

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 1 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
-----	----------------------------	-------------------------	---	--

ELECTRICAL TESTING

I.	LAMPS, LUMINARIES AND ACCESSORIES			
1.	Luminaries	Verification of Classification	IS 10322 (Part 5/Sec-1) Clause 5	Qualitative
		Verification of Marking	IS 10322 (Part 5/Sec-1) Clause 6	Qualitative
		Verification of Construction	IS 10322 (Part 5/Sec-1) Clause 7	Qualitative (0.1 Nm to 5 Nm 0.01 mm to 200 mm 0.001 mm to 25 mm 0.1J to 0.8J 1 N to 500 N 93±3% RH 25 °C to 30 °C Amb to 999 °C)
		Creepage Distance and Clearance	IS 10322 (Part 5/Sec-1) Clause 8	0.04 mm to 0.63 mm 0.01 mm to 200 mm
		Provision for Earthing	IS 10322 (Part 5/Sec-1) Clause 9	0.1 V to 9.99 V 0.1 A to 45 A
		Terminals	IS 10322 (Part 5/Sec-1) Clause 10	0.1 Nm to 1.5 Nm 1 Nm to 5 Nm 0.01 mm to 200 mm 1 N to 500 N 0.1 mV to 600 mV
		External and Internal Wiring	IS 10322 (Part 5/Sec-1) Clause 11	0.1 Nm to 1.5 Nm 1 Nm to 5 Nm 0.01 mm to 200 mm 0.001 mm to 25 mm
		Protection Against Electric Shock	IS 10322 (Part 5/Sec-1) Clause 12	40 V to 60 V 1 N to 500 N
		Endurance and Thermal	IS 10322 (Part 5/Sec-1) Clause 13	Ambient to 75 °C 0.1 V to 400 V 1 °C to 250 °C

Prachi Kukreti
Convenor

Mallika Gope
Program Manager

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 2 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Dust and Moisture	IS 10322 (Part 5/Sec-1) Clause 14	1 h to 240 h IP1X/2X/3X/4X/5X/6X IPX1/X2/X3/X4/X5/X6/X7 Upto 500 N 20 °C to 30 °C/ 93±3 % Rh
		Insulation Resistance and Electric Strength	IS 10322 (Part 5/Sec-1) Clause 15	0.1 kV to 5 kV 1 MΩ to 10 ⁴ MΩ 500 VDC 93±3% Rh 25°C to 30°C
		Resistance to Heat, Fire and Tracking	IS 10322 (Part 5/Sec-1) Clause 16	Amb. to 200 °C Amb. to 650 °C 0.01 mm to 200 mm
2.	Self-Ballasted LED Lamps for General Lighting Service	Verification of Marking	IS 16102 (Part 1) Clause 5	Qualitative
		Interchangeability	IS 16102 (Part 1) Clause 6	0.75 Nm to 3 Nm 0.5 Nm to 4 Nm 1 N to 60 N
		Protection Against accidental Contact With Live Parts	IS 16102 (Part 1) Clause 7	40 V to 60 V 1 N to 500 N
		Insulation Resistance and Electric Strength after Humidity	IS 16102 (Part 1) Clause 8	0.1 kV to 5 kV 1 MΩ to 10 ⁴ MΩ 500 VDC 93±3 % Rh 25 °C to 30 °C
		Mechanical Strength	IS 16102 (Part 1) Clause 9	0.5 Nm to 4 Nm 0.5 Nm to 3 Nm 0.1 kV to 5 kV 1 MΩ to 10 ⁴ MΩ
		Cap Temperature Rise	IS 16102 (Part 1) Clause 10	Amb. to 120 °C
		Resistance to Heat	IS 16102 (Part 1) Clause 11	Amb. to 200 °C 0.01 mm to 200 mm

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 3 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Flame and Ignition	IS 16102 (Part 1) Clause 12	Amb. to 999 °C
		Fault Conditions	IS 16102 (Part 1) Clause 13	5V to 500V 1 MΩ to 10 ⁴ MΩ
		Creepage Distance And Clearances	IS:16102 (Part 1) Clause 14	0.1 mm to 200 mm 0.04 mm to 1.0 mm
3.	Lamp Control Gear	Verification of Classification	IS 15885 (Part 2/Sec-13) Clause 6	Qualitative
		Verification of Marking	IS 15885 (Part 2/Sec-13) Clause 7	Qualitative
		Protection against accidental Contact With live parts	IS 15885 (Part 2/Sec-13) Clause 8	1 N to 500 N 40 V to 60 V 0.1 V to 60 V AC/DC 1 MΩ to 10 ⁴ MΩ 0.1 kV to 5 kV
		Terminals	IS 15885 (Part 2/Sec-13) Clause 9	0.1 Nm to 5 Nm 0.5 mm to 200 mm 1 N to 500 N 0.1 mV to 600 mV
		Provision for Protective Earthing	IS 15885 (Part 2/Sec-13) Clause 10	0.1 V to 9.99 V 0.1 A to 45 A
		Moisture Resistance and Insulation	IS 15885 (Part 2/Sec-13) Clause 11	1 MΩ to 10 ⁴ MΩ 500 VDC 93±3% Rh 25 °C to 30 °C
		Electric Strength	IS 15885 (Part 2/Sec-13) Clause 12	0.1kV to 5kV
		Fault Condition	IS 15885 (Part 2/Sec-13) Clause 14	5 V to 500 V Amb to 45 °C 1MΩ to 10 ⁴ MΩ
		Transformer Heating	IS 15885 (Part 2/Sec-13) Clause 15	1 V to 400 V Amb to 45 °C Amb to 300 °C (for abnormal test)
		Verification of Construction	IS 15885 (Part 2/Sec-13) Clause 16	Qualitative

Prachi Kukreti
Convenor

Mallika Gope
Program Manager

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 4 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Creepage and Clearance	IS 15885 (Part 2/Sec-13) Clause 17	0.04 mm to 0.63 mm 0.01 mm to 200 mm
		Screws, Current-Carrying Parts and Connections	IS 15885 (Part 2/Sec-13) Clause 18	0.1 Nm to 1.5 Nm 1 Nm to 5 Nm
		Resistance to Heat, Fire and Tracking	IS 15885 (Part 2/Sec-13) Clause 19	Amb to 200 °C Amb to 650 °C
		Resistance to Corrosion	IS 15885 (Part 2/Sec-13) Clause 20	Qualitative
II.	BATTERIES			
1.	Secondary Cells and Batteries Containing Alkaline or non-acid electrolytes for use in Portable Applications	Insulation and wiring	IS 16046 Clause 5.2	1MΩ to 10 ⁴ MΩ, 500 VDC
		Low pressure(cells)	IS 16046 Clause 7.3.7	10 mmHg to 760 mmHg (11.6k Max 25 °C)

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 5 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
-----	----------------------------	-------------------------	---	--

ELECTRONICS TESTING

I.	SAFETY TESTING FACILITY			
1.	Information Technology Equipment	Power interface	IS 13252 (Part 1) (Clause. 1.6)	1 mW to 3kW, 1mA to 20A, 1V to 600V (AC/DC),
		Verification of Marking & Instructions	IS 13252 (Part 1) (Clause 1.7)	Qualitative
		Protection from electric shock and energy hazards	IS 13252 (Part 1) (Clause 2.1)	Qualitative 0.001 V to 600 V (AC/DC) 1 VA to 4600 VA
		SELV circuits	IS 13252 (Part 1) (Clause 2.2)	Qualitative 0.001 V to 600V (AC/DC)
		TNV Circuits	IS 13252 (Part 1) (Clause 2.3)	Qualitative 0.001to 600V (AC/DC)
		Limited current circuits	IS 13252 (Part 1) (Clause 2.4)	1µA to 30mA, 1µA to 90mA Peak
		Limited power sources	IS 13252 (Part 1) (Clause 2.5)	1mA-20A, 0.001-600V (AC/DC)
		Provisions for earthing and bonding	IS 13252 (Part 1) (Clause 2.6)	0.01A to 50A, 0.01V to 12V
		Over current and earth fault protection in primary circuits	IS 13252 (Part 1) (Clause 2.7)	Qualitative
		Safety interlocks	IS 13252 (Part 1) (Clause 2.8.1, Clause 2.8.2, Clause 2.8.3, Clause 2.8.4, Clause 2.8.6, Clause 2.8.8)	Qualitative

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 6 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electrical insulation	IS 13252 (Part 1) (Clause 2.9)	Temperature (-)40 to 42) °C (40 to 95) % RH
		Clearances, creepage distances and distances through insulation	IS 13252 (Part 1) (Clause 2.10.1, Clause 2.10.2, Clause 2.10.3, Clause 2.10.4, Clause 2.10.5.1, Clause 2.10.5.2, Clause 2.10.5.3, Clause 2.10.5.5 to Clause 2.10.12)	Qualitative , 0.01 mm to 150mm, Impulse 1.2/50µs & 10/700µs , 0.1 kV AC to 10kV AC, Temperature (0 to 85) °C, 1 N to 500 N
		Wiring, connections and supply	IS 13252 (Part 1) (Clause 3.1, Clause 3.2.1 to Clause 3.2.4, Clause 3.2.5.2, Clause 3.2.6 to Clause 3.5.4)	1 N to 500 N 0.001 mm to 25 mm, 0.01 mm to 200 mm, Temperature 0-500°C,
		Stability	IS 13252 (Part 1) (Clause 4.1)	Qualitative , 1 N to 800 N
		Mechanical strength	IS 13252 (Part 1) (Clause 4.2.1 to Clause 4.2.7, Clause 4.2.9, Clause 4.2.10)	1 N to 500 N 0.1 kV AC to 10 kV AC, Temperature 0- 80°C
		Design and construction	IS 13252 (Part 1) (Clause 4.3.1 to Clause 4.3.7, Clause 4.3.9, Clause 4.3.11)	1 N to 500 N
		Protection against hazardous moving parts	IS 13252 (Part 1) (Clause 4.4)	1 N to 500 N
		Thermal requirements	IS 13252 (Part 1) (Clause 4.5)	Upto 500°C Upto 200°C
		Openings in enclosure	IS 13252 (Part 1) (Clause 4.6.1, Clause 4.6.3 to Clause 4.6.5)	Temperature (-)40 to 42) °C, RH (40 to 95)% , Temperature (ambient to 85) °C, 0.01 mm to 200 mm,

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 7 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Materials	IS 13252 (Part 1) (Clause 4.7.3.1)	(0 to 960) °C
		Touch current and protective conductor current	IS 13252 (Part 1) (Clause 5.1)	Qualitative , 1 µA to 30 mA, 1 µA to 90 mA Peak, 0.001 V to 600 V
		Electric strength	IS 13252 (Part 1) (Clause 5.2)	Qualitative 0.1 kV AC to 10 kV AC
		Abnormal operating and fault conditions	IS 13252 (Part 1) (Clause 5.3)	Qualitative , Temperature (0 to 500) °C
		Connection to telecommunication network	IS 13252 (Part 1) (Clause 6)	Qualitative , 0.001 A to 10A, 0.001 V to 600 V, 0.1 kV AC to 10 kV AC, 1 MΩ to 10 ⁴ MΩ
		Connection to cable distribution system	IS 13252 (Part 1) (Clause 7)	Qualitative , 0.001 A to 10A, 0.001 V to 600 V, 0.1 kV AC to 10 kV AC, 1 MΩ to 10 ⁴ MΩ
2.	Audio, Video Electronic Apparatus	Normal operating conditions	IS 616 (Clause 4.2)	Qualitative, 1 mW to 3 kW, 1 mA to 20 A, 1 V to 600 V (AC/DC),
		Verification of Marking & Instructions	IS 616 (Clause 5)	Qualitative
		Light emitting diodes (LEDs)	IS 616 (Clause 6.3)	Qualitative
		Heating under normal operating conditions	IS 616 (Clause 7)	Qualitative , Temperature 0 to 500 °C , 1 mW to 13 kW, 1 mA to 20 A, 1 V to 600 V (AC/DC)

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 8 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Verification of Constructional requirements with regard to the protection against electric shock	IS 616 (Clause 8.1 to Clause 8.4, Clause 8.6, Clause 8.8 to Clause 8.15, Clause 8.18 to Clause 8.21)	Qualitative , Temperature (-40 to 42) °C, RH (40 to 95) % , 0.1 kV AC to 10 kV AC, 1 to 10 ⁴ MΩ, 0.01mm to 200 mm, 1 N to 500 N
		Electric shock hazard under normal operating conditions	IS 616 (Clause 9)	Qualitative , 1 μA to 30 mA, 1 μA to 90 mA peak, 0.001 V to 600 V, 0.01 mm to 200 mm, 1 N to 500 N
		Insulation Requirements	IS 616 (Clause 10)	Qualitative, Temperature (-)40 to 42) °C, RH (40 to 95) % , Surge voltage 0 to 10 kv, 0.1 to 10kV AC, 1 MΩ to 10 ⁴ MΩ
		Fault Conditions	IS 616 (Clause 11)	Qualitative , Temperature 0-500°C , 1 μA to 90 mA, 0.001 V to 600 V (AC/DC)
		Mechanical strength	IS 616 (Clause 12)	Qualitative, 10- 55- 10 Hz, 0.1 Nm to 5 Nm, 0.1 J to 3.5 J, 1 N to 500 N, Ambient to 85 °C
		Clearances and Creepage distances	IS 616 (Clause 13.1, Clause 13.2, Clause 13.3, Clause 13.4,	Qualitative 0.01 mm to 200 mm, Impulse 1.2 μs/50μs &

Prachi Kukreti
Convenor

Mallika Gope
Program Manager

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 9 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Clause 13.6, Clause 13.7, Clause 13.8)	10 μ s/700 μ s , PTI Voltage 0-600V
		Terminals	IS 616 (Clause 15)	0.1 A to 50 A, 0.01 V to 9.99V , 0.001 mm to 25 mm
		External flexible cords	IS 616 (Clause 16.1, Clause 16.2, Clause 16.4, Clause 16.5, Clause 16.6, Clause 16.7)	Qualitative 0.001 mm to 25 mm , 0.01 mm to 200 mm , 40 N
		Electrical connections and mechanical fixings	IS 616 (Clause 17)	Qualitative, 0.1 Nm to 5 Nm , 1 N to 500N , 0.01 mm to 200 mm
		Stability and mechanical hazards	IS 616 (Clause 19)	Qualitative, 10 Degree, 1 N to 500 N, 0.01mm-200mm
3.	Uninterruptible Power Systems (UPS). (Only for Single phase UPS)	Power interface	IS 16242 (Part 1) (Clause 4.6)	1 mW to 10 kW, 1 mA to 45 A, 1 V to 600 V
		Marking and Instruction	IS 16242 (Part 1) (Clause 4.7)	Qualitative
		Protection against electric shock and energy hazards	IS 16242 (Part 1) (Clause 5.1)	Qualitative, 0.001 V to 600 V (AC/DC), 1 VA to 4600 VA
		Requirements for auxiliary circuits	IS 16242 (Part 1) (Clause 5.2)	Qualitative, 0.001 V to 600V (AC/DC), 1 μ A to 90 mA
		Protective earthing and bonding	IS 16242 (Part 1) (Clause 5.3)	0.01 A to 50 A, 0.01 V to 12 V
		AC and DC power separation	IS 16242 (Part 1) (Clause 5.4)	Qualitative
		Overcurrent and earth fault protection	IS 16242 (Part 1) (Clause 5.5)	Qualitative

Laboratory Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-5433

Page 10 of 12

Validity 07.11.2018 to 06.11.2020

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection of personnel-safety interlocks	IS 16242 (Part1) (Clause 5.6 /RD (Clause 2.8.1, Clause 2.8.2, Clause 2.8.3, Clause 2.8.4, Clause 2.8.6, Clause 2.8.8)	Qualitative
		Clearances, creepage distances and distances through insulation	IS 16242 (Part1) (Clause 5.7/ RD(Claue 2.10.1, Clause 2.10.2, Clause 2.10.3, Clause 2.10.4, Clause 2.10.5.1, Clause 2.10.5.2, Clause 2.10.5.3, Clause 2.10.5.5 to Clause 2.10.12)	Qualitative , 0.01 mm to 150 mm, Impulse 1.2/50µs & 10/700µs , 0.1 kV AC to 10 kV AC, Temperature (0 to 85) °C, 1 N to 500 N
		Wiring, connections and supply	IS 16242 (Part1) (Clause 6 / RD (Clause 3.1, Clause 3.2.1 to Clause 3.2.4, Clause 3.2.5.2, Clause 3.2.6 to Clause 3.5.4)	1 N to 500 N, 0.001 mm to 25 mm, 0.01 mm to 200 mm, Temperature 0 to 500 °C
		Enclosure	IS 16242 (Part1) (Clause 7.1)	Qualitative
		Stability	IS 16242 (Part1) (Clause 7.2)	Qualitative, 1 N to 800 N
		Mechanical strength	IS 16242 (Part1) (Clause 7.3 RD/ (Clause 4.2.1 to Clause 4.2.7, Clause 4.2.9, Clause 4.2.10.)	Qualitative, 1 N to 500 N 0.1 kV AC to 10 kV AC, Temperature 0 to 80 °C
		Verification of Construction details	IS 16242 (Part1) (Clause 7.4 RD/ (Clause 4.3.1 to Clause 4.3.7, Clause 4.3.9, Clause 4.3.11)	Qualitative, 1 N to 500 N, 0.1 kV AC to 10 kV AC, Temperature 0 to 80 °C
		Resistance to fire	IS 16242 (Part 1) (Clause 7.5 /RD (Clause 4.7.3.1)	Qualitative (0 to 960) °C

Laboratory **Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5433**

Page 11 of 12

Validity **07.11.2018 to 06.11.2020**

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Battery location	IS 16242 (Part 1) (Clause 7.6.1 to Clause 7.6.6, Clause 7.6.8)	Qualitative
		Temperature rise	IS 16242 (Part 1) (Clause 7.7)	Temperature measurement 0 to 500 °C, Temperature 0 to 200 °C
		General provisions for earth leakage	IS16242 (Part 1) (Clause 8.1)	Qualitative , 1 µA to 30 mA, 1 µA to 90 mA Peak, 0.001 V to 600 V
		Electric strength	IS16242 (Part 1) (Clause 8.2)	Qualitative , 0.1 kV AC to 10 kV AC,
		Abnormal operating and fault conditions	IS16242 (Part 1) (Clause 8.3)	Qualitative , Temperature (0 to 500) °C
		Connection to telecommunication networks	IS16242 (Part 1) (Clause 9)	Qualitative , 5 mA to 20 A, 0.001 V to 600 V, 0.1 kV to 10 kV AC, 1 to 10 ⁴ MΩ
II.	ELECTRONIC COMPONENTS & EQUIPMENT SUB ASSEMBLIES			
1.	Mobile Phone Handsets	Inputting of text given Tests and Message readability	IS 16333 (Part 3) (Clause 5)	Qualitative
		Verification of Marking	IS 16333 (Part 3) (Clause 6)	Qualitative
III.	ENVIRONMENTAL TEST FACILITY			
1.	All Electrical, Electronic Product	Degree of Protection Protection against solid foreign objects indicated by first characteristic numeral	IS/IEC 60529 (Clause 13 / Cl 5.2)	Qualitative (IP1X/2X/3X/4X/5X/6X)

Laboratory **Accurate Test Solutions, F-21, Sector-11, Noida, Uttar Pradesh**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5433**

Page 12 of 12

Validity **07.11.2018 to 06.11.2020**

Last Amended on

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		protection against water indicated by second characteristic numeral	IS/IEC 60529 (Clause 14 / Cl 6)	Qualitative (IPX1/X2/X3/X4/X5/X6/ X7)