

Laboratory Name NUTAN CALIBRATION LAB., 445-B, NSI HOUSE, STREET NO. 8, DELHI, INDIA

Accreditation Standard ISO/IEC 17025:2005

Certificate Number CC-2001 Page No. : 1 / 14

Validity 27/02/2019 to 26/02/2021 Last Amended on 01/03/2019

'In view of the transition deadline for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on

30.11.2020.' **S.No Discipline / Group Quantity Measured/ Range / Frequency \* Calibration Instrument**

**Measurement Capability(±)**

**Remarks**

**Permanent Facility**

1 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

AC Current (50 Hz to 1 KHz )

100 µA to 10 A 0.25 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparision Method

2 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

AC Resistance @1 kHz 1 Ohms to 100 kOhms 0.5% L C R Meter 4910 by

Direct Method

3 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

AC Voltage (50 Hz to 1 kHz ) /

10 mV to 1000 V 0.62 % to 0.12 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

4 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

Capacitance @1 kHz 1 nF to 10 µF 0.59 % to 0.42 % L C R Meter Aplab

4910 by Direct/Comparision Method

5 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

Inductance @ 1 kHz 1 m H to 10 H 0.62% to 0.50 % L C R Meter 4910 by

Direct Method

6 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

AC Current ( 50 Hz to 1 KHz )

30µA to 1000 A 3.14 % to 2.40 % Fluke 5080A MFC with

current coil 5500 A by Direct Method:

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**Measurement Capability(±)**

**Remarks**

7 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

AC Current @ 50 Hz 30µA to 1000 A 3.14% to 2.40% Fluke 5080A MFC with Current Coil 5500A Direct Method

8 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

AC Resistance @1 kHz 1 ohm to 100 kohm 1.63 % to 1.63% Resistance Box (Sigma) by Direct Method

9 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

AC Voltage ( 50Hz to 1KHz )

10 mV to 1000 V 0.02 % to 1.15 % Fluke 5080A MFC by

Direct/Comparison Method

10 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

AC Voltage ( 50Hz to 1kHz )

10 mV to 1000 V 1.08% to 0.19% Fluke 5080A MFCby

Direct/Comparison Method:

11 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

Capacitance @1 kHz 1nF to 10 µF 2.72% Capacitance box

(Sigma) by Direct/Comparison Method:

12 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

Inductance @1 kHz 1 mH to 10 H 1.29 % Inductance Box

(Sigma) by Direct Method

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### **Measurement Capability(±)**

#### **Remarks**

13 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

Power 1 W to 20 W 1.50% to 1.50% Fluke 5080A MFC by

Direct/Comparison Method

14 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)

Power (U.P.F ) 1 phase10V to 1000V0.1 A to 20A

1W to 20 KW 1.50 % Fluke 5080A MFC/

Direct Method

15 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Current 10 µA to 10 A 0.35 % to 0.2 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

16 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Resistance (2 Wire&4 wire)

1 Ohms to 1 GOhms 0.35% to 2.93% Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

17 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Resistance (4 wire) 1 mOhm to 1 Ohm 0.31 % to 0.08 % Fluke 8846A (6.5 Digit) DMM and Fluke 5080A MFC by V/I Method

18 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Voltage 1 mV to 1000 V 0.41 % to 0.052 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

19 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Current 100  $\mu$ A to 1000 A 0.20% to 2.30% Fluke 5080A MFC with

Current Coil 5500A by Direct/Comparison Method

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### Measurement Capability( $\pm$ )

#### Remarks

20 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Current 100  $\mu$ A to 1000 A 0.20 % to 2.30 % Fluke 5080A MFC with

Current Coil 5500A/ Direct Method

21 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Resistance 1 Ohm to 190 M Ohm 1.36% to 1.16% Fluke 5080A MFCby

Direct/Comparison Method

22 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Resistance(4 Wire&2 Wire)

1 Ohm to 190 M Ohm 1.36% to 1.16 % Fluke 5080A MFC by

Direct/Comparison Method

23 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Resistance(4 Wire) (Discrete Values)

1 mohm to 1 kohm 0.87% to 0.25% Standard Resistance

Box (SR -4A) by Direct/Comparison Method

24 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Voltage 1 mV to 1000V 1.15 % to 0.016 % Fluke 5080A MFC by

Direct/Comparison Method

25 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
DC Voltage 1 mV to 1000 V 1.15% to 0.016% Fluke 5080A MFC by  
Direct/Comparison Method:

26 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
High Resistance 2 M Ohm to 20 G Ohm 4.29% HV MegaOhm Box  
(Sigma) by Direct/Comparison Method

27 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
Power 1 W to 12 kW 1.50% to 1.50% Fluke 5080A MFCby  
Direct/Comparison Method

28 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
Power Factor 0.2 lead/lag (U.P.F) 0.008 PF Fluke 5080A MFC by  
Direct/Comparison Method

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### **Measurement Capability(±)**

#### **Remarks**

29 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
Power Factor 0.2 PF to 1 PF 0.008PF to 0.008PF Fluke 5080A MFC by  
Direct Method/Comparison Method

30 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Source)  
Resistance 1 Ohm to 1000 kOhm 1.3 % Decade Resistance  
Box (Sigma) by Direct/Comparison Method:

31 ELECTRO-  
TECHNICAL- TEMPERATURE SIMULATION (Source)  
J-Type 0°C to 760 °C 0.67 °C Universal Calibrator  
(Masibus-3001M) by Direct/Comparison Method

32 ELECTRO-  
TECHNICAL- TEMPERATURE SIMULATION (Source)  
K-Type 0 °C to 1200 °C 1.01 °C Universal Calibrator  
(Masibus-3001M) by Direct/Comparison Method:

33 ELECTRO-  
TECHNICAL- TEMPERATURE SIMULATION (Source)  
PT-100 -200 °C to 800 °C 0.87°C Universal Calibrator  
(Masibus-3001M) by Direct/Comparison Method

34 ELECTRO-  
TECHNICAL- TEMPERATURE SIMULATION (Source)  
R-Type 0 °C to 1700 °C 1.8 °C Universal Calibrator

(Masibus-3001M )by Direct/Comparison Method

35 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

S-Type 0 °C to 1300 °C 1.7 °C Universal Calibrator

(Masibus-3001M) by Direct/Comparison Method

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### Measurement Capability(±)

#### Remarks

36 ELECTRO-

TECHNICAL- TIME & FREQUENCY (Measure)

Frequency 10 Hz to 1000 kHz 0.1% Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

37 ELECTRO-

TECHNICAL- TIME & FREQUENCY (Source)

Digital Stop Watch 5 s to 23Hrs 0.11 s to 50 s Digital Stop Watch by

Comparison Method

38 ELECTRO-

TECHNICAL- TIME & FREQUENCY (Source)

Frequency 45 Hz to 1 KHz 0.010 % Fluke 5080A MFC by

Direct/Comparison Method:

39 MECHANICAL-

ACCELERATION AND SPEED

Tachometer/Centrifuge/ RPM Indicator

26 rpm to 26000 rpm 2.1 % to 0.3 % Digital Tachometer by

Comparison Method

40 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

Depth MicrometerL.C. 0.001 mm

0 to 150 mm 0.003mm Slip Gauge With

Accessories by Comparison Method

41 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

Dial GaugeL C. 0.001 mm

upto 25 mm 0.0032mm Slip Gauge Set and dial

comparator stand by Comparison Method

42 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

External MicrometerL.C. 0.001 mm

0 to 100 mm 0.0023mm Slip Gauge Set by

Comparison Method

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**Measurement Capability(±)**

**Remarks**

43 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

Feeler Gauge upto 1mm 0.004mm Digital Micrometer by

Comparison Method

44 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

Height GaugeL.C. 0.01 mm

0 to 600 mm 0.015mm Caliper Checker by

Comparison Method

45 MECHANICAL-

DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.)

Vernier CaliperL.C. 0.01 mm

upto 600 mm 0.014mm Caliper Checker by

Comparison Method

46 MECHANICAL-

PRESSURE INDICATING DEVICES

Pressure Gauge 0 to 700 bar 0.025bar to 0.22bar Digital Pressure Gauge by Comparison Method

47 MECHANICAL-

PRESSURE INDICATING DEVICES

Vacuum Gauge -0.8 to 0 bar 0.005bar Digital Pressure Gauge by Comparison Method

48 THERMAL- SPECIFIC

HEAT & HUMIDITY

Digital or Analog Hygrometer/ RH Sensor with Indicator/Controller

10°C to 50°C @50%RH

0.83°C SPRT With Digital

Temperature Scanner and Humidity Chamber by Comparison Method

49 THERMAL- SPECIFIC

HEAT & HUMIDITY

Digital or Analog Hygrometer/ RH Sensor with Indicator/Controller (25°C)

40 %RH to 95 %RH @25°C

2.28 % RH Sensor With

Indicator and RH Humidity Chamber by Comparison Method

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**Measurement Capability(±)****Remarks**

50 THERMAL-  
TEMPERATURE

Thermocouple with and without Indicator/ Data Logger/ Recorder/Temperature Gauge/Digital Thermometer/Temperature Transmitter with Sensor  
650°C to 1200°C 2.95°C Using R type

Thermocouple , 6.5 digit DMM and DRY Bath by Comparison Method:

51 THERMAL-  
TEMPERATURE

Liquid in Glass Thermometer  
-30°C to 125°C 0.15°C SPRT with Digital

Temperature Scanner and liquid bath by Comparison Method

52 THERMAL-  
TEMPERATURE

RTD Thermocouple with and without Indicator/ Data Logger/ Recorder/Temperature Gauge/Digital Thermometer/Temperature Transmitter with Sensor  
125°C to 650°C 0.60°C SPRT with Digital

Temperature Scanner /DRY Bath by Comparison Method

53 THERMAL-  
TEMPERATURE

Temperature indicator/ Deep Freezer/ Incubator/ Oven/ Environment Chamber/ Bath (Single Position)  
-65°C to 250°C 0.40°C SPRT with Digital

Temperature Scanner by Comparison Method

54 THERMAL-  
TEMPERATURE

Temperature Indicator,Deep Freezer,Incubator,Oven,Environment Chamber,Bath  
250°C to 1200°C 3.69°C Using R type

thermocouple with DMM

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**Measurement Capability(±)****Remarks****Site Facility**

1 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

AC Current (50 Hz to 1 KHz )

100 µA to 10 A 0.25 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

2 ELECTRO-

TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)

AC High Voltage 1 kV to 25 kV 2.51 % to 2.54% Fluke 287(4.5 Digit) D

M M with 80 k 40 H V Probe by Direct/Comparison Method  
3 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)  
AC Resistance @1 kHz 1 Ohms to 100 kOhms 0.5% L C R Meter 4910 by  
Direct Method

4 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)  
AC Voltage (50 Hz to 1 kHz ) /  
10 mV to 1000 V 0.62 % to 0.12 % Fluke 8846A (6.5 Digit)  
DMM by Direct/Comparison Method

5 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)  
Capacitance @1 kHz 1 nF to 10 µF 0.59 % to 0.42 % L C R Meter Aplab  
4910 by Direct/Comparison Method

6 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)  
Inductance @ 1 kHz 1 m H to 10 H 0.62% to 0.50 % L C R Meter 4910 by  
Direct Method

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### Measurement Capability(±)

#### Remarks

7 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Measure)  
Power Energy(1 & 3 Phase)50 Hz (40 V to 440 V )(0.1 A to 120 A )  
0.5 PF to UPF 2 % Fluke 1730 Energy  
Logger by Direct/Comparison Method

8 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)  
AC Current @ 50 Hz 30µA to 1000 A 3.14% to 2.40% Fluke 5080A MFC with  
Current Coil 5500A Direct Method

9 ELECTRO-  
TECHNICAL- ALTERNATING CURRENT (< 1 GHZ) (Source)  
AC Voltage ( 50Hz to 1kHz )  
10 mV to 1000 V 1.08% to 0.19% Fluke 5080A MFCby  
Direct/Comparison Method:

10 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Measure)  
DC High Voltage 1 kV to 30 kV 9.83 % to 4.21 % Fluke 287(4.5 Digit) D  
M M with 80 k 40 H V Probe by Direct/Comparison Method

11 ELECTRO-  
TECHNICAL- DIRECT CURRENT (Measure)  
DC Current 10 µA to 10 A 0.35 % to 0.2 % Fluke 8846A (6.5 Digit)



DMM by Direct/Comparison Method

12 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Resistance (2 Wire&4 wire)

1 Ohms to 1 GOhms 0.35% to 2.93% Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

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### Measurement Capability(±)

#### Remarks

13 ELECTRO-

TECHNICAL- DIRECT CURRENT (Measure)

DC Voltage 1 mV to 1000 V 0.41 % to 0.052 % Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

14 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Current 100 µA to 1000 A 0.20% to 2.30% Fluke 5080A MFC with

Current Coil 5500A by Direct/Comparison Method

15 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Resistance 1 Ohm to 190 M Ohm 1.36% to 1.16% Fluke 5080A MFCby

Direct/Comparison Method

16 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

DC Voltage 1 mV to 1000 V 1.15% to 0.016% Fluke 5080A MFC by

Direct/Comparison Method:

17 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

Power 1 W to 12 kW 1.50% to 1.50% Fluke 5080A MFCby

Direct/Comparison Method

18 ELECTRO-

TECHNICAL- DIRECT CURRENT (Source)

Power Factor 0.2 PF to 1 PF 0.008PF to 0.008PF Fluke 5080A MFC by

Direct Method/Comparison Method

19 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

J-Type 0°C to 760 °C 0.67 °C Universal Calibrator

(Masibus-3001M) by Direct/Comparison Method

20 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

K-Type 0 °C to 1200 °C 1.01 °C Universal Calibrator

(Masibus-3001M) by Direct/Comparison Method:

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**Measurement Capability(±)**

**Remarks**

21 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

PT-100 -200 °C to 800 °C 0.87°C Universal Calibrator

(Masibus-3001M) by Direct/Comparison Method

22 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

R-Type 0 °C to 1700 °C 1.8 °C Universal Calibrator

(Masibus-3001M )by Direct/Comparison Method

23 ELECTRO-

TECHNICAL- TEMPERATURE SIMULATION (Source)

S-Type 0 °C to 1300 °C 1.7 °C Universal Calibrator

(Masibus-3001M) by Direct/Comparison Method

24 ELECTRO-

TECHNICAL- TIME & FREQUENCY (Measure)

Frequency 10 Hz to 1000 kHz 0.1% Fluke 8846A (6.5 Digit)

DMM by Direct/Comparison Method

25 MECHANICAL-

ACCELERATION AND SPEED

Tachometer/Centrifuge/ RPM Indicator

26 rpm to 26000 rpm 2.1 % to 0.3 % Digital Tachometer by

Comparison Method

26 MECHANICAL-

PRESSURE INDICATING DEVICES

Pressure Gauge 0 to 700 bar 0.025bar to 0.22bar Digital Pressure Gauge by Comparison Method

27 MECHANICAL-

PRESSURE INDICATING DEVICES

Vacuum Gauge -0.8 to 0 bar 0.005bar Digital Pressure Gauge by Comparison Method

28 MECHANICAL- UTM,

TENSION CREEP AND TORSION TESTING MACHINE

Tension Mode 0.05 kN to 0.5 kN 0.84% Force Proving Ring by

Comparison Method

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**Measurement Capability(±)****Remarks**

29 MECHANICAL- UTM,

TENSION CREEP AND TORSION TESTING MACHINE

Tension Mode 0.5 kN to 50 kN 0.60% Force Proving Ring by

Comparison Method:

30 THERMAL- SPECIFIC

HEAT & HUMIDITY

RH Indicator of Humidity Chamber, Environmental Chamber

15 % RH to 95 % RH @25°C

2.3 % RH RH Sensor with

Indicator

31 THERMAL-

TEMPERATURE

Thermocouple with and without Indicator/ Data Logger/ Recorder/Temperature Gauge/Digital Thermometer/Temperature Transmitter with Sensor

650°C to 1200°C 2.95°C Using R type

Thermocouple , 6.5 digit DMM and DRY Bath by Comparison Method:

32 THERMAL-

TEMPERATURE

Deep Freezer,Incubator (Industrial Purpose Only),Ovens,Environmental Chamber,Stability Chamber,Baths, Autoclave (Industrial Purpose Only) Multi- Position

0°C to 100°C 4.05°C Using Pt-100 Multi

Point Sensor with Temperature Scanner Fluke-1568

33 THERMAL-

TEMPERATURE

Industrial Ovens, Furnace (Multi- Location )

200°C to 1200°C 5.98°C Using N type Sensor (9

sensor ) with temperature scanner fluke 11586 by Comparison Method

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**Measurement Capability(±)****Remarks**

34 THERMAL-

TEMPERATURE

Ovens, Furnace,Autoclave Industrial Purpose only (Multi- Location )

100°C to 200°C 4.93°C Using Pt100 (9 sensor )

with temperature scanner by comparison method

35 THERMAL-

TEMPERATURE

RTD Thermocouple with and without Indicator/ Data Logger/ Recorder/Temperature Gauge/Digital

Thermometer/Temperature Transmitter with Sensor

125°C to 650°C 0.60°C SPRT with Digital  
Temperature Scanner /DRY Bath by Comparison Method

36 THERMAL-  
TEMPERATURE

Temperature indicator/ Deep Freezer/ Incubator/ Oven/ Environment Chamber/ Bath (Single Position)

-65°C to 250°C 0.40°C SPRT with Digital  
Temperature Scanner by Comparison Method

37 THERMAL-  
TEMPERATURE

Temperature Indicator, Deep Freezer, Incubator, Oven, Environment Chamber, Bath

250°C to 1200°C 3.69°C Using R type  
thermocouple with DMM

This is annexure to 'Certificate of Accreditation' and does not require any signature.