



# National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



## SCOPE OF ACCREDITATION

Laboratory Name CENTRAL ELECTRONICS CENTRE, INDIAN INSTITUTE OF TECHNOLOGY MADRAS, SARDAR PATEL ROAD, ADYAR, CHENNAI, TAMIL NADU , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-6791 Page No. : 1 / 28

Validity 01/02/2019 to 31/01/2021 Last Amended on -

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
<b>Permanent Facility</b>					
1	ELECTRICAL- CELLS & BATTERIES	Lead Acid Batteries for Electric Road Vehicles	Capacity	IS 13514 Reaffirmed 2007 Clause 8.10: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
2	ELECTRICAL- CELLS & BATTERIES	Lead Acid Batteries for Electric Road Vehicles	Cycle Edurance	IS 13514 Reaffirmed 2007 Clause 8.13: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
3	ELECTRICAL- CELLS & BATTERIES	Lead Acid Batteries for Electric Road Vehicles	High Rate Discharge Performance	IS 13514 Reaffirmed 2007 Clause 8.12: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
4	ELECTRICAL- CELLS & BATTERIES	Lead Acid Batteries for Electric Road Vehicles	Retention	IS 13514 Reaffirmed 2007 Clause 8.11: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
5	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	High rate discharge at normal temperature	IS 1145 Reaffirmed 2014 Clause No:7.12: 1995	Others :Charging/ Discharging upto 300A DC Voltage upto 36V DC
6	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	Life Test	IS 1145 Reaffirmed 2014 Clause No:7.15: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC
7	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	Resistance to over charge	IS 1145 Reaffirmed 2014 Clause No:7.14: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC



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8	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	Retention of charge	IS 1145 Reaffirmed 2014 Clause No:7.13: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC
9	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	Storage Test	IS 1145 Reaffirmed 2014 Clause No:7.16/7.11: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC
10	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Cycles, Auto Rickshaws and similar Vehicles	Test for Capacity	IS 1145 Reaffirmed 2014 Clause No:7.10: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC
11	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Vehicles with light weight and high cranking performance	Life Cycle	IS 14257 Reaffirmed 2014 Clause No:9.3.7: 1995	Charging/ Discharging upto 300A DC Voltage upto 36V DC
12	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Vehicles with light weight and high cranking performance	Capacity five Hours	IS 14257 Reaffirmed 2014 Clause No:9.3.4: 1995	Charging/ Discharging upto 300A DC Voltage upto 36V DC
13	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Vehicles with light weight and high cranking performance	Capacity	IS 14257 Reaffirmed 2014 Clause No:9.3.6: 1995	Charging/ Discharging upto 300A DC Voltage upto 36V DC



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14	ELECTRICAL- CELLS & BATTERIES	Lead acid Storage Batteries for Motor Vehicles with light weight and high cranking performance	Over Charge Endurance	IS 14257 Reaffirmed 2014 Clause No:9.3.9: 1995	Charging/ Discharging upto 300A DC Voltage upto 36V DC
15	ELECTRICAL- CELLS & BATTERIES	Lead Acid Traction Bateriaes	Capacity	IS 5154 Reaffirmed 2008 Clause 7.10: 1980	Charging/ Discharging upto 300A DC Voltage upto 36V DC
16	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	Test for Capacity	IS 1651 Clause No:12.5: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC
17	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	A Loss of Capacity on Storage	IS 1651 Clause No:12.7: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC
18	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	Alternative Rate of Test Discharge	IS 1651 Clause No:12.6: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC
19	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	Ampere-Hour & Watt hour efficiency Test	IS 1651 Clause No:12.9: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC Efficiency: 50% to 100%
20	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	Endurance Test	IS 1651 Clause No:12.8: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC
21	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries, Lead Acid Types	Test for Voltage during Discharge	IS 1651 Clause No:12.10: 2013	Charging/ Discharging upto 300A DC Voltage upto 36V DC



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22	ELECTRICAL- CELLS & BATTERIES	Stationary Lead-Acid Batteries ( With Tubular Positive Plates ) In Monobloc Container	A Loss of Capacity on Storage	IS13369 Reaffirmed 2017 Clause No:11.6: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
23	ELECTRICAL- CELLS & BATTERIES	Stationary Lead-Acid Batteries ( With Tubular Positive Plates ) In Monobloc Container	Ampere-Hour & Watt hour efficiency Test	IS13369: Reaffirmed 2017 Clause No:11.8: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC Efficiency: 50% to 100%
24	ELECTRICAL- CELLS & BATTERIES	Stationary Lead-Acid Batteries ( With Tubular Positive Plates ) In Monobloc Container	Endurance Test	IS13369 Reaffirmed 2017 Clause No:11.7: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
25	ELECTRICAL- CELLS & BATTERIES	Stationary Lead-Acid Batteries ( With Tubular Positive Plates ) In Monobloc Container	Test for Capacity	IS13369 Reaffirmed 2017 Clause No:11.5: 1992	Charging/ Discharging upto 300A DC Voltage upto 36V DC
26	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Ampere-Hour efficiency	IS15549 Reaffirmed 2015 Clause No:12.4: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC Efficiency: 50% to 100%
27	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Capacity Test at other Discharge Rates	IS15549 Reaffirmed 2015 Clause No:12.3: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC
28	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Endurance life cycle Test	IS15549 Reaffirmed 2015 Clause No:12.10: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC
29	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Test for C1 Capacity	IS15549 Reaffirmed 2015 Clause No:12.2: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC



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30	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Test for C10 Capacity	IS15549 Reaffirmed 2015 Clause No:12.1: 2005	Charging/ Discharging upto300A DC Voltage upto 36V DC
31	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Test for Retention of Charge	IS15549 Reaffirmed 2015 Clause No:12.6: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC
32	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated Lead Acid Battery	Watt hour efficiency	IS15549 Reaffirmed 2015 Clause No:12.5: 2005	Charging/ Discharging upto 300A DC Voltage upto 36V DC Efficiency: 50% to 100%
33	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Lighting products	Lamp Power	LM79 (Clause No: 8): 2008	1 W to 500 W
34	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Lighting products	Colour Characteristic (Chromaticity co-ordinates and CCT)	LM 79 (Clause No: 12): 2008	2700 K to 6500 K
35	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Lighting products	Colour Rendering Index (CRI)	LM 79 (Clause No: 12): 2008	1 to 100
36	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Lighting products	Luminous efficacy	LM 79 (Clause No: 11): 2008	10 lm/W to 200 lm/W
37	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Lighting products	Luminous flux	LM 79 (Clause No: 9.1): 2008	Luminous flux(lumens) White: 0.4 – 700,000 Red: 0.06 – 178,000 Green: 0.12 – 430,000 Blue: 0.05 – 121,000
38	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	Colour, CCT	IS 16107 (Part 2/Sec 1) Clause No: 9.1 & 9.2: 2012	2700 K to 6500 K



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39	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	CRI	IS 16107 (Part 2/Sec 1) Clause No: 9.3: 2012	1 to 100
40	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	LED Luminaire Life	IS 16107 (Part 2/Sec 1) Clause No:10: 2012	Qualitative(Up to 6000 hours)
41	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	Luminaire Efficacy	IS 16107 (Part 2/Sec 1) Clause No: 8.3: 2012	10 lm/W to 200 lm/W
42	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	Luminous Flux	IS 16107 (Part 2/Sec 1) Clause No: 8.1: 2012	Luminous flux(lumens) White: 0.4 – 700,000
43	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Luminaire	Total Input Power	IS 16107 (Part 2/Sec 1) Clause No:7: 2012	1 W to 500 W
44	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	Harmonics	IS 16107 (Part 2/Sec 2) Clause No:13: 2017	1 % Thd to 50 % Thd
45	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	LED Luminaire Life	IS 16107 (Part 2/Sec 2) Clause No:10: 2017	Qualitative(Up to 6000 hours)
46	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	Power Factor	IS 16107 (Part 2/Sec 2) Clause No:12: 2017	0.1 to 1
47	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	Reverse Polarity	S 16107 (Part 2/Sec 2) Clause No:15: 2017	Qualitative
48	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	Surge Protection	IS 16107 (Part 2/Sec 2) Clause No:14: 2017	Qualitative(1.2µs/50µs Surge)



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49	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	LED Street Lighting Luminaire	Total Input Power	IS 16107 (Part 2/Sec 2) Clause No:7: 2017	1 W to 500 W
50	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Colour, CCT, CRI	IS15111(PART-II) Reaffirmed 2017 (Clause No-11): 2002	CCT: (2700K – 6500K)CRI: (0-100)
51	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Harmonics	IS15111(PART-II) Reaffirmed 2017 (Clause No-14): 2002	Up to 40th order
52	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Lamp efficacy	IS15111(PART-II) Reaffirmed 2017 (Clause No-15): 2002	Power: up to 500W Luminous flux(lumens)White: 0.4-700,000 lm
53	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Lamp wattage	IS15111(PART-II) Reaffirmed 2017 (Clause No-9): 2002	1 W to 500 W
54	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Life	IS15111(PART-II) Reaffirmed 2017 (Clause No-13): 2002	Qualitative(Up to 6000 hours)
55	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Lumen maintenance test	IS15111(PART-II) Reaffirmed 2017 (Clause No-12): 2002	0.4 lm to 700000 lm
56	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Luminous flux	IS15111(PART-II) Reaffirmed 2017 (Clause No-10): 2002	0.4 lm to 700000 lm
57	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted Lamps for General Lighting Services	Starting and run up time	IS15111(PART-II) Reaffirmed 2017 (Clause No-8): 2002	1 s to 12 h



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58	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Colour Rendering Index (CRI)	IS 16102 part -2 (Clause No:10.2) : 2017	1 to 100
59	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Colour Variation Categories(Chromaticity co-ordinates and CCT)	IS 16102 part -2 (Clause No:10.1) : 2017	2700 K to 6500 K
60	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Harmonics	IS 16102 part -2 (Clause No: 8.3): 2017	1 % Thd to 50 % Thd
61	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Lamp Life(Lumen Maintenance & Endurance Tests)	IS 16102 part -2 (Clause No:11): 2017	Luminous flux(lumens)White: 0.4 – 700,000Red: 0.06 – 178,000Green: 0.12 – 430,000Blue: 0.05 – 121,000
62	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Lamp Power	IS 16102 part -2 (Clause No: 8.1): 2017	1 W to 500 W
63	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Luminous flux	IS 16102 part -2 (Clause No: 9.1): 2017	Luminous flux(lumens)White: 0.4 – 700,000Red: 0.06 – 178,000Green: 0.12 – 430,000Blue: 0.05 – 121,000
64	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Marking & Dimension	IS 16102 part -2 (Clause No: 5 & 6): 2017	Qualitative(1cm - 100cm)
65	ELECTRICAL- LAMPS, LUMINARIES & ACCESSORIES	Self Ballasted LED Lamps for General Lighting Services	Power Factor	IS 16102 part -2 (Clause No: 8.2): 2017	0.1 to 1





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66	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Automatic Line Voltage Corrector (step type) (Up to 5KVA)	Damp heat test	IS – 8448 Reaffirmed 2013 (Clause No – 12.9): 1989	Qualitative(Temperature: Ambient - 75 deg CHumidity: 10% - 98%HV test: 0-5kV)
67	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Automatic Line Voltage Corrector (step type) (Up to 5KVA)	High Voltage test	IS – 8448 Reaffirmed 2013 (Clause No – 12.5): 1989	Qualitative(Voltage AC & DC0.5kV – 5kV)
68	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Automatic Line Voltage Corrector (step type) (Up to 5KVA)	Insulation ResistanceTest	IS – 8448 Reaffirmed 2013 (Clause No-12.4): 1989: 1989	100 M ohm to 1000 M ohm
69	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Automatic Line Voltage Corrector (step type) (Up to 5KVA)	No Load Current	IS – 8448 Reaffirmed 2013 (Clause No – 12.6): 1989	0.1 A to 3 A
70	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Automatic Line Voltage Corrector(step type)(Up to 5KVA)	Output Voltage Test	IS – 8448 Reaffirmed 2013 (Clause No-12.3): 1989	100 V to 300 V
71	ELECTRICAL- POWER SUPPLIES & STABILIZERS	DC output from AC or DC source	Insulation ResistanceTest	IS – 7204 (Part IV) Reaffirmed 2016 (Clause No -26): 1980	100 M ohm to 1000 M ohm
72	ELECTRICAL- POWER SUPPLIES & STABILIZERS	DC output from AC or DC source	Insulation Test Voltage	IS – 7204 (Part IV) Reaffirmed 2016 (Clause No – 27): 1980	Qualitative(Voltage AC & DC0.5kV – 5KV)
73	ELECTRICAL- POWER SUPPLIES & STABILIZERS	DC output from AC or DC source	Load Effect	IS – 7204 (Part IV) Reaffirmed 2016 (Clause No.-7): 1980	0.5 mV to 100 mV
74	ELECTRICAL- POWER SUPPLIES & STABILIZERS	DC output from AC or DC source	Source Effect	IS – 7204 (Part IV) Reaffirmed 2016 (Clause No.-8): 1980	0.5 mV to 100 mV



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75	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Climatic test	IS-13314 Reaffirmed 2018 Clause No:7.10: 1992	Qualitative(Temperature:-10 deg C to + 75deg CHumidity: 10% - 98%)
76	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Harmonic contents	IS-13314 Reaffirmed 2018 Clause No:7.11: 1992	0.1 % Thd to 60 % Thd
77	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	High Voltage test	IS-13314 Reaffirmed 2018 Clause No:7.6: 1992	Qualitative(Voltage AC & DC0.5kV – 5kV)
78	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Insulation ResistanceTest	IS-13314 Reaffirmed 2018 Clause No:7.7: 1992	100 M ohm to 1000 M ohm
79	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	No load test(1) No load DC current	IS-13314 Reaffirmed 2018 Clause No: 7.8.1: 1992	0.1 A to 40 A
80	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	No load test(2) Output voltage	IS-13314 Reaffirmed 2018 Clause No: 7.8.2: 1992	100 V to 300 V
81	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Output Test(1)Voltage regulation	IS-13314 Reaffirmed 2018 Clause No: 7.9.1: 1992	AC/ DC voltage:1V – 300 V AC PowerUp to 7500W
82	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Output Test(2) Frequency	IS-13314 Reaffirmed 2018 Clause No: 7.9.2: 1992	10 Hz to 400 Hz
83	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Output Test(3) Efficiency	IS-13314 Reaffirmed 2018 Clause No: 7.9.3: 1992	AC/ DC Voltage:1V – 300 VAC PowerUp to 7500WEfficiency50% - 100%



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84	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Output Test(4) Overload	IS-13314 Reaffirmed 2018 Clause No: 7.9.4: 1992	Qualitative(AC PowerUp to 7500W)
85	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Inverters run from storage batteries	Visual Inspection	IS-13314 Reaffirmed 2018 Clause No:7.5: 1992	Qualitative
86	ELECTRICAL- POWER SUPPLIES & STABILIZERS	PV Inverter	Efficiency	IS/IEC 61683 Reaffirmed 2015: 1999	AC PowerUp to 7500W Efficiency:50% - 100%
87	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	Damp heat test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.15): 1994	Qualitative(Temperature: Ambient - 75 deg C Humidity: 10% - 98% HV test: 0-5kV )
88	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	High Voltage Test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.5): 1994	Qualitative(Voltage AC & DC 0.5kV – 5kV )
89	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	Insulation Resistance Test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.4): 1994	100 M ohm to 1000 M ohm
90	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	No Load Current Test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.7): 1994	0.1 A to 3 A
91	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	No Load loss Test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.8): 1994	0.1 W to 500 W



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92	ELECTRICAL- POWER SUPPLIES & STABILIZERS	Servo Motor Operated Automatic Line Voltage Corrector	Output Voltage Test	IS – 9815 (Part I) Reaffirmed 2014 (Clause No – 11.6): 1994	100 V to 300 V
93	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility (1) Steady state input voltage tolerance test	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.1: 2014	100 V to 300 V
94	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility (2) Input frequency tolerance	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.2: 2014	100 V to 300 V
95	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility (3) Inrush current	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.3: 2014	1 A to 40 A
96	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility (4) Harmonic distortion of input current	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.4: 2014	0.1 % to 60 %
97	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility(5) Power factor	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.5: 2014	0.1 to 1
98	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Input – a.c. supply compatibility(6) Efficiency	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.1.6: 2014	50 % to 100 %
99	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Operation	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.5.4: 2014	Qualitative(Temperature: -65 deg to +90 degHumidity: 90% Rh to 97% Rh)
100	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(1) output normal mode-no load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.1: 2014	Voltage: 100V to 300VTHD: 0.1% to 10%



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101	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(3) output stored energy mode-no load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.3: 2014	Voltage AC/DC100 –300 VAC PowerUp to 7500W Frequency10Hz – 400Hz THD: 0.1% to 10%
102	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(4) output stored energy mode-full load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.4: 2014	Voltage AC/DC 100 –300 V AC Power Up to 7500W Frequency 10Hz – 400Hz THD: 0.1% to 10%
103	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(6) DC component	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.6: 2014	0.1 V to 100 V
104	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(7) Periodic output voltage variation test	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.9: 2014	100 V to 300 V
105	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Non-linear load (2) Stored energy mode – Full load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.3.2: 2014	THD: 0.1% to 10%
106	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Non-linear load(1) Normal mode – Full load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.3.1: 2014	THD: 0.1% to 10%
107	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Overload and fault clearing capability	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.10: 2014	Qualitative(AC PowerUp to 7500W Time 5 Sec- 500 Sec)
108	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Storage	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.5.3: 2014	Qualitative(Temperature: -65 deg to +90 deg Humidity: 90% Rh to 97% Rh)



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109	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Stored and restored energy time test	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.4: 2014	1 s to 12 h
110	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS (Single Phase)	Output – Linear load(2) output normal mode-full load	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 6.4.2.2: 2014	Voltage AC/DC100 –300 VAC PowerUp to 7500WTHD: 0.1% to 10%
111	ELECTRICAL- POWER SUPPLIES & STABILIZERS	UPS(Single Phase)	UPS input specification	IEC 62040-3 : 2011 IS 16242 (Part 3) Clause No 5.2: 2014	Qualitative(Normal mode operation)
112	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Change of Temperature	IEC 60068-2-14:2009 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333: 2010 IS 9000: (Part 14) Reaffirmed:2015: 1988	Qualitative(800x800x950 mm (-)70 °C to 180 °C 540x540x760mm)
113	ELECTRONICS- ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Cold ( Low Temperature)	IEC 60068-2-1:2007 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333:2010 IS 9000 (Part II/Sec 1 to 4):Reaffirmed 2013: 1977	Qualitative(800x800x950 mm - 65 °C to Ambient)



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114	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Composite Temperature Humidity	IEC60068-2-38:2009 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 IS 9000 (Part VI) Reaffirmed 2016: 1978	Qualitative(800x800x95 0 mm (-)10 °C to 65 °C 70 %RH to 95 % RH )
115	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Damp Heat Cyclic	IEC 60068-2-30:2005 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333: 2010 IS 9000 (Part V) Reaffirmed 2016: 1981	Qualitative(Qualitative 800x800x950 mm 25 °C to 85 °C 25 %RH to 95 %RH)
116	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Damp Heat Steady State	IEC60068-2-78:2012 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333 MARCH 2010 IS 9000 (Part IV) Reaffirmed 2015: 2008	Qualitative(800x800x95 0 mm 25 °C to 85 °C with 25 %RH to 95 %RH )
117	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Dry Heat (High Temperature)	IEC 60068-2-2:2007 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333: 2010 IS 9000: (Part III/ Sec 1 to 5) Reaffirmed 2016: 1977	Qualitative(800x800x95 0 mm Ambient to 180 °C540x540x760mm Ambient to 300 °C )



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118	ELECTRONICS-ENVIRONMENTAL TEST FACILITY	Electrical & Electronic Products and components	Vibration	IEC 60068-2-6 :2007 IEC 60068-2-64 :2008 IEC 61373:2010 JSS 55555 : 2012 JSS 50101: 1996 (Revision No. 1) Reaffirmed 2001 QM-333: 2010 IS 9000:Part VIII) Reaffirmed 2016: 1981	Qualitative(1 Hz to 2 kHz displacement up to 40 mm at10 m/sec <sup>2</sup> to 700 m/sec <sup>2</sup> Force : upto690kgf )
119	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Clearances, creepage distances and distances through insulation	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.10: 2010	Withstanding voltage: 100V to 5000V Surge: 1.2/50µs and 10/700µs Force: up to 500N Temperature: 0°C to 180°C Distance: 0.1mm to 200 mm
120	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Mechanical strength- Steady force test- Impact test-Drop test- Stress relief test-Wall or ceiling mounted equipment	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.2: 2010	Qualitative(Force: up to 500N)





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121	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 6.1: 2010	0.01 mA to 20 mA
122	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Provisions for earthing and bonding	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.6: 2010	Current: 0.1A to 300A Voltage: 0.1V to 40V Resistance: 1 m ohm to 1 ohm
123	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Limited power sources	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.5: 2010	Current: 0.1A to 40A Voltage: 0.1V to 300V Apparent Power: 1VA to 500VA



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124	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Constructional Requirements with regard to protection against electric shock	IEC-60065: 2014 IS-616 Clauses 8: 2017	Temperature: 25 °C to 300 °C Humidity: 25 %RH to 95 %RH Force: up to 500N Vibration amplitude: up to 40mm Vibration frequency: 10Hz to 2000Hz Distance: 0.1mm to 200 mm
125	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Creepage distances and Clearance	IEC-60065: 2014 IS-616 Clause No: 13: 2017	Surge: 1.2/50µs and 10/700µs Force: up to 500N Temperature: 0°C to 180°C Distance: 0.1mm to 200 mm
126	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Electric Shock hazard under normal operating conditions	IEC-60065: 2014 IS-616 Clauses 9.1 & 9.2: 2017	Force: up to 500N Touch current: 0.02mA to 20mA
127	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Fault condition - Electrical shock hazard	IEC-60065: 2014 IS-616 Clause No: 11.1: 2017	Force: up to 500N Touch current: 0.02mA to 20mA
128	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Fault condition - Heating	IEC-60065: 2014 IS-616 Clause No: 11.2: 2017	Temperature: Ambient to 400 °C
129	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Hazardous radiations- Ionizing radiation	IEC-60065:2014 IS-616 Clause 6.1: 2017	1 µSv/h to 1 Sv/h
130	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Heat resistance of Insulating Material	IEC-60065: 2014 IS-616 Clauses 7.2: 2017	0.01 mm to 10 mm



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
131	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Heating under normal operating condition-General	IEC-60065: 2014 IS-616 Clauses 7.1: 2017	5 °C to 400 °C 1m ohm to 20 k ohm
132	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Insulation Requirements - Surge test -Humidity treatment- Insulation Resistance and dielectric Strength	IEC-60065: 2014 IS-616 Clause 10: 2017	Surge: up to 10kV Temperature: 25 °C to 80 °C Humidity: 25 %RH to 95 %RH Insulation Resistance: 100M ohm to 1000M ohm
133	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Mechanical Strength-Bump test-Vibration test-Impact test-Drop test-Stress relief test-Torque test-Crush test	IEC-60065: 2014 IS-616 Clause No: 12: 2017	Qualitative(Force: up to 500N Vibration amplitude: up to 40mm Vibration frequency: 10Hz to 2000Hz Temperature: 25 °C to 300 °C)
134	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Normal operating conditions	IEC-60065:2014 IS-616 Clause 4.2: 2017	1V – 300V 0.1A - 40A 1W - 5000W
135	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Resistance to fire	IEC-60065: 2014 IS-616 Clause No: 20: 2017	1 s to 30 s
136	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Stability requirements	IEC-60065: 2014 IS-616 Clause 19.1 & 19.2: 2017	Upto 500 N
137	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Terminals-Plugs and sockets-Provisions for protective earthing- Devices forming a part of the MAINS plug	IEC-60065: 2014 IS-616 Clause No: 15: 2017	Force: Up to 500N Current: Up to 50A Voltage: up to 25V Resistance: 1m ohm to 1 ohm



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138	ELECTRONICS-SAFETY TESTING FACILITY	Electronics Audio, Video Appliances & Components	Verification of Marking & Instruction requirements	IEC-60065:2014 IS-616 Clause 5: 2017	Qualitative(Visual)
139	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Abnormal operating and fault conditions	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 5.3: 2010	Withstanding voltage: 100V to 5000V Temperature: 25°C to 400°C
140	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Connection to Cable distribution systems - Impulse test	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 7.4.3: 2010	Qualitative(10/700µs Surge)
141	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Connection to cable distribution systems - Voltage Surge Test	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 7.4.2: 2010	Qualitative(10kV Voltage surge)



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142	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Electrical insulation	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.9: 2010	Qualitative(Temperature: 25 °C to 80 °C Humidity: 25 %RH to 95 %RH Withstanding voltage: 100V to 5000V)
143	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Electrical strength	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 5.2: 2010	Qualitative
144	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Limited current circuits	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.4: 2010	0.01 mA to 20 mA



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145	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Openings in enclosures	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.6: 2010	Qualitative
146	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Over currents and earth fault protection in primary circuits	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.7: 2010	Qualitative
147	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Power interface	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 1.6.2: 2010	0.1 A to 40 A



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
148	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Protection against hazardous moving parts	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.4: 2010	Qualitative
149	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Protection from electric shock and energy hazards	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.1: 2010	Force: up to 50N Voltage: 0.1V to 300V Time: 1µs to 60s Power: up to 500VA
150	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Protection of equipment users from overvoltages on telecommunication networks	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 6.2: 2010	Withstanding voltage: 100V to 10kV Impulse: 10µs/700µs Insulation Resistance: 100M ohm to 100M ohm



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
151	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Resistance to fire	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.7: 2010	1 s to 30 s
152	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	SELV circuits	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.2: 2010	0.1 V to 300 V
153	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Stability	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.1: 2010	Upto 500 N





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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
154	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Thermal requirement- Temperature raise test- Ball pressure test	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 4.5: 2010	5 °C to 300 °C
155	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	TNV circuits	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 2.3: 2010	0.1 V to 1500 V
156	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Touch and protective conductor current	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 5.1: 2010	0.02 mA to 20 mA



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157	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Verification of Marking and Instructions	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No:1.7: 2010	Qualitative
158	ELECTRONICS-SAFETY TESTING FACILITY	Information Technology Equipment (Computer Systems, Monitors, Printers, Scanners, Keyboards, Telephones & Automatic Data Processing Machine, Telecom equipments)	Wiring, connections and supply-Cord guards	IEC 60950-1:2005 +A1:2009+A2:2013 IS 13252(part1): 2010+A1:2013+A2:2015 Clause No: 3.2.8: 2010	1 mm to 200 mm
159	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Abnormal operating and fault conditions	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:8.3: 2014	Withstanding voltage: 100V to 5000V Temperature: 5°C to 300°C
160	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Connection to telecommunication networks	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 9: 2014	0.02 mA to 20 mA
161	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Electric strength	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:8.2: 2014	Qualitative(AC/DC: up to 10kV)
162	ELECTRONICS-SAFETY TESTING FACILITY	UPS	General provisions for earth leakage	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:8.1: 2014	0.02 mA to 20 mA



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163	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Limited current circuits	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:5.2.3: 2014	0.01 mA to 20 mA
164	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Limited power source	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:5.2.5: 2014	Current: 0.1A to 40A Voltage: 0.1V to 300V Apparent Power: 1VA to 500VA
165	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Mechanical strength	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 7.3: 2014	Qualitative
166	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Over current and earth fault protection	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:5.5: 2014	Qualitative
167	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Protection against electric shock and energy hazards	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 5.1: 2014	Force: up to 50N Voltage: 0.1V to 300V Time: 1µs to 50s
168	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Protective earthing and bonding	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 5.3: 2014	Current: 0.1A to 300A Voltage: 0.1V to 40V Resistance: 1 m ohm to 1 ohm
169	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Resistance to fire	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 7.5: 2014	1 s to 30 s
170	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Safety extra low voltage circuits – SELV	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 5.2.1: 2014	0.1 V to 300 V
171	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Stability	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 7.2: 2014	Upto 500 N



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172	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Telephone network voltage circuits – TNV	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:5.2.2: 2014	0.1 V to 1500 V
173	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Temperature rise	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No:7.7 : 2014	5 °C to 300 °C
174	ELECTRONICS-SAFETY TESTING FACILITY	UPS	Verification of Markings and instructions	IEC 62040-1 : 2008 IS 16242 (Part 1) Clause No: 4.7 : 2014	Qualitative