Current @ 50 Hz | Using Multifunction Calibrator with Current Coil (50 Turns) by Direct Method | 20 A to 1000 A | 0.56 % to 1 % |
| 87 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 1 mV to 30 mV | 0.29 % to 0.04 % |
| 88 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 30 mV to 300 V | 0.04 % to 0.059 % |
| 89 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | AC Voltage @ 50 Hz to 10 kHz | Using Multiproduct Calibrator by Direct Method | 300 V to 1000 V | 0.059 % to 0.06 % |
| 90 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Capacitance @ 1 kHz | Using Capacitance Box by Direct Method | 10 pF to 10 µF | 2.1 % to 2.72 % |

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|---|---|---|---|---|---|
| 91 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Inductance @1 kHz | Using Decade Inductance Box by Direct Method | 100 µH to 10 H | 1.4 % to 2.46 % |
| 92 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Power Factor @ {50 Hz, 10 V to 300 V, 10 mA to 10 A, (Lead / Lag)} | Using Multiproduct Calibrator by Direct Method | 0.1 PF to 1 PF | 0.0008 PF to 0.00071 PF |
| 93 | ELECTRO-TECHNICAL-Alternating Current (< 1 GHz) (Source) | Resistance @ 1 kHz | Using Decade Resistance Box by Direct Method | 1 ohm to 10 kohm | 0.8 % to 0.5 % |
| 94 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Capacitance | Using 8½ Digit Multimeter by Direct Method | 1 nF to 100 µF | 1.74 % to 0.65 % |
| 95 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 µA to 10 µA | 0.71 % to 0.14 % |
| 96 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 1 µA to 10 µA | 0.71 % to 0.14 % |

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|---|---|---|---|---|---|
| 97 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 1 mA to 20 A | 0.006 % to 0.004 % |
| 98 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mA to 20 A | 0.006 % to 0.004 % |
| 99 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 10 µA to 1 mA | 0.14 % to 0.006 % |
| 100 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 10 µA to 1 mA | 0.14 % to 0.006 % |
| 101 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 6½ Digit Multimeter and Shunt by V - I Method | 10 A to 1000 A | 0.25 % to 0.49 % |
| 102 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Current | Using 8½ Digit Multimeter by Direct Method | 20 A to 30 A | 0.004 % to 0.003 % |

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|---|---|---|---|---|---|
| 103 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using AC / DC High Voltage Probe with DMM by Direct Method | 1 kV to 100 kV | 3 % to 3.81 % |
| 104 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using AC / DC HV Probe with DMM by Direct Method | 1 kV to 30 kV | 3 % to 3.79 % |
| 105 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC High Voltage | Using AC / DC HV Probe with DMM, High Voltage Source by Comparison Method | 1 kV to 30 kV | 3.4 % to 3.8 % |
| 106 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 0.1 mV to 1 mV | 0.4 % to 0.06 % |
| 107 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 0.1 mV to 1 mV | 0.5 % to 0.07 % |
| 108 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 1 mV to 100 mV | 0.06 % to 0.003 % |

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|---|---|---|---|---|---|
| 109 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 1 mV to 100 mV | 0.07 % to 0.006 % |
| 110 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter by Direct Method | 100 mV to 1000 V | 0.003 % to 0.006 % |
| 111 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | DC Voltage | Using 8½ Digit Multimeter & Multiproduct Calibrator by Comparison Method | 100 mV to 1000 V | 0.006 % to 0.01 % |
| 112 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 Gohm to 10 Gohm | 1.84 % to 2.09 % |
| 113 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 Mohm to 100 Mohm | 0.006 % to 0.024 % |
| 114 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 1 Mohm to 100 Mohm | 0.009 % to 0.037 % |

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|---|---|---|---|---|---|
| 115 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 1 ohm to 10 kohm | 0.07 % to 0.007 % |
| 116 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 1 ohm to 100 ohm | 0.06 % to 0.004 % |
| 117 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 10 kohm to 1 Mohm | 0.006 % |
| 118 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 10 kohm to 1 Mohm | 0.007 % to 0.009 % |
| 119 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 100 Mohm to 1 Gohm | 0.024 % to 1.84 % |
| 120 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 100 Mohm to 1000 Mohm | 0.037 % to 1.84 % |

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|---|---|---|---|---|---|
| 121 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 2 Wire | Using 8½ Digit Multimeter by Direct Method | 100 ohm to 10 kohm | 0.006 % |
| 122 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter by Direct Method | 0.1 ohm to 10 kohm | 0.24 % to 0.0003 % |
| 123 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter and Multi Product Calibrator by Comparison Method | 0.1 ohm to 10 kohm | 0.26 % to 0.0005 % |
| 124 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter by Direct Method | 1 mohm to 1 ohm | 0.71 % to 0.06 % |
| 125 | ELECTRO-TECHNICAL-DIRECT CURRENT (Measure) | Resistance - 4 Wire | Using 8½ Digit Multimeter & Multiproduct Calibrator by V / I Method | 50 µohm to 10 ohm | 0.24 % to 0.1 % |
| 126 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | 1Ø, DC Power @ (1 V to 1000 V, 1 mA to 20 A) | Using Multiproduct Calibrator by Direct Method | 1 mW to 20 kW | 0.12 % to 0.15 % |

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|---|---|---|---|---|---|
| 127 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Capacitance | Using Multiproduct Calibrator by Direct Method | 1 nF to 100 µF | 1.74 % to 0.52 % |
| 128 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 1 µA to 300 µA | 0.93 % to 0.003 % |
| 129 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 1 A to 20 A | 0.021 % to 0.05 % |
| 130 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 300 µA to 300 mA | 0.003 % to 0.03 % |
| 131 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Current | Using Multiproduct Calibrator by Direct Method | 300 mA to 1 A | 0.03 % to 0.021 % |
| 132 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Current | Using Multiproduct Calibrator with Current Coil (50 Turns) by Direct Method | 20 A to 1000 A | 1.14 % to 0.904 % |

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|---|---|---|---|---|---|
| 133 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 1 Gohm | 4.51 % |
| 134 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 10 Gohm | 5 % |
| 135 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 100 Gohm | 8.3 % |
| 136 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 1000 Gohm | 8.2 % |
| 137 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 200 Gohm | 8.2 % |
| 138 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC High Resistance - 2 Wire @ Upto 5 kV | Using HV Gigaohm Box by Direct Method | 500 Gohm | 8.2 % |

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|---|---|---|---|---|---|
| 139 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 0.1 mV to 1 mV | 1.8 % to 0.15 % |
| 140 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 1 mV to 300 mV | 0.15 % to 0.009 % |
| 141 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 30 V to 1000 V | 0.009 % |
| 142 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | DC Voltage | Using Multiproduct Calibrator by Direct Method | 300 mV to 30 V | 0.009 % |
| 143 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 1 kohm to 100 kohm | 0.007 % to 0.02 % |
| 144 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 1 ohm to 100 ohm | 0.06 % to 0.015 % |

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|---|---|---|---|---|---|
| 145 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 kohm to 1 Mohm | 0.02 % to 0.007 % |
| 146 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 Mohm to 1000 Mohm | 0.58 % to 0.173 % |
| 147 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 2 Wire | Using Multiproduct Calibrator by Direct Method | 100 ohm to 100 kohm | 0.015 % to 0.02 % |
| 148 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Multiproduct Calibrator by Direct Method | 0.1 ohm to 10 ohm | 0.91 % to 0.016 % |
| 149 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 1 mohm to | 3.45 % |
| 150 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 1 ohm | 0.8 % |

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|---|---|---|---|---|---|
| 151 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 10 mohm | 1.95 % |
| 152 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Multiproduct Calibrator by Direct Method | 10 ohm to 300 kohm | 0.016 % to 0.002 % |
| 153 | ELECTRO-TECHNICAL-DIRECT CURRENT (Source) | Resistance - 4 Wire | Using Standard Resistance Box by Direct Method | 100 mohm | 1.95 % |
| 154 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Phase Error (Primary 1 A to 100 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Three Phase Energy Test Bench by Direct / Comparison Method | 5 % to 120 % | 4.6 minute |
| 155 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Ratio Error (Primary Injection 1 A to 100 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Three Phase Energy Test Bench by Direct / Comparison Method | 5 % to 120 % | 0.25 % |

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|---|---|---|---|---|---|
| 156 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Current Transformer - Ratio Error (Primary Injection 25 A to 500 A, Secondary 50 mA to 5 A) | Using Reference Standard Meter with CT & Current Source by Comparison Method | 5 % to 120 % | 0.5 % |
| 157 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Impulse / Surge Voltage | Using High Voltage Probe with Digital Storage Oscilloscope by Direct Method | (±) 0.25 kV to (±) 20 kV | 1.65 % to 1.97 % |
| 158 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Impulse/Surge( Rise time) | Using High Voltage Probe with Digital Storage Oscilloscope by direct method | 1.2 µs to 10 µs | 3.2 % to 3.1 % |
| 159 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Measure) | Impulse/Surge(Fall time) | Using High Voltage Probe with Digital Storage Oscilloscope by direct method | 50 µs to 700 µs | 2.9 % |
| 160 | ELECTRO-TECHNICAL-ELECTRICAL EQUIPMENT (Source) | Oscilloscope - Bandwidth | Using Signal Generator byDirect Method | 1 MHz to 500 MHz | 0.2 % |

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|---|---|---|---|---|---|
| 161 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | RTD (PT 100) | Using Universal Calibrator by Direct Method | (-) 200 °C to 800 °C | 0.28 °C |
| 162 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple B Type | Using Multiproduct Calibrator by Direct Method | 600 °C to 1800 °C | 0.51 °C |
| 163 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple E Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1000 °C | 0.58 °C |
| 164 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple J Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1200 °C | 0.27 °C |
| 165 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple K Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.46 °C |
| 166 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple N Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.46 °C |

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|---|---|---|---|---|---|
| 167 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple R Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.6 °C |
| 168 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple S Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.56 °C |
| 169 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Measure) | Thermocouple T Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 400 °C | 0.16 °C |
| 170 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | RTD (PT 100) | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 800 °C | 0.28 °C |
| 171 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple B Type | Using Multiproduct Calibrator by Direct Method | 600 °C to 1800 °C | 0.38 °C |
| 172 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple E Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1000 °C | 0.24 °C |

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|---|---|---|---|---|---|
| 173 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple J Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1200 °C | 0.27 °C |
| 174 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple K Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.3 °C |
| 175 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple N Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 1300 °C | 0.31 °C |
| 176 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple R Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.66 °C |
| 177 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple S Type | Using Multiproduct Calibrator by Direct Method | 0 °C to 1700 °C | 0.43 °C |
| 178 | ELECTRO-TECHNICAL-TEMPERATURE SIMULATION (Source) | Thermocouple T Type | Using Multiproduct Calibrator by Direct Method | (-) 200 °C to 400 °C | 0.16 °C |

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|---|---|---|---|---|---|
| 179 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using 8½ Digit Multimeter by Direct Method | 10 Hz to 100 MHz | 0.0006 % to 0.0008 % |
| 180 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Frequency | Using Frequency Counter by Direct Method | 100 MHz to 990 MHz | 0.0006 % to 0.0009 % |
| 181 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Time | Using Time Calibrator by Comparison Method | 0.1 s to 60 s | 0.01 s to 0.035 s |
| 182 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Measure) | Time | Using Time Calibrator by Comparison Method | 60 s to 86400 s | 0.035 s to 51.84 s |
| 183 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multiproduct Calibrator by Direct Method | 1 Hz to 10 Hz | 0.59 % to 0.059 % |
| 184 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Signal Generator by Direct Method | 1 MHz to 990 MHz | 0.003 % to 0.006 % |

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|---|---|---|---|---|---|
| 185 | ELECTRO-TECHNICAL-TIME & FREQUENCY (Source) | Frequency | Using Multiproduct Calibrator by Direct Method | 10 Hz to 2 MHz | 0.059 % to 0.048 % |
| 186 | FLUID FLOW-FLOW MEASURING DEVICES | Digital Flow Meter, Flow Switch, Water Meter, Flow Transmitter (Water Medium) | Using Portable Ultrasonic Flow Meter, Digital Multimeter & Stop Watch by Comparison Method | 0.8 $m^3$/hr to 1685 $m^3$/hr | 2 % |
| 187 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge - Non - Contact Type | Using Digital Tachometer by Direct Method | 40000 rpm to 90000 rpm | 11.95 rpm |
| 188 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge - Non - Contact Type | Using Digital Tachometer by Direct Method | 6 rpm to 10 rpm | 0.64 rpm |
| 189 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 10 rpm to 30 rpm | 0.64 rpm |
| 190 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 1000 rpm to 10000 rpm | 2.85 rpm |
| 191 | MECHANICAL-ACCELERATION AND SPEED | RPM Meter, Centrifuge, Magnetic Stirrer - Non - Contact Type | Using Digital Tachometer by Direct Method | > 30 rpm to 1000 rpm | 1.2 rpm |

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|---|---|---|---|---|---|
| 192 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 1000 rpm to 10000 rpm | 2.85 rpm |
| 193 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 30 rpm to 1000 rpm | 1.2 rpm |
| 194 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | 10 rpm to 30 rpm | 0.64 rpm |
| 195 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 10000 rpm to 40000 rpm | 6.17 rpm |
| 196 | MECHANICAL-ACCELERATION AND SPEED | Tachometer - Non - Contact Type | Using Digital Tachometer with RPM Source by Comparison Method | > 40000 rpm to 90000 rpm | 11.95 rpm |
| 197 | MECHANICAL-ACOUSTICS | Sound Level Meter @ 1 kHz | Using Sound Calibrator by Direct Method | 114 dB | 1.2 dB |
| 198 | MECHANICAL-ACOUSTICS | Sound Level Meter @ 1 kHz | Using Sound Calibrator by Direct Method | 94 dB | 1.4 dB |

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|---|---|---|---|---|---|
| 199 | MECHANICAL-DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Feeler Gauge | Using Digital Micrometer by Comparison Method | 0.03 mm to 1 mm | 2.2 µm |
| 200 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Microscope - Magnification | Using Glass Scale and Eye Piece Graticule by Comparison Method | Up to 100 X | 0.9 % |
| 201 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Microscope, Profile Projector - Linear (L.C.: 0.001 mm) | Using Glass Scale by Comparison Method | 0 to 300 mm | 3 µm |
| 202 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile Projector - Angle (L.C.: 1 second of arc) | Using Angle Gauge by Comparison Method | 0 to 360 ° | 52 second of arc |
| 203 | MECHANICAL-DIMENSION (PRECISION INSTRUMENTS) | Profile Projector - Magnification | Using Gauge Block Set & Digital Vernier Caliper by Comparison Method | Up to 20 X | 0.3 % |

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| 204 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Pressure Calibrator, Low Pressure Comparator & DMM by Comparison Method as per DKD-R 6-1 | 0 to 2000 Pa | 1.28 Pa |
| 205 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Manometer, Low Pressure Comparator, DMM & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 10000 Pa | 7.5 Pa |

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| 206 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Manometer, Magnehelic Gauge, Pressure Indicator, Pressure Calibrator, Pressure Transmitter, Pressure Transducer, Pressure Switch - Pneumatic Pressure | Using Digital Manometer, Low Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | (-) 10000 Pa to 0 Pa | 4.5 Pa |
| 207 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 2 bar | 0.0014 bar |

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|---|---|---|---|---|---|
| 208 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Differential Pressure Transmitter, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 20 bar | 0.006 bar |
| 209 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Pressure Controller, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder - Hydraulic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Pressure Calibrator by Comparison Method as per DKD-R 6-1 | 0 to 700 bar | 0.17 bar |

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| 210 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Pressure Gauge, Pressure Indicator, Pressure Calibrator, Pressure Controller, Pressure Transmitter, Pressure Transducer, Pressure Switch, Pressure Recorder, Manometer, Barometer - Pneumatic Pressure | Using Barometric Pressure Indicator & DMM by Comparison Method as per DKD-R 6-1 | 300 mbar (abs) to 1050 mbar (abs) | 2.2 mbar |
| 211 | MECHANICAL-PRESSURE INDICATING DEVICES | Analog / Digital - Vacuum Gauge, Vacuum Transmitter, Manometer, Pressure Calibrator, Vacuum Switch, Vacuum Indicator, Vacuum Recorder - Pneumatic Pressure | Using Digital Pressure Calibrator, Pressure Comparator & Calibrator by Comparison Method as per DKD-R 6-1 | (-) 0.99 bar to 0 bar | 0.0014 bar |
| 212 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class I and Coarser (Readability: 0.001 mg) | Using E1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 21 g | 0.014 mg |
| 213 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class I and Coarser (Readability: 0.01 mg) | Using E1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 220 g | 0.3 mg |

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|---|---|---|---|---|---|
| 214 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class I and Coarser (Readability: 1 mg) | Using E1, F1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 1 kg | 1.9 mg |
| 215 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class II and Coarser (Readability: 10 mg) | Using E1, F1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 6 kg | 17.6 mg |
| 216 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class II and Coarser (Readability: 100 mg) | Using E1, F1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 30 kg | 0.14 g |
| 217 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class III and Coarser (Readability: 1 g) | Using E1, F1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 100 kg | 6.8 g |
| 218 | MECHANICAL-WEIGHING SCALE AND BALANCE | Electronic Balance Accuracy Class III and Coarser (Readability: 1 g) | Using E1, F1 Class Weights by Comparison Method as per OIML R 76-1 | 0 to 60 kg | 1.4 g |
| 219 | MECHANICAL-WEIGHING SCALE AND BALANCE | Spring Balance (Readability: 10 g) | Using E1, F1 Class Weights by Comparison Method | 0 to 50 kg | 7.6 g |

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|---|---|---|---|---|---|
| 220 | THERMAL-SPECIFIC HEAT & HUMIDITY | Humidity Chamber, Humidity Generator, Thermal Chamber, Climatic Chamber, Stability Chamber, Environment Chamber, Salt Spray Chamber, Humidifier, Dehumidifier, Room, Dry Cabinet - Multi Position (Minimum 9 Sensors) @ 20°C to 60°C | Using Multichannel Data Logger with RH Sensors by Comparison Method | 15 % RH to 90 % RH | 2.63 % RH |
| 221 | THERMAL-SPECIFIC HEAT & HUMIDITY | Indicator with Sensor of Humidity Chamber, Humidity Generator, Thermal Chamber, Climatic Chamber, Stability Chamber, Environment Chamber, Salt Spray Chamber, Humidifier, Dehumidifier @ 20°C to 60°C | Using Temperature & Humidity Indicator with Sensor by Comparison Method | 15 % RH to 90 % RH | 1.47 % RH |

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|---|---|---|---|---|---|
| 222 | THERMAL-SPECIFIC HEAT & HUMIDITY | Indicator with Sensor of Humidity Chamber, Humidity Generator, Thermal Chamber, Climatic Chamber, Stability Chamber, Environment Chamber, Salt Spray Chamber, Humidifier, Dehumidifier @ 25°C | Using Temperature & Humidity Indicator with Sensor by Comparison Method | 15 % RH to 95 % RH | 1.47 % RH |
| 223 | THERMAL-SPECIFIC HEAT & HUMIDITY | Indicator with Sensor of Temperature and Humidity Chamber - Single Position @ 15 % RH to 95 % RH | Using Temperature & Humidity Indicator by Comparison Method | 10 °C to 50 °C | 0.47 °C |

# SCOPE OF ACCREDITATION

| | | | |
|---|---|---|---|
| **Laboratory Name :** | PV CALIBRATION LABORATORY PRIVATE LIMITED, 16SCP-38, SECTOR-16A, VASUNDHARA, GHAZIABAD, UTTAR PRADESH, INDIA | | |
| **Accreditation Standard** | ISO/IEC 17025:2017 | | |
| **Certificate Number** | CC-4027 | **Page No** | 100 of 103 |
| **Validity** | 27/08/2024 to 26/08/2026 | **Last Amended on** | 17/09/2024 |

| 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)(±) |
|---|---|---|---|---|---|
| 224 | THERMAL-TEMPERATURE | Freezer, Deep Freezer, Cold Chamber, Cold Room, Oven, Environment Chamber, Humidity Chamber, Incubator (For Non Medical Application), BOD Incubator (For Non Medical Application) Autoclave, Sterilize - Multi Position (Minimum 9 Sensors) | Using Multichannel Data Logger With RTD Sensors by Comparison Method | (-) 80 °C to 300 °C | 0.81 °C |
| 225 | THERMAL-TEMPERATURE | Indicator with Sensor of Black Body Source (Emissivity 0.95) | Using Standard Infrared Thermometer by Comparison Method | > 200 °C to 500 °C | 2.3 °C |
| 226 | THERMAL-TEMPERATURE | Indicator with Sensor of Black Body Source (Emissivity 0.95) | Using Standard Infrared Thermometer by Comparison Method | 50 °C to 200 °C | 2.01 °C |

# SCOPE OF ACCREDITATION

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| **Accreditation Standard** | ISO/IEC 17025:2017 | | |
| **Certificate Number** | CC-4027 | **Page No** | 101 of 103 |
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|---|---|---|---|---|---|
| 227 | THERMAL-TEMPERATURE | Indicator with Sensor of Freezer, Deep Freezer, Environment / Climatic / Humidity Chamber, Cold Room / Chamber, UV Chamber, Liquid / Dry Bath, Walk in Chamber, Oven, Incubator, Autoclave - Single Position | Using SPRT with Super DAQ Temperature Scanner by Comparison Method | (-) 80 °C to 600 °C | 0.14 °C |
| 228 | THERMAL-TEMPERATURE | Indicator with Sensor of Muffle Furnace, Dry Block Furnace, Oven - Single Position | Using R Type Thermocouple with Indicator by Comparison Method | > 600 °C to 1200 °C | 1.93 °C |
| 229 | THERMAL-TEMPERATURE | Infrared / Non - Contact Thermometer, Pyrometer, Thermal Imager (Only Temperature) @ (Emissivity 0.95) | Using Standard Infrared Thermometer & Black Body Source by Comparison Method | 50 °C to 500 °C | 2.31 °C |
| 230 | THERMAL-TEMPERATURE | Liquid In Glass Thermometer | Using SPRT with Super DAQ Temperature Scanner & Micro Bath by Comparison Method | (-) 30 °C to 125 °C | 0.13 °C |

# SCOPE OF ACCREDITATION

**Laboratory Name :** PV CALIBRATION LABORATORY PRIVATE LIMITED, 16SCP-38, SECTOR-16A, VASUNDHARA, GHAZIABAD, UTTAR PRADESH, INDIA

**Accreditation Standard** ISO/IEC 17025:2017

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**Validity** 27/08/2024 to 26/08/2026 **Last Amended on** 17/09/2024

| 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)(±) |
|---|---|---|---|---|---|
| 231 | THERMAL-TEMPERATURE | Oven, Furnace - Multi Position (Minimum 9 Sensors) | Using Multichannel Data Logger With N Type Thermocouple by Comparison Method | > 250 to 1200 °C | 2.6 °C |
| 232 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD / Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer & Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner, 6½ Digit Multimeter & Liquid Bath Furnace by Comparison Method | (-) 30 °C to 125 °C | 0.063 °C |
| 233 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD / Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer & Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner & Micro Bath by Comparison Method | (-) 80 °C to (-) 30 °C | 0.062 °C |

# SCOPE OF ACCREDITATION

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|---|---|---|---|---|---|
| 234 | THERMAL-TEMPERATURE | Temperature Transmitter, RTD, Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge, Digital Thermometer, Thermostat with Sensor | Using SPRT with Super DAQ Temperature Scanner, 6½ Digit Multimeter & Dry Block Furnace by Comparison Method | > 125 °C to 600 °C | 0.39 °C |
| 235 | THERMAL-TEMPERATURE | Temperature Transmitter, Thermocouple with or without Indicator, Data Logger / Recorder with Sensor, Temperature Gauge | Using R Type Thermocouple with Digital Thermometer, 6½ Digit Multimeter & Dry Block Furnace by Comparison Method | > 600 °C to 1200 °C | 1.93 °C |

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