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|-------------------------------|--|--------------------|-------------------|
| Laboratory | Prima Calibration Services, F-199, Mangal Bazar, Laxmi Nagar, New Delhi | | |
| Accreditation Standard | ISO/IEC 17025: 2005 | | |
| Discipline | Electro-Technical Calibration | Issue Date | 01.06.2015 |
| Certificate Number | C-1219 | Valid Until | 31.05.2017 |
| Last Amended on | - | Page | 1 of 5 |

| Quantity Measured/ Instrument | Range / Frequency | *Calibration Measurement Capability (\pm) | Remarks |
|----------------------------------|---|--|--|
| I. MEASURE | | | |
| 1. DC Voltage \$ | 1 mV to 100 mV 100 mV to 1 V 1 V to 1000 V | 0.6 % to 0.04 % 0.04 % 0.04 % | Using Digital Multimeter (6½ Digit) Agilent,34401A by Direct/ Comparison Method |
| 2. AC Voltage \$ | 50 Hz 10 mV to 100 mV 100 mV to 1 V 1 V to 750 V | 1.1 % 0.15 % 0.15% | Using Digital Multimeter (6½ Digit) Agilent,34401A by Direct/ Comparison Method |
| 3. DC Current \$ | 5 mA to 100 mA 100 mA to 1 A | 0.5 % to 0.7 % 0.7 % to 0.3 % | Using Digital Multimeter (5½ Digit) winstek,GDM- 8351 by Direct/ Comparison Method |
| 4. AC Current * | 50 Hz 5 mA to 100 mA 100 mA to 1 A | 3 % to 2 % 2 % to 0.6 % | Using Digital Multimeter (5½ Digit) Gwinstek,GDM- 8351 by Direct/ Comparison Method |
| 5. Frequency * | 10 Hz to 300 k Hz | 0.015 % | Using Digital Multimeter (6½ Digit) Agilent, 34401A by Direct/ Comparison Method |
| 6. DC Resistance \$ | (4 Wire) 1 Ω to 100 Ω 100 Ω to 1 k Ω 1 k Ω to 100 k Ω (2 Wire) 1M Ω to 100 M Ω | 0.7 % to 0.02 % 0.02 % to 2 % 2 % to 0.015 % 0.2 % to 1.2 % | Using Digital Multimeter (6½ Digit) Agilent, 34401A by Direct/ Comparison Method |
| 7. Capacitance \$ | 10 nF to 100 nF 100 nF to 1 μ F 1 μ F to 10 μ F | 2.5 % 2.5 % 3 % | Using Digital Multimeter (5½ Digit) Gwinstek,GDM- 8351 by Direct/ Comparison Method |

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| 8. | DC Voltage * | 1 mv to 100 mv 1 V to 10 V 10 V to 100 V 100 V to 1000 V | 0.7 % to 0.06 % | Using Digital Multimeter (6½ Digit) by Direct Method |
| 9. | AC Voltage * | 50 Hz 10 mV to 100 mV 1 V to 750V | 1.5 % to 0.2 % | Using Digital Multimeter (6½ Digit) by Direct Method |
| 10. | DC Current * | 5 mA to 20 mA 20 mA to 100 mA 100 mA to 1 A | 2.7 % 1.5 % 0.6 % | Using Digital Multimeter (5½ Digit) winstek, GDM-8351 by Direct Method |
| 11. | DC Resistance * (4 Wire) | 20 Ω to 100 Ω 100 Ω to 1 k Ω 1 k Ω to 100 k Ω 100 k Ω to 1 M Ω (2 Wire) 1 M Ω to 100 M Ω | 0.8 % to 0.03 % 0.03 % 2 % 2 % 2 % | Using Digital Multimeter (6½ Digit) by Direct Method |
| 12. | Capacitance * | 10 nF to 100 nF 100 nF to 1 μ F 1 μ F to 100 μ F | 3.5 % 4 % 4 % | Using Digital Multimeter (5½ Digit) Gwinstek, GDM-8351 by Direct Method |
| 13. | DC High Voltage * | 1kV to 10 kV | 0.5 to 1.6 kV | H V Probe, Fluke with DMM by Comparison method |
| 14. | AC High Voltage * | 1kV to 10 kV | 0.3 to 0.8 kV | H V Probe, Fluke with DMM by Comparison method |

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| II. SOURCE | | | |
| 1. DC Voltage ^{\$} | 1 mv to 100 mv 100 mv to 1V 1 V to 1000 V | 0.7 % to 0.1 % 0.1 % 0.1 % to 0.05 % | Using Digital Multifunction Calibrator (Zeal) and DMM 6½ Agilent, 34401A by Direct Method Comparison Method |
| 2. AC Voltage ^{\$} | 50 Hz 10 mV to 100mV 100 mV to 1 V 1 V to 750V | 0.6 % to 0.2 % 0.2 % 0.2 % | Using Digital Multifunction Calibrator (Zeal) DMM 6½ Agilent,34401A by Direct Method by Comparison Method |
| 3. DC Current ^{\$} | 10 A | 0.6 % | Using Digital Multimeter (5½ Digit) winstek,GDM-8351 by Direct Method by Comparison Method |
| 4. AC Current ^{\$} | 50Hz 10 A | 0.8 % | Using Digital Multimeter (5½ Digit) by Direct Method by Comparison Method |
| 5. Frequency ^{\$} | 10 Hz to 1 kHz 1 kHz to 1 MHz | 0.03 % to 1.16 % 1.16 % | Using Digital Function Generator (Crown), FGL-9 by Direct Method |
| 6. DC Resistance ^{\$} (Low) 4 Wire Method | 1 mΩ to 10 mΩ 100 mΩ to 1 Ω 10 Ω to 100 Ω & 1 kΩ | 1.2 % to 0.6 % 0.6 % to 0.3 % 0.3 % 0.3 % | Using Std. Resistance Box IE,SR-4A by Direct Method |

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| 7. | Resistance ^{\$} 2 Wire Method | 1k Ω to 100 k Ω 100 k Ω to 300 k Ω | 0.5 % to 3.6 % 3.6 % to 4 % | Using Decade Resistance Box Zeal ZSDRB by Direct Method |
| 8. | DC Resistance ^{\$} (High) 2 Wire Method | 2 M Ω to 20 M Ω 200 M Ω 2 G Ω | 7.2 % to 2.3 % 4 % 6 % | Using HV Mega Ohm Box HYM 1E,SR-5A by Direct Method |
| 9. | Capacitance ^{\$} | 100 pF to 1 nF 1 nF to 100 nF 100 nF to 1 μ F 1 μ F to 10 μ F | 1.6 % to 3.5 % 3.5 % 3.5 % 3.6 % | Using Decade Capacitance Box (Crown), S.No. - 42505 by Direct Method |
| 10. | Inductance ^{\$} | 100 μ H to 10 H | 3.5 % | Using Decade Inductance Box (Crown), S. No. - 42501 by Direct Method |
| 11. | Temperature Controller / Indicator ^{\$} RTD Type (PT-100) J - Type K - Type R - Type S - Type | -200 $^{\circ}$ C to 800 $^{\circ}$ C -200 $^{\circ}$ C to 700 $^{\circ}$ C -200 $^{\circ}$ C to 1200 $^{\circ}$ C 400 $^{\circ}$ C to 1700 $^{\circ}$ C 400 $^{\circ}$ C to 1700 $^{\circ}$ C | 1.5 $^{\circ}$ C 0.7 $^{\circ}$ C 0.8 $^{\circ}$ C 1.5 $^{\circ}$ C 1.7 $^{\circ}$ C | Using Universal Calibrator (Radix) (Microcal) by Simulation Method |
| 12. | Time [*] | 10 s to 60 s 60 s to 600 s 600 s to 3600 s | 0.2 s 0.2 s to 0.7 s 0.7 s to 2.1 s | Using Timer Calibrator, IET, CAL - 1010 by Comparison Method |

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|---|--------------------|--|--|
| 13. Temperature Controller / Indicator * | | | |
| RTD Type (PT-100) | -200 °C to 800 °C | 1.5 °C | Using Universal Calibrator (Radix) (Microcal) by Simulation Method |
| J - Type | -200 °C to 700 °C | 1 °C | |
| K - Type | -200 °C to 1200 °C | 1 °C | |
| R - Type | 400 °C to 1700 °C | 1.5 °C | |
| S - Type | 400 °C to 1700 °C | 2 °C | |

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

\$Only in Permanent Laboratory

*Only for Site Calibration

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