Laboratory	**Conformity Testing Labs Private Limited, Unit-2, A-33, Mayapuri Industrial Area, Phase-1, New Delhi**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-5409** **Page 1 of 87**
Validity	**31.03.2017 to 30.03.2019** **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, LUMINAIRES AND ACCESSORIES**			
1.	**Self-ballasted LED Lamps for General Lighting Services - Performance Requirements**	Verification of Marking	IS 16102 (Part 2):2012 +A1:2013+ A2:2014 (Cl.5) IEC 62612: 2011	Qualitative
		Dimensions	IS 16102 (Part 2):2012 +A1:2013+ A2:2014 (Cl.6) IEC 62612: 2011	0.01 mm to 150 mm
		Lamp Power	IS 16102 (Part 2):2012 +A1:2013+ A2: 2014 (Cl.8)/IEC 62612: 2011	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.000 1W to 3000W
		Luminous Flux	IS 16102 (Part 2):2012 +A1:2013+ A2:2014/IEC 62612 (Cl.9) / IEC 62612: 2011	Upto 37000 lm
		Centre Beam Intensity	IS 16102 (Part 2):2012 +A1:2013+ A2:2014 (Cl.10) / IEC 62612: 2011	0 to 37000 lx At d = 16m
		Beam Angle	IS 16102 (Part 2):2012 +A1:2013+ A2:2014 (Cl.11) /IEC 62612: 2011	Upto 360˚
		Color nomenclature, Variation and Rendering	IS 16102 (Part 2):2012+A1:2013+ A2:2014 (Cl 12) /IEC 62612: 2011	Upto 10000 K Ra: Upto 100
		Lumen Maintenance	IS 16102 (Part 2):2012 +A1:2013+ A2 :2014 (Cl.13.1) / IEC 62612 : 2011 / IES LM 80-08/IS 16105 : 2012	Upto 37000 lm
		Endurance Test for Built in Ballast	IS 16102 (Part 2): 2012 +A1:2013+ A2 :2014 (Cl.13.2) / IEC 62612: 2011	1 h to 9999 h

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Harmonics and Power Factor	IS 16102 (Part 2): 2012 +A1:2013+ A2 :2014 (Cl.15) / IEC 62612: 2011	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0 Harmonics: 1 to 50
		Marking	IS 16103 (Part 2) :2012 +A1:2014+ A2:2015 (Cl.4)/IEC 62717	Qualitative
		Dimensions	IS 16103 (Part 2):2012 +A1:2014+ A2:2015 (Cl.5) /IEC 62717	0.01 mm to 150 mm
		Module Power	IS 16103(Part 2):2012+A1:2014+ A2:2015 (Cl.7)/IEC 62717	Voltage: 0.5V to 300V Current : 0.005A to 40A Power: 0.0001W to 3000W
		Luminous Flux	IS 16103 (Part 2):2012 +A1:2014+ A2:2015 (Cl.8.1)/IEC 62717	Upto 37000 lm
		Luminous Intensity Distribution,Peak Intensity and Beam Angle	IS 16103 (Part 2):2012 +A1:2014+ A2:2015 (Cl.8.2)/IEC 62717	Upto 37000 lx at d = 16m Upto 360˚
		Chromaticity Co-ordinates, Correlated Colour Temperature and Colour Rendering Index	IS 16103 (Part 2):2012+A1:2014+ A2:2015 (Cl.9)/IEC 62717	Upto 10000 K Ra: Upto 100
		Lumen Maintenance	IS 16103 (Part 2):2012+A1:2014+ A2:2015 (Cl 10.2) / IEC 62717/IES LM 80-08/IS 16105 : 2012	Upto 37000 lm
		Endurance Tests	IS 16103 (Part 2):2012 +A1:2014+ A2: 2015 (Cl.10.3) / IEC 62717	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	**LED Luminaire - Performance Requirements**	Verification of Marking	IS 16107 (Part 2/Sec 1): 2012 (Cl.4) / IEC 62722-2-1	Qualitative
		Total Input Power	IS 16107 (Part 2/Sec 1): 2012 (Cl.7) / IEC 62722-2-1	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W
		Luminous Flux	IS 16107 (Part 2/Sec 1): 2012 (Cl.8.1) /IEC 62722-2-1	Upto 37000 lm
		Luminous Intensity Distribution, Peak Intensity and Beam Angle	IS 16107 (Part 2/Sec 1):2012 (Cl.8.2) / IEC 62722-2-1	Upto 37000 lx at d = 16m Upto 360˚
		Luminaire Efficacy	IS 16107 (Part 2/Sec 1):2012 (Cl 8.3) / IEC 62722-2-1	Upto 37000 lm Voltage: 15V to 600V Current : 5A to 20A
		Chromaticity Co-ordinates, Correlated Colour Temperature and Colour Rendering Index	IS 16107 (Part 2/Sec 1):2012 (Cl 9) / IEC 62722-2-1 (Cl 9)	Upto 10000 K Upto: 100
		Lumen Maintenance	IS 16107 (Part 2/Sec 1):2012 (Cl 10.2)/ IEC 62722-2-1 (Cl.10.2) / IES LM 80-08 / IS 16105 : 2012	Upto 37000 lm
		Endurance Tests	IS 16107 (Part 2/Sec 1):2012 (Cl.10.3) IEC 62722-2-1 (Cl.10.3)	Qualitative
3.	**Self-Ballasted Lamps for General lighting Services – Performance Requirements**	Dimension	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+ A4:2004+A5:2005 +A6:2008+A7:2009+A8 :2012/(Cl.6)/IEC 60969	0.01 mm to 150 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Starting and Run Up	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl.8)/IEC 60969	Upto 99 min & 99 sec 0.1 lx to 37000 lx
		Lamp Wattage	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl. 9) / IEC 60969	Voltage:0.5V to 300V Current :0.005A to 40A Power: 0.0001W to 3000W
		Luminous Flux	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ Cl. 10) / IEC 60969	0.1 to 37000 lx (380 nm to 780 nm)
		Color	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl.11) / IEC 60969	Upto 10000 K
		Lumen Maintenance	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl.12) / IEC 60969	0.1 lx to 37000 l x
		Life	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl.13) / IEC 60969	Qualitative
		Harmonics	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl. 14) / IEC 60969	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lamp Efficacy	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl. 15) / IEC 60969	0.1 lx to 37000 lx
				Voltage: 0.5V to 300V Current : 0.005A to 40A Power: 0.0001W to 3000W
		Power Factor	IS 15111 (Part 2):2002 +A1:2003+A2:2003+A3:2003+A4:2004+A5:2005+A6:2008+A7:2009+A8:2012/ (Cl. 16) / IEC 60969	Voltage: 0.5V to 300V Current : 0.005A to 40A Power factor : ±1.0
4.	**D.C. Or A.C. Supplied Electronic Control Gear For Led Modules — Performance Requirements**	Verification of Marking	IS 16104 : 2012 (Cl. 6)/IEC 62384	Qualitative
		Output Voltage and Current	IS 16104 : 2012 (Cl. 7)/ IEC 62384	Voltage: 20 V to 300 V Current: 5.00 mA to 30 A Power:1 W to 6 kW
		Total Circuit Power	IS 16104 : 2012 (Cl. 8)/ IEC 62384	Voltage:20.0 to 300.0 V Curent:5.00mA to 30A Power:1 W to 6 kW
		Circuit Power Factor	IS 16104 : 2012 (Cl. 9)/ IEC 62384	20.0 V to 300.0 V 5.00mA to 30A 1.000W to 6.000 kW Power factor:±1
		Supply Current	IS 16104 : 2012 (Cl. 10)/ IEC 62384	20.0 V to 300.0 V 5.00mA to 30A 1.000W to 6.000 kW
		Impedance at Audio Frequencies	IS 16104 : 2012 (Cl. 11)/ IEC 62384	BandWidth:100MHz Voltage: 20mV to 100V Time: 2ns to 100s
		Operational Tests for Abnormal Condition	IS 16104 : 2012 (Cl. 12)/ IEC 62384	0.001 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
				Time: 59 Min 59 sec

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Endurance	IS 16104 : 2012 (Cl. 13)/ IEC 62384	Chamber: (-) 40 °C to 100°C 0.001 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
5.	**Self Ballasted Lamps for General Lighting Services to Safety Requirements**	Verification of Marking	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010, A5:2014(Cl.6)/IEC 60968, Ed 3.0 (2015)(Cl.6)	Qualitative
		Interchangeability	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.7)/IEC 60968, Ed 3.0 (2015) (Cl.7)	Qualitative
		Protection against Accidental contact with live parts	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.8)/IEC 60968, Ed 3.0 (2015) (Cl.8)	2.5 N to 300 N 0.001 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Insulation treatment And Electric Strength After Humidity treatment	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.9)/ IEC 60968, Ed 3.0 (2015) (Cl.9)	20°C to 50°C 10 % to 99% 0.01 MΩ to 10 GΩ Upto 500V DC 0.1 kV to 5 kV~ 0.1 mA to 100 mA
		Mechanical Strength	IS 15111 (Part 1):2002+ A1:2003+A2:2007+A3 :2008 +A4:2010 +A5:2014 (Cl.10)/ IEC 60968, Ed 3.0 (2015) (Cl.10)	0.75 Nm to 4 Nm
		Cap temperature rise	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007+A3 :2008 +A4:2010 +A5 :2014 (Cl.11) / IEC 60968, Ed 3.0 (2015) (Cl.11)	Ambient to 199.9˚C 0.01 to 10 hr Upto 250V AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Heat	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.12) / IEC 60968, Ed 3.0 (2015) (Cl.12)	Ø 5mm, 20N
				Temp: Amb. to 250°C
				0.01 mm to 150mm
		Resistance to flame and ignition	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.13) / IEC 60968, Ed 3.0 (2015) (Cl.13)	550°C to 960°C
				Time: 1mSec to 1min
				0.01mm to 150mm
		Fault conditions	IS 15111 (Part 1):2002+ A1: 2003 +A2:2007 +A3:2008 +A4:2010 +A5:2014 (Cl.14) / IEC 60968, Ed 3.0 (2015) (Cl.14)	Voltage:20.0V to 300.0 V Curent:5.00mA to 30A Power:1.000 W to 6.000 kW
				1msec to 99 min 99 sec
				Force: 2.5N to 300N
				0.01MΩ to 10GΩ 50V to 1000V DC
				Ambient to 199.9˚C
		Marking	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.5)/IEC 62560:2011(Cl.5)	Qualitative
		Interchangeability	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.6.1) / IEC 62560 : 2011 (Cl.6)	Qualitative
		Bending Moment, Axial Pull and Mass	IS 16102 (Part 1):2012 (Cl.6.2)/IEC 62560:2011 (Cl.6.2)	0.75Nm to 3Nm 0.5 kg to 5 kg Upto 49N
		Protection against Accidental contact with live parts	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.7)/IEC 62560:2011 (Cl.7)	Force: 2.5N to 300N
				0.001V to 600V DC 0.06V to 600V AC 0.001A to 10A DC 0.1 A to 10 A AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation treatment And Electric Strength After Humidity treatment	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.8) / IEC 62560 : 2011 (Cl.8)	Temp: Upto 50°C RH:10% to 99%
				50 V to 1000V DC 0.01MΩ to 10GΩ
				0.01 to 5kV~ 0.1mA to 100mA
		Mechanical strength	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.9)/IEC 62560 : 2011	0.75 Nm to 4 Nm
		Cap temperature rise	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.10)/IEC 62560 : 2011	Ambient to 199.9˚C
		Resistance to Heat	IS 16102 (Part 1):2012+ A1:2015+A2:2015 (Cl.11) /IEC 62560: 2011	Ø 5mm, 20N
				Amb. to 250°C
				0.01mm to 150mm
		Resistance to flame and ignition	IS 16102 (Part 1):2012 +A1:2015+A2:2015 (Cl.12)/IEC 62560: 2011	550°C to 960°C
				1msec to 99min99sec
				0.01mm to 150mm
		Fault conditions	IS 16102 (Part 1):2012+ A1:2015+A2:2015 (Cl.13) IEC 62560 : 2011	20 V to 300 V 5 mA to 30A 1 W to 6 kW
				Ambient to 250˚C
				1msec to 99min 99s
				50V to 1000V DC, 0.01MΩ to 10GΩ
				0.01 to 150mm
		Creepage distances Clearances	IS 16102 (Part 1):2012+A1: 2015+A2:2015 (Cl.14) / IEC 62560: 2011	0.01mm to 150mm 50mV to 100 V
6.	**Self-ballasted LED Modules for General lighting Services - Safety Requirements**	Marking	IS 16103 (Part 1):2012 +A1:2014 (Cl.7) /IEC 62031	Qualitative
		Terminals	IS 16103 (Part 1):2012 (Cl.8)/IEC 62031	0.01mm to 150mm
				0.2Nm to 5Nm
				Force :2.5N to 300N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Provision for Protective Earthing	IS 16103 (Part 1):2012+A1:2014 (Cl.9) / IEC 62031	0.5A to 160A 0.05V to 12V
		Protection against Accidental Contact Against Live Parts	IS 16103 (Part 1):2012 +A1:2014 (Cl.10)/IEC 62031	Force: 2.5N to 300N
				0.001V to 600V DC 0.06V to 600V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
				0.01 mm to 150mm
		Moisture Resistance and Insulation	IS 16103 (Part 1):2012 +A1:2014 (Cl.11) /IEC 62031	20°C to 50°C RH:10 % to 99%
				50 V to 1000V DC 0.01MΩ to 10GΩ
		Electric Strength	IS 16103 (Part 1):2012+A1:2014 (Cl 12) / IEC 62031	0.01kV to 5kV AC 0.1 mA to 100mA
		Fault Condition	IS 16103 (Part 1):2012 +A1:2014 (Cl.13) / IEC 62031	Amb.to 250°C
				50 V to 1000VDC 0.01MΩ to 10GΩ
				0.001 to 600V DC 0.06V to 600V AC 0.001A to 10A DC 0.1A to 10A AC
				1msec to 99min99s
		Creepage Distances and Clearances	IS 16103 (Part 1):2012+ A1:2014 (Cl.16) / IEC 62031	0.01mm to 150mm
		Screws, current carrying parts and connections	IS 16103 (Part 1):2012+ A1:2014 (Cl.17)/IEC 62031	2.5N to 300N
				Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V Current DC:0.001A to 10A Current AC:0.1A to 10A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				0.001mm to 25mm
				1msec to 99min99s
		Resistance to Heat, Fire and Tracking	IS 16103 (Part 1):2012+A1:2014 (Cl.18) / IEC 62031	Ø 5mm, 20N
				Amb. To 400°C
				0.01mm to 150mm
				Burner Dia:9.5 mm Needle Dia:0.5 mm Time:1mSec to 99.99Min
				Qualitative Voltage: 10V to 500Vrms Current: 0.1A to 2.0Arms (Tracking Index)
		Resistance to Corrosion	IS 16103 (Part 1):2012 +A1 :2014 (Cl.19)/IEC 62031	Above amb. To 250°C
				1mSec to 99min 99sec
		Heat Management	IS 16103 (Part 1):2012+ A1:2014 (Cl.21)/IEC 62031	Qualitative
7.	**Safety of Lamp Control Gear**	Verification of Marking	IS 15885 (Part 1):2011+ A1:2015 (Cl.7)/ IEC 61347-1	Qualitative
		Terminals	IS 15885 (Part 1):2011+ A1:2015 (Cl.8)/ IEC 61347-1	0.01mm to150mm 0.2 Nm to 5Nm 2.5 N to 300 N 0.001 mm to 25mm 0.001 V to 600 V DC 0.06 V to 600 V AC
		Provision for Protective Earthing	IS 15885 (Part 1):2011 +A1:2015 (Cl. 9)/ IEC 61347-1	0.5 A to 160 A 0.05 V to 12 V 0.01mm to150mm 0.2 Nm to 5Nm 2.5 N to 300 N 0.001 mm to 25mm 0.001 V to 600 V DC 0.06 V to 600 V AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against Accidental Contact Against Live Parts	IS 15885 (Part 1):2011+ A1:2015 (Cl.10)/ IEC 61347-1	2.5 N to 300N 0.001 V to 600V DC 0.06 V to 600V AC 0.01 mm to 150mm 1 msec to 99 min 99 sec
		Moisture Resistance and Insulation	IS 15885 (Part 1):2011+ A1:2015 (Cl.11)/ IEC 61347-1	Upto 50°C, RH:10 % to 99%
				Upto 500V DC 0.01 MΩ to 10 GΩ
		Electric Strength	IS 15885 (Part 1):2011 +A1:2015 (Cl.12)/IEC 61347-1	0.01 kV to 5 kV~ Trip Current: 0.1mA to100mA
		Thermal Test for Windings of Ballast	IS 15885 (Part 1):2011+ A1:2015 (Cl.13)/ IEC 61347-1	Ambient to 150˚C
		Fault Condition	IS 15885 (Part 1):2011 +A1:2015 (Cl.14)/IEC 61347-1	0.1 °C to 400°C
				Upto 500V DC Resistance : 0.01 MΩ to 10 GΩ
				Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V 1msec to 99min 99s
		Construction	IS 15885 (Part 1):2011 (Cl.15)/ IEC 61347-1	Qualitative
		Creepage Distances and Clearances	IS 15885 (Part 1):2011 +A1:2015 (Cl. 16)/ IEC 61347-1	0.01 mm to150mm
		Screws, current carrying parts and connections	IS 15885 (Part 1):2011+A1:2015 (Cl. 17)/ IEC 61347-1	2.5 N to 300 N Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V 0.001 mm to 25mm Upto 99 min, 99 sec

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to Heat, Fire and Tracking	IS 15885 (Part 1):2011 +A1:2015 (Cl. 18)/ IEC 61347-1	Ø 5mm, 20N
				0.01 mm to 150mm
				Amb. to 250°C
				Burner Dia:9.5 mm Needle Dia:0.5 mm 1 msec to 99 min59s,
				Voltage: Upto 600Vrms Currnet: Upto 2.0Arms
		Resistance to Corrosion	IS 15885 (Part 1):2011+A1:2015 (Cl. 19)/ IEC 61347-1	Amb. To 100°C
				1 msec to 59 min 59s
8.	**Safety of Lamp Control Gears – d.c. or a.c. Supplied Electronic Controlgear for LED Modules**	Marking	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 7)	Qualitative
		Protection against Accidental Contact Against Live Parts	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 8)	Force: 2.5 N to 300N
				Voltage DC : 0.001 to 600V Voltage AC : 0.06 to 600V
				0.01mm to 150mm
				2 ns to 100 sec
		Terminals	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl.9)	0.01mm to150mm
				0.2 Nm to 5 Nm
				2.5 N to 300N
				0.001mm to 25mm
				Voltage DC : 0.001 V to 600V Voltage AC : 0.06 to 600V
				Amb. to 150°C
		Provision for Protective Earthing	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 10)	Current : 0.5 A to 160A Voltage : 0.05 V to 12V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Moisture Resistance and Insulation	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 11)	Upto 50°C, 10 % to 99% Upto 500V DC, Resistance : 0.01 MΩ to 10 GΩ
		Electric Strength	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 12)	0.01 kV to 5kV AC Upto 99s Trip Current : 0.1 mA to 100 mA
		Thermal Test for Windings of Ballast	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 13)	Ambient to 150˚C
		Fault Condition	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 14)	Upto 250°C Upto 500V DC Resistance : 0.01MΩ to 10GΩ Voltage DC : 0.001 V to 600V Voltage AC : 0.06 V to 600 V 1msec to 99 min99s
		Transformer Heating	IS 15885 (Part 2/Sec 13): 2012+A1:2015 / IEC 61347-2-13 (Cl. 15)	Voltage DC : 0.001 V to 600V Voltage AC : 0.06 V to 600V Amb. to 250°C
		Construction	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 16)	Qualitative
		Creepage Distances and Clearances	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 17)	0.01 mm to 150mm
		Screws, current carrying parts and connections	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13	Force: 2.5 N to 300N Voltage DC : 0.001 V to 600V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			(Cl. 18)	Voltage AC : 0.06 V to 600V
				0.001 mm to 25mm
				1 ms to 99min99sec
		Resistance to Heat, Fire and Tracking	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 19)	Ø 5mm, 20N
				1mSec to 99min99s
				0.01mm to 150mm
				Amb. to 250°C
				Burner Dia:9.5 mm Needle Dia:0.5 mm,
				Voltage: 10 V to 500Vrms Currnet: Upto 2.0Arms
		Resistance to Corrosion	IS 15885 (Part 2/Sec 13):2012+A1:2015 / IEC 61347-2-13 (Cl. 20)	Temp. : Amb. to 100°C
				1msec to 59 min 59s
9.	**Luminaires: General Requirements and Tests: Section 1: Fixed luminaires Section 2: Recessed luminaires Section 3: Luminaires for road and street lighting Section 4: Portable general purpose l luminaires Section 5: 2013**	Marking	IS 10322 (Part 1):2014 (Cl. 3.4) IEC 60598-1:2008, Ed 7.0 (Cl. 3.4)	Qualitative
		Construction	IS 10322 (Part 1): 2014 (Cl. 4) /IEC 60598-1:2008, Ed 7.0 (Cl. 4) ,(Sub clause: 4.1 to 4.26)	Force: 2.5 N to 50N
				Torque: 0.2Nm to 5Nm
				Length: 0.01 mm to 150mm
				Impact: 0.2J, 0.35J,0.5J.0.7J
				Temp: Amb to 250°C
				Voltage DC : 0.001 to 600V Voltage AC : 0.06 to 600V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Floodlights Section 6:2013 Handlamps Section 7: 2013 Lighting chains Section 8: Emergency Lighting			Current DC: 0.001 to10A Current AC : 0.1 to10A
		External and Internal wiring	IS 10322 (Part 1): 2014 (Cl. 5) IEC 60598-1 : 2008, Ed 7.0 (Cl. 5),(Sub Clause: 5.1, 5.2 & 5.3)	Length:0.01mm to 150mm
				Dia: 0.001mm to 25mm
				Force:2.5N to 150N
				Voltage DC: 0.001V to 600V Voltage AC: 0.06 V to 600V
		Provision for Earthing	IS 10322 (Part 1): 2014 (Cl. 7) IEC 60598-1 : 2008, Ed 7.0 (Cl. 7) (Sub Clause:7.1, 7.2)	Current : 0.5A to 120 A Voltage : 0.05 V to 12 V Resistance: 1 mΩ to 500 mΩ
		Protection against electric shock	IS 10322 (Part 1): 2014 (Cl. 8) IEC 60598-1 : 2008, Ed 7.0 (Cl. 8),(Sub Clause:8.1, 8.2)	Length: 0.01mm to 150mm
				Force: 2.5N to 150N
				Voltage DC : 0.001 V to 600V Voltage AC: 0.06 V to 600V
		Resistance to dust, solid objects and moisture	IS 10322 (Part 1): 2014 (Cl.9) IEC 60598-1 : 2008, Ed 7.0 (Cl. 9),(Sub Clause:9.1, 9.2,9.3)	Force:2.5 N to 150N
				Length:0.01 mm to 150mm
				Dia: 0.001mm to 25mm
				1 msec to 99 min Up to 180 ^{0}
				Temp: 20°C to 50°C RH:10 % to 99%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation resistance tests	IS 10322 (Part 1) (Cl. 10.2.1) IEC 60598-1 :2008, Ed 7.0 (Cl. 10.2.1)	0.01MΩ to 10GΩ 100 V to 1000VDC
		Electric strength tests	IS 10322 (Part 1): 2014 (Cl. 10.2.2) IEC 60598-1 : 2008, Ed 7.0 (Cl. 10.2.2)	Voltage : 0.01 kV to 5 kV AC Trip Current: 0.1 mA to 100mA
		Leakage current test	IS 10322 (Part 1): 2014 (Cl. 10.3) IEC 60598-1 : 2008, Ed 7.0 (Cl. 10.3)	Leakage Current: 0.1uA to 20 mA Voltage: 0.1V to 277V
		Creepage distances and clearances	IS 10322 (Part 1): 2014 (Cl.11) IEC 60598-1 : 2008, Ed 7.0 (Cl. 11),(Sub Clause:11.1, 11.2)	Length: 0.01mm to 150mm
		Endurance tests	IS 10322 (Part 1): 2014 (Cl. 12.3) IEC 60598-1 : 2008, Ed 7.0 (Cl. 12.3)	Amb. to 150°C Voltage DC: 0.001V to 600V Voltage AC : 0.06 V to 600V
		Thermal tests (Normal operation)	IS 10322 (Part 1) (Cl. 12.4) IEC 60598-1 : 2008, Ed 7.0 (Cl. 12.4)	0.1°C to 400°C Voltage:20.0 V to 300.0 V Curent:5.00 mA to 30 A Power:1.000W to 6.000 KW
		Thermal tests (abnormal operation)	IS 10322 (Part 1): 2014 (Cl. 12.5) IEC 60598-1 : 2008, Ed 7.0 (Cl. 12.5)	0.1°C to 400°C Voltage DC: 0.001V to 600V Voltage AC : 0.06 V to 600V Current DC: 0.01A to 10 A Current AC: 0.1 A to 10 A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Thermal tests (Failed Lamp controlgear condition)	IS 10322 (Part 1) (Cl. 12.6) IEC 60598-1 : 2008, Ed 7.0 (Cl. 12.6)	0.1°C to 400°C Voltage DC: 0.001V to 600V Voltage AC : 0.06 V to 600V Current DC: 0.01A to 10 A Current AC: 0.1 A to 10 A
		Thermal test in Regard to Fault Conditions in Lamp Controlgear or Electronic Devices in Plastic Luminairies	IS 10322 (Part 1): 2014 (Cl. 12.7) IEC 60598-1 : 2008, Ed 7.0 (Cl. 12.7)	0.1°C to 400°C Voltage DC: 0.001V to 600V Voltage AC : 0.06 V to 600V Current DC: 0.01A to 10 A Current AC: 0.1 A to 10 A
		Resistance to heat	IS 10322 (Part 1): 2014 (Cl. 13.2) IEC 60598-1 : 2008, Ed 7.0 (Cl. 13.2)	Temp: Amb. to 250°C Length: 0.01mm to 150mm
		Resistance to flame and ignition	IS 10322 (Part 1): 2014 (Cl. 13.3) IEC 60598-1 : 2008, Ed 7.0 (Cl.13.3)	1 msec to 99 min 99 sec Length: 0.01mm to 150mm Glow Wire Temp: 550°C to 960°C
		Resistance to tracking	IS 10322 (Part 1): 2014 (Cl. 13.4) IEC 60598-1 : 2008, Ed 7.0 (Cl. 13.4)	10 Vrms to 500 Vrms 0.1 Arms to 2.0 Arms

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Screw terminals	IS 10322 (Part 1): 2014 (Cl.14) IEC 60598-1 : 2008, Ed 7.0 (Cl. 14) (Sub Clause:14.1, 14.2, 14.3 & 14.4)	Length: 0.01mm to 150mm Force: 2.5 to 150N
				1mSec to 99Min 59Sec
		Screwless terminals	IS 10322 (Part 1): 2014 (Cl. 15)/ IEC 60598-1 : 2008, Ed 7.0 (Cl.15),(Sub Clause:15.1 to 15.9)	Length: 0.01 to 150mm
				Amb. to 150^{o}C
				Voltage DC: 0.001V to 600V Voltage AC : 0.06 V to 600V Current DC: 0.01A to 10 A Current AC: 0.1 A to 10 A
				Force: 2.5N to 150N
				1mSec to 99Min 99Sec
	(Aditional test) **Luminaires – (Part 5 /Section 3) Luminaires for road and street lighting**	Static Load Test (Wind Force Test)	IS 10322 (Part 5/sec 3):2012 (Cl. 7.3.1) IEC 60598-2-3 : 2011, Ed 3.1 (Cl. 3.6.3.1)	Qualitative
		Glass Cover Shattering	IS 10322 (Part 5/sec 3): 2012(Cl. 7.5) IEC 60598-2-3 : 2011, Ed 3.1 (Cl. 3.6.5)	Qualitative
		Impact Test	IS 10322 (Part 5/sec 3) : 2012 (Cl. 7.8) IEC 60598-2-3 : 2011, Edition 3.1 (Cl. 3.6.5.2/3.6.8)	Impact: 0.2J, 0.35J, 0.5J, 0.7J
	Luminaires – (Part 5 /Section 4): Portable general purpose	Overturning Test	IS 10322 (Part 5/sec 4): :1987+A1:1995 (Cl. 6.4) IEC 60598-2-4 : 2011, Ed. 3.1 (Cl. 4.6.3)	Length: 0.01 mm to150mm Angle: Upto 180°

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	luminaires (Aditional test)			
	Luminaires – Floodlights (Aditional test)	Wind Speed Test	IS 10322 (Part 5/sec 5):2013(Cl.) 7.5 IEC 60598-2-5 : 2011, Ed. 3.1 (Cl. 5.6.5)	Qualitative
		Flat Glass Cover Shattering	IS 10322 (Part 5/sec 5):2013 (Cl. 7.8) IEC 60598-2-5: 2011, Ed. 3.1 (Cl . 4.6.8)	Qualitative
	(Aditional test) Luminaires : :Handlamps	Impact Test	IS 10322 (Part 5/sec 6): 2013 (Cl. 7.6.2) IEC 60598-2-8 : 2013, Ed 3.1 (Cl. 8.7.6.2)	Qualitative
		Flexing Test	IS 10322 (Part 5/sec 6):2013(Cl. 11.4.1) IEC 60598-2-8 : 2013, Ed 3.1 (Cl.8.11.4.1)	Insulation Resistance : 0.01MΩ to 10GΩ Voltage : 100 V to 1000 VDC Voltage : 0.01 kV to 5 kVAC Trip Current: 0.1 mA to 100 mA
		Compression Test	IS 10322 (Part 5/sec 6):2013 (Cl. 16.1) , IEC 60598-2-8 : 2013, Ed 3.1 (Cl. 8.16.1)	Amb. to 250°C
	(Aditional test) Luminaires : Lighting chains (Aditional test)	Mechanical Strength of Sealed Lighting Chains	IS 10322 (Part 5/sec 7):2013 (Cl. 7.13) IEC 60598-2-20 : 2011, Ed. 3.1 (Cl.20.7.13)	Force:2.5 N to 150N Temp: (-)40°C to 100°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(Aditional test) Luminaires – IS 10322 (Part 5 /Section 8): 2013 Emergency Lighting (Aditional test)	Functional Safety	IS 10322 (Part 5/sec 8):2013(Cl.17) IEC 60598-2-22 : 2008, Ed. 3.2 (Cl. 22.16)	Voltage DC : 0.001 to 600V Voltage AC : 0.06 to 600V
				Voltage: 20.0 V to 300.0 V Curent: 5.00 mA to 30A Power: 1.000W to 6.000 kW
		Changeover Operation	IS 10322 (Part 5/sec 8):2013 (Cl.18) IEC 60598-2-22 : 2008, Ed. 3.2 (Cl. 22.17)	Voltage DC :0.001 to 600V Voltage AC : 0.06 to 600V Current DC: 0.001 to10A Current AC : 0.1 to10A
		High Temperature Operation	IS 10322 (Part 5/sec 8):2013 (Cl. 19) IEC 60598-2-22 : 2008, Ed. 3.2 (Cl. 22.18)	Ambient to 250°C Voltage: 20.0 V to 300.0 V Curent: 5.00mA to 30A
		Battery Chargers for Self Contained Emergency Luminaires	IS 10322 (Part 5/sec 8):2013(Cl.20) IEC 60598-2-22 : 2008 Ed. 3.2 (Cl. 22.19)	Voltage:20.0V to 300.0 V Curent:5.00mA to 30A
	(Aditional test) Luminaires : Section 1: Fixed luminaires Section 2: Recessed luminaires Section 3: Luminaires for road and street	Photometry	IS 10322 (Part 5/sec 1,2,3,5,8) (Cl. 17) IEC 60598-2-3 : 2011, Ed 3.1 (Cl. 3.6.3.1)	0.0001 to 37000 lx at d = 16m 0.001 ° to 360° (Beam Angle)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	lighting Section 5: Floodlights Section 8: Emergency Lighting			
10.	**Tubular Fluorescent Lamps for General Lighting Services** **Part 1 : Requirements and Test**	Mechanical Physical and Starting Requirements	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+A4: 2002 + A5:2006+ A6:2008+A7:2010 A8:2012 , (Cl. 4)	0.75 to 1.4Nm
				Resistance: 0.01MΩ to 10GΩ Voltage: 50 V to 1000V DC
				0.01mm to 150mm
				0.001 mm to 25mm
		Visual Examination and Checking for Marking	IS 2418 (Part 1):1977+A1+A2: 1987+A3: 1996+A4: 2002 + A5:2006+A6:2008+A7:2010 A8:2012 , (Cl. 6.3)	Qualitative
		Torsion Test	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+A4: 2002 + A5:2006+ A6:2008+A7:2010+A8:2012 (Cl. 6.4)	0.75 Nm to 1.4Nm
		Insulation Resistance Test	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+ A4: 2002 + A5:2006+ A6:2008+A7:2010+A8:2012 (Cl. 6.5)	50 V to 1000V DC, Resistance: 0.01MΩ to 10GΩ
		Burning Test	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+ A4: 2002 + A5:2006+ A6:2008+A7:2010 A8:2012 , (Cl. 6.6)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Starting Characteristics Test	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+ A4: 2002 + A5:2006+ A6:2008+A7:2010+A8:2012 (Cl. 6.7)	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to3000W
				1mSec to 99min99s
		Test for electrical, luminous and colour characteristics	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+ A4: 2002 + A5:2006+ A6:2008+A7:2010+A8:2012 (Cl. 6.8)	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W
				0.1 to 37000 lx (380 nm to 780 nm)
		Life test	IS 2418 (Part 1):1977 A1+A2: 1987+A3: 1996+ A4: 2002 + A5:2006+ A6:2008+A7:2010+A8:2012 (Cl. 6.9)	1 h to 9999 h
				0.1 lx to 37000 lx (380 nm to 780 nm)
II.	**ENVIRONMENTAL TEST FACILITY**			
1.	**Electrical & Electronics Products**	Dry Heat Test	IS 9000(Part 3/Sec 1 to 5) : 1977, (Reaffirmed 2010) IEC 60068-2-2 QM 333 Test No:02	Temp: Ambient to 150^0C
		Cold test	IS 9000 (Part 2) : 1977 (Reaffirmed 2010) (Sec 1 to 4) IEC 60068-2-1 QM 333 Test No:01	Temp: Ambient to (-)40^0C
		Damp Heat Test (Steady state)	IS 9000 (Part 4): 2008 (Reaffirmed 2015) IEC 60068-2-30 QM 333 Test No:05	Temp: Ambient to 50°C Hum:10 % to 99%
		Damp Heat Test (Cyclic)	IS 9000(Part 5/Sec 1 & 2): 1981, (Reaffirmed 2010) IEC 60068-2-30 QM 333 Test No:03	Temp: Ambient to 50°C 10 % to 99%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Change in Temperature Test	IEC 60068-2-14 IS 9000 (Part 14 /Sec1 to 3):1988 (Reaffirmed 2015) QM 333 Test No:04	(-)40^{o}C to 100^{o}C Temp: Ambient to 150^{0}C
		Drop Test	IS 9000 (Part 7/Sec 3) : 1979 (Reaffirmed 2010) /QM 333 Test No:10	Qualitative
		Topple Test	IS 9000 (Part 7/Sec 3) : 1979 (Reaffirmed 2010) /QM 333 Test No:11	
		Fall Test	IS 9000 (Part 4) : 2008 (Reaffirmed 2015) /QM 333 Test No:12	
		Sealing (Gas Tightness)/ High Altitude Test	QM 333 Test No:07	100 kPa to 10 kPa
		Water Immersion test	IS / IEC 60529 : 2001 QM 333 Test No:08	Qualitative
		Salt Mist Test (Corrosion Salt)	QM 333 IS 9000 -11 : 1983 (Reaffirmed 2010)	Salt Spray Chamber Temp. 35 ± 3^{0}C Humidity : 90% to 95%
III.	**BATTERIES**			
1.	**Secondary cells and batteries containing alkaline or other non-acid electrolytes : Safety requirements for Portable Sealed secondary cells, and batteries made from them, for use in portable**	Test of marking	IS 16046:2015 IEC 62133:2012,(Cl. 6.0)	Qualitative
		Insulation and wiring	IS 16046:2015/ IEC 62133:2012 (Cl.2.1)	Resistance: 0.01MΩ to 10GΩ, Voltage:500V DC
		Charging procedure for test purposes	IS 16046:2015/ IEC 62133:2012 (Cl.7.1)	Voltage DC : 0.001V to 600V Current DC: 0.001A to 10A
		Continuous low rate charge test	IS 16046:2015/ IEC 62133:2012 (Cl.7.2.1)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	applications	Molded case stress at high ambient temperature	IS 16046:2015/ IEC 62133:2012 (Cl. 7.2.3)	Temp: 0.1°C to 400°C Oven: Amb. to 150°C
		Temperature cycling test	IS 16046:2015/ IEC 62133:2012 (Cl. 7.2.4)	(-)40 °C to 100°C
		Incorrect installation	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.1)	Temp: 0.1 °C to 400°C Voltage DC :0.001 to 600V Current DC: 0.001 to 10A
		External short circuit	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.2)	Temp: 0.1 °C to 400°C
		Free fall test	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.3)	1 mm to 1000 mm
		Thermal abuse	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.5)	Amb. to 150°C
		Crushing of cells	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.6)	Force: Upto 20 kN Displacement: Upto 200mm Voltage DC : 0.001V to 600V Current DC: 0.001 A to 10 A
		Low pressure	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.7)	100 Kpa to 5 Kpa
		Overcharge	IS 16046:2015/ IEC 62133:2012 (Cl.7.3.8)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A Temp: 0.1 °C to 400°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Forced discharge	IS 16046:2015/ IEC 62133:2012 (Cl. 7.3.9)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A
		Charging procedure for test purposes	IS 16046:2015/ IEC 62133:2012 (Cl. 8.1)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A
		Continuous charging at continuous voltage	IS 16046:2015/ IEC 62133:2012 (Cl.8.2.1)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A
		Molded case stress at high ambient temperature	IS 16046:2015/ IEC 62133:2012 (Cl. 8.2.2)	Temp: Amb. to 150^{o}C
		External Short Circuit (Cell)	IS 16046, 2012/ IEC 62133 Ed.1.0, 2002 (Cl. 8.3.1)	0.1 ^{o}C to 400^{o}C Voltage DC : 0.001V to 600V Current DC: 0.001A to 10A
		External short circuit (Battery)	IS 16046:2015/ IEC 62133:2012 (Cl. 8.3.2)	Temp: Amb. to 150^{o}C Upto 80mΩ Temp: 0.1 ^{o}C to 400^{o}C 2 mΩ to kΩ
		Free fall test	IS 16046:2015/ IEC 62133:2012 (Cl. 8.3.3)	1 mm to 1000mm
		Thermal abuse	IS 16046:2015/ IEC 62133:2012 (Cl. 8.3.4)	Temp: Amb. to 150^{o}C
		Crushing of cells	IS 16046:2015/ IEC 62133:2012 (Cl. 8.3.5)	Force: Upto 20kN Displacement: Upto 200mm, Voltage DC : 0.001V to 600V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Current DC: 0.001 A to 10 A Temp: Amb. to 150°C
		Overcharging of battery	IS 16046:2015/ IEC 62133:2012 (Cl.8.3.6)	Voltage DC : 0.001V to 600V Current DC: 0.001A to 10A
		Forced discharge	IS 16046:2015/ IEC 62133:2012 (Cl. 8.3.7)	Voltage DC : 0.001V to 600V Current DC: 0.001A to 10A
		Transportation	IS 16046:2015/ IEC 62133:2012 (Cl 8.3.8)	Qualitative
2.	**Secondary Cells and Batteries containing alkaline or other non-acid electrolytes –** **Secondary lithium cells and batteries for portable applications**	Charging procedure for test purposes	IS 16047:2012/IEC 61960:2011 (Cl.7.2)	Voltage DC : 0.001V to 600V Current DC: 0.001A to 10A
		Discharge performance at 20˚C (rated capacity)	IS 16047:2012/IEC 61960:2011 (Cl.7.3.1)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A
		Discharge performance at -20˚C	IS 16047:2012/IEC 61960:2011 (Cl.7.3.2)	Voltage DC : 0.001 V to 600V Current DC: 0.001 A to 10A Oven: (-)40˚C to 100˚C
		High Rate discharge performance at 20˚C & Charge (capacity) retention and recovery	IS 16047:2012/IEC 61960:2011 (Cl.7.3.3 & 7.4)	Voltage DC : 0.001 to 600V Current DC: 0.001 to 10A Time: 1msec to 99min 99sec
		Charge (capacity)recovery after long term storage	IS 16047:2012/IEC 61960:2011 (Cl.7.5)	Oven: Amb. to 150^{0}C Voltage DC : 0.001V to 600V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Current DC: 0.001A to 10A
		Endurance in cycles	IS 16047:2012/IEC 61960:2011 (Cl.7.6)	Voltage DC : 0.001 V to 600V Current DC: 0.001A to 10A Time: 1 msec to 99 min 99sec
		Battery Internal Resistance	IS 16047:2012/IEC 61960:2011 (Cl.7.7)	Voltage DC : 0.001 V to 600V Current DC: 0.001A to 10A Time: 1 msec to 99 min 99sec
		Electrostatic Discharge (ESD)	IS 16047:2012/IEC 61960:2011 (Cl.7.8) IEC 61000-4-2:2008 IS14700 (Part4/Sec2):2008	(±)0.5 kV to (±)30 kV
3.	**Secondary Cells and batteries for photovoltaic energy systems (PVES)- General requirements and methods of test**	Capacity test	IEC 61427:2005 (Cl. 8.1)	0.001V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Endurance in cycle test & charge retention test	IEC 61427:2005 (Cl. 8.2 & 8.3)	Voltage DC : 0.001 to 600V Voltage AC : 0.06 V to 600V Current: 5.00 mA to 30 A
		Cycle endurance test in photovoltaic application (Extreme conditions)	IEC 61427:2005 (Cl. 8.4)	0.001V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC
				Temp: Amb to 150°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Capacity check and end of test condition	IEC 61427:2005 (Cl. 8.4.3 & 8.4.4)	0.001V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC Temp. : -40 to 100°C
		Water consumption to flooded battery types and cells with partial gas recombination	IEC 61427:2005 (Cl. 8.4.5)	Qualitative
4.	**Stationary Valve Regulated Lead Acid Batteries-Specification**	Test for C10 capacity, Test for C1 capacity & Capacity Test at other Discharge rates	IS 15549:2005+A1:2012 (Cl. 12.1, 12.2 & 12.3)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A Temp: (-) 40 °C to 100°C
		Ampere-hour efficiency & Watt-hour efficiency	IS 15549:2005+A1:2012 (Cl. 12.4 & 12.5)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A
		Test for retention of charge	IS 15549:2005+A1:2012 (Cl. 12.6)	0.001 V to 600 VDC 0.06 V to 600 VAC
		Test on separators	IS 15549:2005+A1:2012 (Cl. 12.7)	Upto 5 kg 0.01mm to 150mm
		Test for vent seal operation	IS 15549:2005+A1:2012 (Cl. 12.8)	Qualitative
		Endurance life cycle test	IS 15549:2005+A1:2012 (Cl. 12.10)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC Temperature: 0.1°C to 400°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Stationary Lead-Acid Batteries (With Tubular Positive Plates) in Monobloc Container-Specification**	Test for capacity	IS 13369:1992 (Re affirmed 2002)+A1:2000+A2:2003 (Cl. 11.5)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A Temp: 0.1 ^{o}C to 400^{o}C
		Loss of capacity on storage	IS 13369:1992 (Re affirmed 2002)+A1:2000+A2:2003 (Cl. 11.6)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A 0.1 ^{o}C to 400^{o}C
		Endurance test	IS 13369:1992 (Re affirmed 2002)+A1:2000+A2:2003 (Cl. 11.7)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A 0.1 ^{o}C to 400^{o}C
		Ampere-hour and watt-hour efficiency tests	IS 13369:1992 (Re affirmed 2002)+A1:2000+A2:2003 (Cl. 11.8)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A
6.	**Secondary Cells and batteries for solar photovoltaic application-General requirements and methods of test**	Capacity test	IS 16270: 2014, (Cl. 8.1)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Endurance in cycle test & charge retention test	IS 16270:2014, (Cl. 8.2 & 8.3)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC 5 mA to 30 A
		Cycle endurance in photovoltaic application (Extreme conditions) & Capacity check and end	IS 16270:2014, (Cl. 8.4)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		of test condition		Temp: Amb to 150°C 1 msec to 99 min 99sec
		Sulphation Test	IS 16270:2014, (Cl. 8.5)	0.001 V to 600 VDC 0.06 V to 600 VAC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Water Loss Test	IS 16270:2014 (Cl. 8.6)	Qualitative
		Non Spillability/ Semi Non Spillability/ Splash Proof Test	IS 16270:2014,(Cl. 8.7)	Adjustable Inclined Plane Angle :Upto 180°
IV.	**DOMESTIC ELECTRICAL APPLIANCES**			
1.	**Household Electrical Appliances**	Verification of Marking & Instruction	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 7)/ IEC-60335–1 (Cl. 7)	Qualitative
		Protection against access to live parts	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 8)/ IEC-60335–1 (Cl. 8)	Voltage DC : 0.001V to 600V Voltage AC : 0.06 V to 600V
				Force:2.5 to 300N 0.01 mm to 150 mm
		Power input & current	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 10)/ IEC-60335–1(Cl. 10)	Voltage:20.0 V to 300.0 V Curent:5.00mA to 30A Power: 1.000W to 6.000 kW
		Heating	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 11)/ IEC-60335–1 (Cl. 11)	Voltage DC : 0.001V to 600V Voltage AC : 0.06 V to 600V
				Temp: 0.1°C to 400°C
				Resistance: 2 mΩ to 2 kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Leakage Current & electric strength at operating temperature	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 13)/ IEC-60335–1 (Cl. 13)	Current: 0.1uA to 20 mA Voltage:0.1V to 277V
				Voltage: 0.01kV to 5 kV~ Trip Current: 0.1mA to100mA
		Moisture resistance (Humidity treatment)	IS-302-1, 2008 A1:2009 + A2:2013 + A3:2014 (Cl. 15) / IEC-60335–1 (Cl. 15)	Uptoto 50°C 10 % to 99%
		Leakage Current & electric strength	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 16)/ IEC-60335–1 (Cl. 16)	Voltage: 0.01 kV to 5 kV~ Trip Current: 0.1 mA to100 mA Current: 0.1 µA to 20 mA
		Overload protection of transformers and associated circuits	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 17)/ IEC-60335–1 (Cl. 17)	0.001V to 600V DC 0.06 Vto 600V AC 0.001 A to 10A DC 0.1 A to 10A AC 0.1°C to 400°C 2 mΩ to 2 kΩ
		Abnormal Operation	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 19)/ IEC-60335–1 (Cl. 19)	0.001 V to 600V DC 0.06 V to 600V AC 0.001 A to 10A DC 0.1 A to 10A AC 0.1°C to 400°C 2 mΩ to 2 kΩ
		Stability and Mechanical Hazards	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 20)/ IEC-60335–1 (Cl. 20)	Force: 2.5 N to 300N Upto 180° 0.1°C to 400°C Resistance: 2 mΩ to 2 kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Mechanical Strength	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 21)/ IEC-60335–1 (Cl. 21)	Qualitative Upto 0.5 J
		Construction	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 22)/ IEC-60335–1 (Cl. 22)	Force: 2.5N to 300N Thickness: 0.01 mm to 150mm Temp: Amb to150°C
		Internal wiring	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 23)/ IEC-60335–1 (Cl. 23)	0.001 to 25mm
				0.01mm to150mm
				Voltage: 0.01 kV to 5 kV AC Trip Current: 0.1 mA to 100mA
		Components	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 24)/ IEC-60335–1 (Cl. 24)	Qualitative
		Supply connection and external flexible cords	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 25)/ IEC-60335–1 (Cl. 25)	0.001 mm to 25mm
				0.01 mm to 150 mm
				Voltage: 0.01 kV to 5 kV~, Trip Current: 0.1 mA to 100mA
				Force: 2.5N to 300N Torque: 0.2Nm to 5Nm
		Terminals for external conductors	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 26)/ IEC-60335–1 (Cl.	Dimensions: 0.001mm to 25mm
				Torque: 0.2 Nm to 5Nm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			26)	Force: 2.5 N to 300N
		Provision for earthing	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 27)/ IEC-60335–1 (Cl. 27)	Current : 0.5 A to 160 A Voltage : 0.05 V to 12 V
				0.001 mm to 25mm
				1msec to 99 min99 sec
		Screws and connections	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 28)/ IEC-60335–1 (Cl. 28)	Dimensions: 0.01 mm to150mm
				Torque: 0.2 Nm to 5Nm
		Clearances and Creepage Distances	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 29)/ IEC-60335–1 (Cl. 29)	0.01mm to150mm
				Voltage: 0.001 V to 600 Vrms Current: 0.1 A to 2.0Arms
				Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
		Resistance to heat and fire	IS 302 (Part 1):2008 A1:2009 +A2:2013 + A3:2014 (Cl. 30)/ IEC-60335–1 (Cl. 30)	Temp: Amb. to150°C
				Diameter: 0.01 mm to 150mm
				Glow Wire Temp: 550 °C to 960°C
				Burner Dia: Upto 9.5 mm Needle Dia: Upto 0.5 mm
				Time: 1msec to 99.99 min

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to rusting	IS 302 (Part 1): 2008 A1:2009 +A2:2013 + A3:2014 (Cl. 31)/ IEC-60335–1 (Cl. 31)	Temp: Amb to 150°C
				Temp: Upto 50°C, Relative Humidity: 10% to 99%
		Radiation, toxicity & Similar hazards	IS-302-1, 2008 +A1:2009 +A2:2013 + A3:2014 (Cl. 32)/ IEC-60335–1 (Cl. 32)	Qualitative
2.	**Household Electrical Appliances**		IS-302-1: 2008 +A1:2009 +A2:2013 + A3:2014/IEC-60335–1	
	Electrical Shavers, Hair Clipper and Similar Appliances		IS 302-2-8: 1994 IEC 60335-2-8:2012 A1:2015	
	Frying Pans, Deep Fat Fryers and Similar Appliances		IS 302-2-13 : 1994 IEC 60335-2-13:2009 A1:2016	
	Electric Kitchen Machines		IS 302-2-14 : 2009 IEC 60335-2-14:2016	
	Stationary Storage Electric Water Heater		IS 302-2-21 IEC 60335-2-21:2012	
	Appliances for Skin or Hair Care		IS 302-2-23 : 2009 IEC 60335-2-23:2016	
	Electric Instantaneous Water Heaters		IS 302-2-35: 2011 IEC 60335-2-35:2012	
	Electric Immersion Water Heaters		IS 302-2-201: 2008 IEC 60335-2-74: 2002 A1:2006+A2:2009	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Marking & Instruction	Cl.7	Qualitative
		Protection against access to live parts	Cl.8	0.001 V to 600V DC 0.06 V to 600V AC 2.5 N to 300 N
		Power input & current	Cl.10	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		Heating	Cl.11	0.001 V to 600 V DC 0.06 V to 600V AC
				0.1°C to 400°C
				2 mΩ to 2 kΩ
				Amb to 150°C
		Leakage Current & electric strength at operating temperature	Cl.13	0.1 uA to 20 mA 0.1 V to 277 V 0.1 kV to 5 kV~ 0.1 mA to100 mA
		Moisture resistance (Humidity treatment)	Cl.15	20°C to 50°C 10 % to 99 %
		Leakage Current & electric strength	Cl.16	0.1 kV to 5 kV~ 0.1 mA to100 mA 0.1 uA to 20 mA 0.1 V to 277 V
		Overload protection of transformers and associated circuits	Cl.17	0.001 V to 600V DC 0.06 V to 600V AC 0.001A to 10 A 0.1A to10A
				0.1°C to 400°C
				2 mΩ to 2 kΩ
		Abnormal Operation	Cl.19	0.001 V to 600V DC 0.06 to 600V AC 0.001 A to 10A 0.1A to10A
				0.1°C to 400°C
				2 mΩ to 2 kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Stability and Mechanical Hazards	Cl.20	2.5 N to 300 N
				Upto 15°
				0.1°C to 400°C
				2 mΩ to 2 kΩ
		Mechanical Strength	Cl.21	Upto 0.5 J
		Construction	Cl.22	2.5 N to 300 N 0.01 mm to 150 mm Amb. to150°C 0.01 bar to 100 bar
		Internal wiring	Cl.23	0.001 mm to 25 mm
				0.1 kV to 5 kV~ 0.1 mA to 100 mA
		Components	Cl.24	Qualitative
		Supply connection and external flexible cords	Cl.25	0.001 mm to 25 mm 0.01 mm to150 mm 0.01 kV to 5 kV~ 0.1 mA to 100 mA 2 N to 300 N (Pull) 0.2 Nm to 5.0 Nm
		Terminals for external conductors	Cl.26	0.001 mm to 25 mm 0.2 Nm to 5 Nm 0.01 mm to150 mm 2.5 N to 300 N
		Provision for earthing	Cl.27	0.5 A to 160 A 0.05 C to 12 V
				0.001 mm to150mm
				99 min 99 sec
		Screws and connections	Cl.28	0.01 mm to150mm
				0.2 Nm to 5Nm,
		Clearances and Creepage Distances	Cl.28	0.01 mm to150mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat and fire	Cl.30	Amb to150°C
				0.01 mm to150 mm
				550°C to 960°C
				Burner Dia:9.5 mm Needle Dia:0.5 mm
				1msec. to 99.99 min
		Resistance to rusting	Cl.31	Amb to150°C
				Upto 50°C, 10 % to 99 %
		Radiation, toxicity & Similar hazards	Cl.32	Qualitative
	(Aditional test) Frying Pans, Deep Fat Fryers and Similar Appliances	Moisture resistance (Humidity treatment)	Cl. 15.101	0.1°C to 400°C
				0.01 kV to 5 kV~ 0.1 mA to 100 mA
		Abnormal Operation	Cl. 19.11	0.1°C to 400°C
				0.01 mm to 150 mm
		Construction	Cl.22.101, Cl.22.102, Cl.22.103	0.1°C to 400°C
				0.01 mA to 100 mA
	(Aditional test) Stationary Storage Electric Water Heater	Construction	Cl. 22	Qualitative
		Components	Cl. 24	0.1°C to 400°C
	(Aditional test) Appliances for Skin or Hair Care	Heating	Cl. 11.101	0.001 V to 600V DC 0.06 V to 600V AC
				2.5 N to 300N
		Abnormal Operation	Cl. 19.10	0.001 V to 600V DC 0.06 V to 600V AC 0.001 A to 10A DC 0.1 A to10 A AC
		Construction	Cl. 22.32	0.1°C to 400°C
		Resistance to heat and fire	Cl. 30.101	Needle Dia: Upto 0.5 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(Aditional test) Electric Instantaneous Water Heaters	Construction	Cl.22	Qualitative
3.	**Specification for Domestic Electric Food Mixers (Liquidizers and Grinders)**	Verification of Marking and Instructions	IS 4250:1980 ,Cl.7	Qualitative Test
		Protection Against Access to Live Parts	IS 4250:1980 A1: 1983 +A2: 1986 + A3: 1989 + A4: 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006 (Cl.8)	0.001 V to 600V DC 0.06 V to 600V AC 2.5 N to 300 N
		Starting	IS 4250:1980 A1: 1983 +A2: 1986 + A3: 1989 + A4 : 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006 (Cl.9)	0.001 V to 600V DC 0.06 V to 600V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Input	IS 4250:1980 A1: 1983 +A2: 1986 + A3: 1989 + A4 : 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006 (Cl.10)	20 V to 300 V 5.00 mA to 30 A 1.000 W to 6.000 KW
		Temperature Rise	IS 4250:1980 A1: 1983 +A2: 1986 + A3: 1989 + A4: 1989 + A5: 1992 + A6: 1993 + A7 : 1994 + A8: 1999 + A9: 2006 (Cl.11)	0.1°C to 400°C 2 mΩ to 2 kΩ
		Electric Strength and Leakage Current at Operating Temperature	IS 4250:1980 A1: 1983 +A2 : 1986 + A3: 1989 + A4: 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006 (Cl.13)	0.1uA to 20 mA 0.1 V to 270 V 0.01 kV to 5 kV~ 0.1 mA to100 mA
		Moisture Resistance	IS 4250:1980 A1: 1983 +A2 : 1986 + A3: 1989 + A4: 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8:	20°C to 50°C 10 % to 99 % Up to 5 kV~ Trip Current:

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			1999 + A9: 2006 (Cl.15)	0.1 mA to 100 mA
				0.01 mm to 150mm
		Insulation Resistance and Electric Strength	IS 4250:1980 A1: 1983 +A2 : 1986 + A3: 1989 + A4: 1989 + A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006(Cl.16)	50 V to 1000VDC 0.01 MΩ to 10 GΩ
				Leakage Current: 0.1 uA to 20 mA 0.1 V to 270 V
				0.01 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
		Endurance	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.18)	Voltage: 0.01 kV to 5 kV~ Trip Current: 0.1 mA to 100 mA
		Abnormal Operation	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.19.1 to 19.10,19.11.4.1, 19.12 & 19.13)	0.001 V to 600V DC 0.06 V to 600V AC Current DC: 0.001 to 10A Current AC : 0.1 to 10A 0.1°C to 400°C 2 mΩ to 2 kΩ
		Stability and Mechanical Hazards	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.20)	2.5 N to 10 N Upto 15°
		Mechanical Strength	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.21)	Upto 0.5 J
				2.5 N to 10N
				0.01 kV to 5 kV~ 0.1 mA to 100 mA

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Construction	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.22)	0.01 mm to 25 mm 0.01 mm to 15 mm 0.1°C to 150°C 1msec to 59 min. 59 sec 2.5 N to 100 N 0.01 kV to 5 kV~ 0.1 mA to 100 mA Amb. to 150°C
		Internal Wiring	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.23)	0.01mm to 25mm 0.01 kV to 5 kV~ 0.1 mA to 100 mA
		Supply, Connection and External Flexible Cords	IS 4250:1980 A1:1983+A2: 1986 + A3:1989 +A4:1989+ A5: 1992 + A6: 1993 + A7: 1994 + A8: 1999 + A9: 2006 (Cl.25)	0.01 kV to 5 kV~ 0.1 mA to 100 mA 0.02 mm to 25 mm 0.01 mm to 150 mm 0.2 Nm to1.2 Nm 2.5 N to 50 N
		Terminals for external conductors	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.26)	0.03 mm to 25mm 0.01 mm to 150 mm
		Provision for Earthing	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.27)	Current : 0.5 A to 160 A Voltage: 0.05 V to 12 V 1 mΩ to 500 mΩ 1 mSec to 30 min
		Screws and connections	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 :	0.01 mm to 150mm 0.2 Nm to 5 Nm 0.001 mm to 25 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			1994 + A8 : 1999 + A9: 2006 (Cl.28)	
		Clearances and Creepage Distances	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.29)	0.01 mm to 25 mm 0.01 mm to 150 mm
		Resistance to heat and fire	IS 4250:1980 + A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.30)	Amb to150°C 0.01 mm to 15 mm Glow Wire Temp: 550°C to 960°C Burner Dia:9.5 mm Needle Dia:0.5 mm Time: 1msec to 30 min
		Resistance to rusting	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.31)	Temp: Amb to150°C Temperature: 10°C to 50°C Relative Humidity: 10 % to 99%
		Operational Test	IS 4250:1980 + A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.34)	1msec to 15 min
		Temperature Withstand Test for Bowl	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.35)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test for Controls	IS 4250:1980, A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.36)	Qualitative
		Strength of Assembly	IS 4250:1980 A1 : 1983 +A2 : 1986 + A3: 1989 + A4 : 1989 + A5 : 1992 + A6 : 1993 + A7 : 1994 + A8 : 1999 + A9: 2006 (Cl.37)	2.5 N to 50N 0.2 Nm to 5 Nm
4.	**Electric Storage Water Heaters**	Standing Loss per 24 Hrs.	IS 2082: 1993 (RA 2009)	0.5V to 300V 0.005 A to 40 A 0.0001 W to 3000 W 0.001 kW/hr to 1 kW/hr 0.01 sec to 30 min 0.1˚C to 400˚C
		Rated capacity	IS 2082: 1993 (RA 2009)	Upto 10 L
		Rated Power	IS 302-2-21:2011 (Cl.10) IS 302-1:2008 (Cl.10)	0.5 V to 300 V 0.005 A to 40 A 0.0001 W to 3000 W 0.001 kW/hr to 1 kW/hr 0.01 s to 30 min
5.	**Method of Measurement for the power consumption of Household electrical appliances**	Power Consumption in - Active Mode	IEC 62087: 2008 (Cl.11)	Voltage: 0.5V to 300V Current : 0.005A to 15A Power : 0.0001W to 3000 W 0.01s to 30 Minutes Energy: 0.001 kW/hr to 1 kW/hr
		Measurement of Power	IEC 62301: 2011 (Cl.5)	Voltage: 0.5 V to 300 V Current : 0.005 A to 15 A Power : 0.0001W to 3000W

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
V.	**MEASURING INSTRUMENTS: ELECTRICAL AND ELECTRONIC (STATIC) ENERGY METERS**			
1.	**Electricity Metering Equipment (AC) – General Requirements, Tests and test Conditions – Product Safety Requirements and Tests**	Testing in Single Fault Condition	IEC 62052-31 Edition 1.0 2015-09 (Cl. 4.4)	20 V to 300 5 mA to 30A 1 W to 6 kW Amp to 150°C 2 mΩ to 2 kΩ
		Durability of marking	IEC 62052-31 Edition 1.0 2015-09 (Cl.5)	Qualitative Petroleum Spirit Time: 1Sec to 60 Sec
		Protection against electrical shock: Accessible Parts	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.2)	Qualitative 0.01 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC 0.01 mm to150mm
		Protection against electrical shock: Limit values for accessible parts	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.3)	Qualitative 0.02 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Additional means of protection in case of single fault conditions (protection against indirect contact)	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.5)	Current : 0.5 A to 160 A Voltage : 0.05 V to 12 V 0.01 mm to 150 mm 0.001 mm to 25 mm Resistance 1 to 500mΩ
				Torque: 0.2 Nm to 5 Nm
				1sec to 99min99 sec
		Insulation requirements	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.7)	Up to 300Vrms
				2.5 N to 300 N
				10 Vrms to 500 Vrms
				0.01 mm to 150mm
				0.1 Arms to 2 Arms

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insulation requirements between circuits and parts	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.8)	0.01 mm to 150 mm 0.001 V to 600V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Constructional requirements for protection against electric shock	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.9)	0.01 mm to 150 mm 0.2 Nm to 5 Nm 0.001 V to 600V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		AC Power Frequency Voltage Test	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.10.2.5)	Voltage: Up to 5 kV~, 100 mA
		Dielectric Test	IEC 62052-31 Edition 1.0 2015-09 (Cl.6.10.4)	Temp: Amb. to 50°C, RH: 95%
				Voltage: Up to 5kV~,100mA
		Protection against mechanical hazards	IEC 62052-31 Edition 1.0 2015-09 (Cl.7.0)	2.5 N to 300N
				Time: 1sec to 60 sec
		Resistance to mechanical stresses	IEC 62052-31 Edition 1.0 2015-09 (Cl.8.0)	Impact: Upto 0.20 Nm
		Protection against spread of fire	IEC 62052-31 Edition 1.0 2015-09 (Cl.9.0)	Needle Dia:0.5 mm
				Glow Wire Temp: 550°C to 960°C
				Time:1sec to 99.99 min
				0.001 V to 600V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
		Temperature Rise Test	IEC 62052-31 Edition 1.0 2015-09 (Cl.10.1,10.2,10.3, 10.4)	0.1°C to 150° 2 mΩ to 20 kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Resistance to heat	IEC 62052-31 Edition 1.0 2015-09 (Cl.10.5)	Amb to 150°C ∅ 5mm, Mass 20N
		Protection against penetration of dust & water	IEC 62052-31 Edition 1.0 2015-09 (Cl.11)	0.01 kV to 5 kV~ 0.1 mA to 100 mA
		Protection against liberated gases and substances explosion and implosion– Batteries and battery charging	IEC 62052-31 Edition 1.0 2015-09 (Cl.12)	Qualitative
		Components	IEC 62052-31 Edition 1.0 2015-09 (Cl.13)	Qualitative
		Hazards resulting from application – Reasonably foreseeable misuse	IEC 62052-31 Edition 1.0 2015-09 (Cl.14)	Qualitative
		Risk assessment	IEC 62052-31 Edition 1.0 2015-09 (Cl.15)	Qualitative
VI.	**POWER SUPPLIES & STABILIZERS**			
1.	**Uninterruptible power systems (UPS) Part 1: General and safety requirements for UPS (Upto 20kVA)**	Power interfaces	IEC 62040-1(2008) / IS 16242: 2014(Cl. No 4.6) IEC-60950–1, Ed 2.0, 2005 IS 13252 (Part 1) +A1:2013 + A2:2015(Cl. No 1.6)	0.001V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/ Phase
		Marking & Instructions (High leakage current, Durability of markings)	IEC 62040-1 (2008) / IS 16242: 2014 (Cl. No 4.7) IEC-60950–1, Ed 2.0, 2005 / IS 13252 (Part 1) +A1:2013 + A2:2015 (Cl. No 1.7.1)	Qualitative
		Protection against electric shock and	IEC 62040-1 (2008) / IS 16242: 2014	0.001V to 600 V DC 0.06 V to 600 V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		energy Hazards	(Cl. No 5.1.1,5.1.2,5.1.3, 5.1.4,5.1.5) IEC-60950–1, Ed 2.0,2005 / IS 13252 (Part 1) +A1:2013 + A2:2015 (Cl. No 2.1.1)	AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/ Phase
		SELV & TNV: Limited current circuits (Touch current measurement & External signaling circuits)	IEC 62040-1 (2008) / IS 16242: 2014 (Cl. No 5.2.1,5.2.2 & 5.2.3) IEC-60950–1, Ed 2.0, 2005 / IS 13252 (Part 1) +A1:2013 + A2:2015 (Cl. No 2.2,2.3,2.4 & 3.5)	0.001V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC 0.1 mA to 20 mA 0.1 V to 277 V
		Limited Power source	IEC 62040-1 (2008) / IS 16242: 2014 (Cl. No 5.2.5) IEC-60950–1, Ed 2.0, 2005 / IS 13252 (Part 1) (Cl. No 2.5)	0.001V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase
		Protective Earthing & Bonding	IEC 62040-1 (2008) /IS 16242: 2014(Cl. No 5.3) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 A1:2013+A2:2015 (Cl. No 2.10,4.2,2.6,5.2)	0.5 A to 120 A 0.05 V to 12 V 0.01 mm to 150 mm 0.001 mm to 25 mm 1 sec to 99 min 99 sec
		AC and DC Power isolation	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 5.4) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No:3.4)	Qualitative
		Overcurrent and earth fault protection	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 5.5) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No:2.7)	1 sec to 99 min 99 sec

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	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 5.6) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No:2.8)	0.01 mm to 150 mm 0.001mm to 25 mm 1 sec to 99 min 99 sec
		Clearances, creepage distances and distance through insulation	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 5.7) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 2.10)	0.01mm to 150mm
		Wiring Connection & Supply	IEC 62040-1 (2008) / IS 16242: 2014 (Cl. No 6,6.1,6.2,6.3) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 3.2)	0.01 to 300mm 0.001 to 25mm
		Enclosure	Clause 7.1,6.2.1/RD	0.01 mm to 150 mm 0.001 mm to 25 mm
		Stability	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 7.2) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 4.1)	2.5 N to 300 N Angle : Upto 180°
		Mechanical strength	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 7.3) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 4.2)	Disk Dia: 30 mm 0.01mm to 300mm 2.5 N to100N Ambient to 150°C
		Construction details	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 7.4) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 4.3)	Disk Dia: 30 mm 0.01mm to 300mm 0.01 mm to 150 mm 2.5 N to 300 N
		Resistance to fire	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 7.5) IEC-60950–1, Ed 2.0, 2005 /	Burner Dia:9.5 mm Needle Dia:0.5 mm Time: 1Sec to 99.99min

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 4.7)	Glow wire: 550°C to 960°C
		Battery Location	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 7.6) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 5.2)	Voltage: 0.01 kV to 5kV~ Upto 100mA
		Temperature rise	IEC 62040-1 (2008) /IEC 16242: 2014 (Cl. No 7.7) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 4.5)	0.1°C to 150°C 2 mΩ to 2 kΩ
		General provision for earth leakage	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 8.1) IEC-60950–1, Ed 2.0, 2005 /IS IS 13252 Part 1 + A1: 2013 +A2:2015(Cl. No 5.1.1 , 1.4.10 , 5.1.7)	0.1µA to 20mA 0.1 V to 270 V
		Electric strength	IEC 62040-1 (2008) / IS 16242: 2014,(Cl. No 8.2) IEC-60950–1, Ed 2.0, 2005 / IS 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 5.2)	0.1 kV to 5 kV~ 0.1 mA to 100 mA
		Abnormal Operating and fault Condition	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 8.3) IEC-60950–1, Ed 2.0, 2005 / 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 5.3)	0.1°C to 150°C 2 mΩ to 2 kΩ
		Connection to telecommunication networks	IEC 62040-1 (2008) / IS 16242: 2014(Cl. No 9) IEC 60950–1, Ed 2.0, 2005 / 13252 Part 1 + A1: 2013 +A2:2015 (Cl. No 2.3,6,2.10)	50 V to 500 V DC 0.01 MΩ to 2 GΩ
				0.001 V to 300 V DC 0.06 V to 300 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	**Solid State Inverters Run From Storage Batteries - Specification (Up to 20 kVA)**	Visual Inspection	IS 13314:1992 (Cl. 7.5)	Qualitative
		High Voltage Test	IS 13314:1992 (Cl. 7.6)	Voltage: 0.01 kV to 5 kV~, 0.1 mA to 100 mA
		Insulation Resistance Test	IS 13314:1992 (Cl. 7.7)	50 V to 1000VDC Resistance: 0.01 MΩ to 10 GΩ
		No load Test	IS 13314:1992 (Cl. 7.8)	Voltage DC : Upto 300V Voltage AC : Upto 300V/Phase
		Output Test	IS 13314:1992 (Cl. 7.9)	Voltage DC : Upto 300V Voltage AC : Upto 300V/Phase Current: Upto 100A/phase
		Climatic Test	IS 13314:1992 (Cl. 7.10)	Temp: - 15º to 80ºC
		Harmonic Contents	IS 13314:1992 (Cl. 7.11)	Voltage AC: Up to 300V/Phase Harmonics: 1 to 39th order
3.	**Utility-interconnected photovoltaic inverters – Test procedure of islanding prevention measures (Up to 20 kVA)**	Test for single or multi-phase inverter	IS16169:2014/ IEC 62116,Edition 2.0: 2014-02 (Cl. No.06)	Voltage DC : 0.001 V to 600 V Voltage AC : 0.06 V to 600 V Current DC: 0.001 A to 10 A Current AC : 0.1 A to 100 A/Phase

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.	**Automatic Line Voltage Correctors (Step Type) for Domestic Use (Upto 5 kVA)**	Physical Examination	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.2, 5,8,9 &10)	Qualitative
		Construction	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.6)	Qualitative
		Durability of Marking	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.11)	Qualitative
		Output Voltage test & Efficiency	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.9.1,9.2 & 12.3)	0.001 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A 0.1 A to 10 A
		Protection against Electric Shock	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl. 7.1)	Voltage AC : Upto 300V Length: Upto 10 mm Force: Upto 50 N
		Leakage current	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.7.2)	Current: 0.1µA to 20 mA 0.1 V to 277 V
		Stability	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999,(Cl. 7.3)	Angle: 5° to 30° 2.5 N to 100 N
		Mechanical strength	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.7.4)	Spring Hammer: 0.5 Nm Force: 2.5 N to 300 N
		Provision for Earthing	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.7.5)	Current : 0.5 A to 120 A Voltage : 0.05 V to 12 V
		Screws & connections	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.7.6)	0.01 mm to 150 mm
		Creepage distances and Clearances	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.7.7)	Force: Upto 30N Length:Upto 150mm Voltage: Upto 500 Vrms

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Voltage: Upto 5kV~ , 100mA
		Insulation Resistance	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.12.4)	Voltage: 50 V to 1000V DC Insulation Res: 0.01 MΩ to 10GΩ
		High Voltage Test	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.12.5)	0.01 kV to 5kV~, 0.1 mA to 100mA
		No load output current	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999, (Cl.12.6)	Voltage: 20 V to 300 V Current: 5 mA to 30 A
		Temperature Rise Test	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.7)	Temp: Amb. to 150°C
				Resistance: 2 mΩ to 20 kΩ
		Induced Voltage Test	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.8)	20 V to 300 V Frequency: 100Hz
		Damp Heat Cyclic Test	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.9)	Temp: Amb. to 50°C, RH:10 % to 99%
		Stability test for relay operation	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.10)	Time: 1 sec to 99 min 99 sec
		Test for continuous operation	IS 8448: 1989 (RA 2003) A1:1994 + A2: 1999 (Cl.12.11)	Voltage: 20 V to 300 V Current: 5 mA to 30 A
2.	**Servo-motor operated automatic line voltage correctors (20kVA) for single phase**	Construction	IS 9815 (Part 1):1994 RA 2004, (Cl.6)	Qualitative
		Verification of Marking	IS 9815 (Part 1):1994 RA 2004 , (Cl.10)	Qualitative
		Insulation Resistance	IS 9815 (Part 1):1994 RA 2004 , (Cl.11.4)	Resistance: 2 mΩ to 2 kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	applications	High Voltage Test	IS 9815 (Part 1):1994 RA 2004, (Cl.11.5)	Voltage: 0.01 kV to 5kV~, 0.1 mA to 100mA
		Leakage current under normal operating condition	IS 9815 (Part 1):1994 RA 2004, (Cl.7.3)	Current: 0.1µA to 20 mA
		Provision for earthing	IS 9815 (Part 1):1994 RA 2004, (Cl.7.2)	Current : 0.5 A to 120 A Voltage : 0.05 V to 12 V
		Output Voltage Test & Efficiency	IS 9815 (Part 1):1994 RA 2004 ,(Cl.11.6)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		No load output current & No Load Loss Test	IS 9815 (Part 1):1994 RA 2004, (Cl.11.7 & 11.8)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		Load Loss Test & Efficiency and Induced Voltage Test	IS 9815 (Part 1):1994 RA 2004, (Cl.11.9 & 11.10)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		Test for continuous operation	IS 9815 (Part 1):1994 RA 2004 ,(Cl.11.11)	20 V to 300 V 5 mA to 30 A 1W to 6 kW
		Temperature Rise Test	IS 9815 (Part 1):1994 RA 2004 , (Cl.11.12)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
				Temp: Upto150°C
				Resistance:2mΩ to 2kΩ
		Test for Rate of Correction	IS 9815 (Part 1):1994 RA 2004, (Cl.11.13)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		Locked Rotor Test for Servo-Motor	IS 9815 (Part 1):1994 RA 2004, (Cl.11.14)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
				Temp: Upto 150°C
				Resistance: 2mΩ to 2kΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Damp Heat Cyclic Test	IS 9815 (Part 1):1994 RA 2004 ,(Cl.11.15)	Temp: Ambient to 50°C, RH:10 % to 95 %
3.	**Safety of power converters for use in photovoltaic power systems- Part 1: General Requirements (Up to 20kVA)**	Thermal Testing	IEC 62109-1:2010,Ed.1:2010-04 IS 16221(Part 1):2016, Cl.4.3	Temp: 0.1°C to 150°C
				Resistance:2mΩ to 2kΩ
		Testing in single fault condition	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:4.4)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW
				0.01 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1A to 10 A AC
		Humidity Preconditioning	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:4.5)	Upto 50°C, RH: 10 % to 95%
		Backfeed Voltage Protection	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:4.6)	0.01 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1A to 10 A AC 1 sec to 99 min 99 sec
		Electrical Rating Test	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:4.7)	0.01 V to 600 V DC 0.06 V to 600 V AC 0.001 A to 10 A DC 0.1A to 10 A AC
		Marking and documentation	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:5)	Qualitative
		Protection against electric shock	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:7.1,7.2 & 7.3)	Voltage : 0.1V to 100V ac/dc, Current : 0.01 A to 10A AC Upto 10A DC
				0.01mm to 300mm
				Force:

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				0.1 N to 50N
				Current: 0.1 µA to 20 mA
				Voltage: 20 Vrms to 300Vrms Current: 0.05 Arms to 2.0Arms
				Voltage: 0.1 kV to 5kV~ Trip Current: 01mA to 100mA
		Energy hazards	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:7.4)	Voltage : 0.001 V to 600V DC 0.06 V to 600V AC /Phase Current : 0.001A to 10A DC 0.1 A to 100 A/Phase
			IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:7.5)	Voltage: 0.01 kV to 5 kV~ Trip Current: 0.1mA to 100mA Current: 0.1µA to 20 mA Voltage: 0.1 V to 277 V
		Protection against mechanical hazards	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:8)	Force: 2.5 N to 300 N Angle : Upto 180° Time: 1 sec to 99.99 min
		Protection against Fire Hazards	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:9)	Burner Dia:9.5 mm Needle Dia:0.5 mm
				Time:0.01Sec.to 99.99 min
				Voltage DC: 0.001 V to 600 V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Voltage AC: 0.06 V to 600 V/Phase Current DC: 0.001 to 10A DC 0.1 A to 100 A/Phase
				Glow wire: 550°C to 960°C
				Temp. : Amb. To 150°C
				Distance: 0.01 mm to 150 mm
		Protection against sonic Pressure hazards	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:10)	35 dB to 100 dB
		Protection against liquid hazards & Chemical Hazards	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:11, 12)	Qualitative
		Handles & Manual Controls of securing of parts	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.1, 13.2)	2.5 N to 300 N 0.001 mm to 25 mm
		Provision for external connection	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.3)	0.001mm to 25 mm 0.01 mm to 150 mm 1 sec to 99.99 min
		Internal wiring & connections	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.4)	0.01 mm to 150 mm
		Openings in enclosures	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.5)	0.01 mm to 150 mm 0.001 mm to 25 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Polymeric Materials	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.6)	Amb to 150°C
		UV radiation	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.6.4)	Qualitative
		Mechanical resistance to deflection , impact or drop	IEC 62109-1:2010,Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.7)	2.5 N to 300 N Upto 50 mm Upto 500 gm 1 mm to 1000 mm
		Thickness requirements for metal enclosures	IEC 62109-1:2010, Ed.1:2010-04 IS 16221 (Part 1):2016 (Cl. No:13.8)	0.01 mm to 150 mm 0.001 mm to 25 mm
		Components	IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04 (Cl. No:14)	0.001 V to 600 V DC 0.06 V to 600 V/Phase 0.001 A to 10 A DC 0.1 A to 100 A/Phase 1 sec to 99 min 99 sec
4.	**Safety of power converters for use in photovoltaic power systems-Part 2: Particular requirement for inverters (Upto 20kVA single phase)**	Thermal Testing	IS 16221 (Part 2):2015 IEC 62109-2, Edition 1.0 2011-06, (Cl. No:4) IS 16221 (Part 1):2016 IEC 62109-1, Edition 1.0 2010-04, (Cl. No:4.3)	Temp: 0.1°C to 150°C Resistance: 2 mΩ to 2 kΩ
		Testing in single fault condition	IS 16221 (Part 2):2015 IEC 62109-2 Edition 1.0 2010-04,(Cl. No:4.4) IS 16221 (Part 1):2016 IEC 62109-1 Edition 1.0 2010-04, (Cl. No:4.4)	20 V to 300 V 5 mA to 30 A 1 W to 6 kW 0.001 V to 600 V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Humidity Preconditioning	IS 16221 (Part 2):2015/ IEC 62109-2 ,Edition 1.0 2011-06(Cl. No:4) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:4.5)	Temp: Upto 50°C, RH: 40 % to 95%
		Backfeed Voltage Protection	IS 16221 (Part 2):2015/ IEC 62109-2 Edition 1.0 2011-06 (Cl. No: 4) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No: 4.6)	0.001 V to 600 V DC 0.06 V to 600 V/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase
		Electrical Rating Test	IS 16221 (Part 2):2015/ IEC 62109-2 , Edition 1.0 2011-06(Cl. No:4.7) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:4.7)	0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase 20 V to 300 V 5 mA to 30 A 1 W to 6 kW
		Additional test for grid-interactive inverters	IS 16221 (Part 2):2015 IEC 62109-2 Edition 1.0 2011-06(Cl. No:4.8)	0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase 20 V to 300 V 5 mA to 30 A 1 W to 6 kW

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Marking and documentation	IS 16221 (Part 2):2015 IEC 62109-2 , Edition 1.0 2011-06(Cl. No:5) IS 16221 (Part 1):2016/ IEC 62109-1, Edition 1.0 2010-04, (Cl. No:5)	Qualitative
		Protection against electric shock & Energy Hazard	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06(Cl. No:7) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:7.2 & 7.3)	0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase 2.5 N to 300 N 0.01 mm to 150 mm 0.5 A to 120 A 0.05 V to 12 V 0.1 µA to 20 mA 0.001 mm to 25 mm 25 Vrms to 600 Vrms 0.1 Arms to 2 Arms 0.01 kV to 5 kV~ 0.1 A to 100 mA
			IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:7) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:7.4)	0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase
			IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:7) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:7.5)	0.1 V to 277 V Voltage: 0.1 kV to 5kV~ Trip Current: 0.1mA to 100mA 0.1µA to 20 mA

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against mechanical hazards	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:8) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:8)	Force: 2.5 N to 300N Angle : Upto 180° Time: 1 sec to 99 min 99 sec
		Protection against Fire Hazards	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:9) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:9)	Burner Dia:9.5 mm Needle Dia:0.5 mm
				Time: 1 msec.to 99.99min
				0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase
				Glow wire: 550° to 960°C
				Temp: Amb. To 150°C
				Distance: 0.01mm to 150mm
		Protection against sonic Pressure hazards	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:10) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:10)	35 db to 100dB
		Protection against liquid hazards & Chemical Hazards	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:11 & 12) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No:11 & 12)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Physical requirement	IS 16221 (Part 2):2015/ IEC 62109-2, Edition 1.0 2011-06,(Cl. No:13) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04, (Cl. No: 13.1,13.2,13.3,13.4,13.5,13.6, 13.7,13.8)	2.5 N to 300N 0.001 mm to 25 mm 0.01 mm to 150 mm 1 sec to 99.99 min Amb to 150
		Components	IS 16221 (Part 2):2015/ IEC 62109-2 Edition 1.0 2011-06 (Cl. No:14) IS 16221 (Part 1):2016/ IEC 62109-1 Edition 1.0 2010-04(Cl. No:14)	0.001 V to 600 V DC 0.06 V to 600 V AC/Phase 0.001 A to 10 A DC 0.1 A to 100 A AC/Phase 0.01 mm to 150 mm 0.001 mm to 25 mm 1 sec to 99 min 99 sec 2.5 N to 300 N
II.	**IT EQUIPMENT**			
1.	**Information Technology Equipment Including Electrical Business Equipment**	Power Interface	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 1.6) IEC-60950–1, Ed 2.0, 2005 (Cl. No 1.6)	Voltage: 20.0 V to 300.0 V Current: 5.00mA to 15A Power: 1.000W to 5.000 kW
		Marking & Instruction	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 1.7) IEC-60950–1, Ed 2.0, 2005 (Cl. No 1.7)	Qualitative
		Protection from hazards	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.1) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.1)	Voltage DC: 0.001 to 300V Voltage AC: 0.06 to 300V Current DC:

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				0.001 A to 10 A Current AC: 0.1 A to 10 A
		SELV circuits test	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.2) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.2)	Voltage DC: 0.001 to 300V Voltage AC: 0.06 to 300V Current DC: 0.001 A to 10 A Current AC: 0.1 A to 10 A
		TNV circuits test	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.3) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.3)	Voltage DC: 0.001 to 300V Voltage AC: 0.06 to 300V Current DC: 0.001 A to 10 A Current AC: 0.1 A to 10 A
		Limited current circuits	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.4) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.4)	Current: 0.1uA to 20 mA Voltage:0.1V to 277V
		Limited power sources	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.5) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.5)	Voltage DC: 0.001 to 300V Voltage AC: 0.06 to 300V Current DC: 0.001 A to 10 A Current AC: 0.1 A to 10 A
		Resistance of safety earth connection	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.6) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.6)	Current : 0.5 to 160 A Voltage : 0.05 to 12 V 1mΩ to 500mΩ Dist.:0.01 to 150mm Time:

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Upto 99min.99Sec
		Over current and earth fault protection in primary circuits	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.7) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.7)	Qualitative
		Safety interlocks	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.8.1,2.8.4,2.8.6,2.8.8) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.8)	0.001 to 300V DC 0.06 to 300V AC 0.001 to 10A DC 0.1 to 10A AC
		Electrical Insulation	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.9) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.9)	Temp: 20°C to 50°C, RH:10 % to 99%
		Clearances and Creepage distances and distance through insulation	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 2.10) IEC-60950–1, Ed 2.0, 2005 (Cl. No 2.10)	Distance: 0.01mm to150mm
		Wiring, connections and supply	IS 13252: 2010 + A1:2013+ A2:2015(Cl. No 3.0, 3.1, 3.2, 3.3, 3.4 & 3.5)/ IEC-60950–1, Ed 2.0:2005 (Cl. No 3.0,3.1, 3.2, 3.3, 3.4 & 3.5)	Thickness: 0.01mm to150mm Force: Upto 100N Torque: 0.2 Nm to 5Nm
		Stability Test	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.1) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.1)	Force:Upto 100N
				Angle 1˚ to 15˚
		Mechanical Strength (Impact test, Drop Test, Stress relief test) & Design and construction	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.2,4.3) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.2,4.3)	Force: Upto 100N
				Dia:50mm Mass :500gm
				0.01 mm to150mm
				Scale: 1 to 1000mm
				Oven: Amb. to 150˚C
				Voltage DC :

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				0.001V to 300V Voltage AC : 0.06 V to 300V
		Protection against hazardous moving parts	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.4) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.4)	2.5 rpm to 99999 rpm
				Force: Upto 300N
		Thermal Requirement	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.5) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.5)	Temp: 0.1 ˚C to 400˚C
				Length: 0.01 mm to 150mm
		Opening in enclosure	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.6) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.6)	Length: 0.01 mm to 150mm
		Resistance to fire	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 4.7) IEC-60950–1, Ed 2.0, 2005 (Cl. No 4.7)	Burner Dia:9.5 mm Needle Dia:0.5 mm Time: 1m Sec. to 99.99 min Glow wire temp: 550˚C to 960˚C
		Touch Current and protective conductor current	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 5.1) IEC-60950–1, Ed 2.0, 2005 (Cl. No 5.1)	Current: 0.1uA to 20 mA Voltage: 0.1V to 277V
		Electric Strength	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 5.2) IEC-60950–1, Ed 2.0, 2005 (Cl. No 5.2)	Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1mA to 100mA

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Abnormal Operating and fault Condition	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 5.3) IEC-60950–1, Ed 2.0, 2005 (Cl. No 5.3)	Voltage DC : 0.001 V to 300V Voltage AC : 0.06 V to 300V Current DC: 0.001 A to 10A Current AC : 0.1A to 10A Temperature: 0.1˚C to 400˚C
		Connection to telecommunication networks	IS 13252: 2010 + A1:2013+ A2:2015, (Cl. No 6.1,6.2.1,6.2.2,6.3) IEC-60950–1, Ed 2.0, 2005 (Cl. No 6.1,6.2,6.3)	Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
				Upto 5000 MΩ, Upto 1000 V DC
III.	**AUDIO EQUIPMENT**			
1.	**Audio/video, information and communication technology equipment – Part 1: Safety requirements**	Protection against energy sources	IEC 62368-1:2014(Ed.2.0) ,Cl:4.3	Voltage DC : 0.001V to 300V Voltage AC : 0.06 V to 300V Current DC: 0.001A to10A Current AC : 0.1A to 10A
				Length: 0.01mm to 150mm
		Equipment for direct insertion into mains socket-outlet	IEC 62368-1:2014(Ed.2.0) ,Cl:4.7	Torque : 0.1Nm to 0.25Nm
				Length: 0.01mm to150mm
		Coin/button cell batteries	IEC 62368-1:2014(Ed.2.0) ,Cl:4.8	Force:Upto 300N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Steady- state voltage and current limits	IEC 62368-1:2014(Ed.2.0) Cl:5.2.2.2	Current: 0.1uA to 20 mA Voltage: 0.1V to 277V
		Accessibility to electrical energy sources & safeguards	IEC 62368-1:2014(Ed.2.0) Cl:5.3.2	Length:0.01mm to150mm
		Thermal cycling test procedure	IEC 62368-1:2014(Ed.2.0) Cl:5.4.1.5.3	Chamber: (-)40°C to 100°C
		Max. operating temperatures for materials, components and systems	IEC 62368-1:2014(Ed.2.0) Cl:5.4.1.4, 9.2.5	Voltage:20.0V to 300.0 V Curent:5.00mA to 15A Power:1.000W to 5.000 kW
				Temp: 0.1°C to 400°C
		Clearances, creepage distance, solid insulation protective covers	IEC 62368-1:2014(Ed.2.0) Cl.no.5.4.2, 5.4.3, 5.4.4	Length: 0.01mm to 150mm
		Humidity Treatment	IEC 62368-1:2014(Ed.2.0) ,Cl.no.5.4.8	Temp: 10°C to 50°C RH:10 % to 95%
		Electric strength	IEC 62368-1:2014(Ed.2.0) Cl.no.5.4.9	Voltage:0.1kV to 5kV~ Trip Current: 0.1mA to100mA
		Safeguards against transient voltages from external circuits	IEC 62368-1:2014(Ed.2.0) Cl.no.5.4.10	0.01 mm to 150 mm
		Separation between external circuits &earth	IEC 62368-1:2014(Ed.2.0) Cl.no.5.4.11	Voltage DC : 0.001V to 300V Voltage AC : 0.06V to 300V Current DC: 0.001 A to 10 A Current AC: 0.1 A to 10 A
		Capacitor discharge	IEC 62368-1:2014(Ed.2.0) Cl:5.5.2.2	20 mV to 100 V 2 ns to 100 s
		Resistance of protective	IEC 62368-1:2014(Ed.2.0)	Current : 0.5 A to 160 A

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		conductors and their terminations	Cl:5.6.4.1	Voltage : 0.05 V to 12 V Dia.:0.001mm to 25mm Time: Upto 99min 99sec
		Prospective touch voltage, touch current & protective Conductor current	IEC 62368-1:2014(Ed.2.0), Cl:5.7	Current: 0.1µA to 20 mA Voltage:0.1V to 277V
		Power source circuit classification	IEC 62368-1:2014(Ed.2.0) Cl:6.2.2	Qualitative Voltage DC : 0.001V to 300V Voltage AC : 0.06 V to 300V
		Top openings and top openings properties	IEC 62368-1:2014(Ed.2.0) Cl:6.4.8.3.3	Qualitative Length: 0.01 mm to 150mm
		Mechanical energy source classifications	IEC 62368-1:2014(Ed.2.0) Cl:8.2	Qualitative Force: Upto 300N
		Equipment having an Electro- mechanical device for destruction of media	IEC 62368-1:2014(Ed.2.0) Cl:8.5.4.2	Qualitative Dia.:0.01 mm to 150mm Force: Upto 100N Force: Upto 300N
		Static stability for floor standing equipment	IEC 62368-1:2014(Ed.2.0) Cl:8.6.2	Force: Upto 100N Angle: 1° to 15°
		Glass slide test	IEC 62368-1:2014(Ed.2.0) Cl:8.6.4	Angle: 1° to 15°
		Horizontal force test	IEC 62368-1:2014(Ed.2.0) Cl:8.6.5	Angle: 1° to 15°
		Equipment mounted to a wall or ceiling	IEC 62368-1:2014(Ed.2.0), Cl:8.7 to 8.12	Force: Upto 100N
		Handle strength test method	IEC 62368-1:2014(Ed.2.0), Cl:8.8 to 8.12	Force: Upto 300N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Wheels or casters attachment requirement		Time: Upto 99min99sec
		Carts, stands and similar carriers		
		Mounting means for rack mounted equipment		
		Telescoping or rod Antennas (Annex T.11)		
		Durability of marking	IEC 62368-1:2014(Ed.2.0), Annex F.3.10.2, F.3.10.3	Qualitative
2.	**Method of Measurement for the power consumption of audio, video and related equipment**	Power Consumption in - Active Mode	IEC 62087: 2008 (Cl.11)	Voltage: 0.5V to 300V Current : 0.005A to 15A Power : 0.0001W to 3000 W 0.01s to 30 Minutes Energy: 0.001 kW/hr to 1 kW/hr
		Measurement of Power	IEC 62301: 2011 (Cl.5)	Voltage: 0.5 V to 300 V Current : 0.005 A to 15 A Power : 0.0001W to 3000W
3.	**Audio, Video and Similar Electronic Apparatus – Safety Requirements**	Marking & Instruction Requirements (Power consumption)	IS 616: 2010+A1+A2:2014 (Cl. No 5.0(5.1, 5.2, 5.3 & 5.4))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 5.0)	Qualitative Test
		General	IS 616:2010+A1+A2:2014 (Cl. No 7.1)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 7.1)	0.001 V to 300 VDC 0.06 V to 300 V AC 0.001 A to 10 A DC 0.1 A to 10 A AC
				Temp: 0.01˚C to 400˚C
		Constructional requirements with regard to protection against	IS 616:2010+A1+A2:2014 (Cl. No 8.0(8.1, 8.2, 8.3, 8.4, 8.5, 8.6, 8.8, 8.9, 8.10, 8.11,	Force: Upto 300N
				Distance: 0.01 mm to 150mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		electric shock	8.13, 8.14, 8.15, 8.16, 8.17, 8.19, 8.20, 8.21,8.22))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 8.0)	Dia : 0.001mm to 25mm
				Temp: 20˚C to 50˚C, RH:10 % to 99%
				Voltage:0.1kV to 5 kV~ Trip Current: 0.1 mA to 100mA
				Temp: Amb. to 250˚C
		Electric shock hazard under normal operating conditions	IS 616:2010+A1+A2:2014 (Cl. No 9 (9.1.1 to 9.1.6))/ IEC-60065, 2005+A1+ A2: 2010 (Cl. No 9.1.1 to 9.1.6)	Leakage Current: 0.1uA to 20mA 0.1V to 270V
				Voltage: 0.1kV to 5kV~ Trip Current: 0.1mA to 100mA
		Resistance to external forces	IS 616 :2010+A1+A2:2014 (Cl. No 9.1.7)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 9.1.7)	Force: Upto 300N
		Removal of protective covers	IS 616:2010+A1+A2:2014 (Cl. No 9.2)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 9.2)	Leakage Current: 0.1uA to 20mA 0.1V to 270V
				Voltage: 0.01kV to 5kV~ Trip Current: 0.1mA to 100mA
		Humidity Treatment	IS 616:2010+A1+A2:2014 (Cl. No 10.2)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 10.2)	Temperature: 20˚C to 50˚C Relative Humidity: 10 % to 95%
		Insulation Resistance and dielectric strength	IS 616:2010+A1+A2:2014 (Cl. No 10.3)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 10.3)	Voltage: 0.1 kV to 5 kV~, Voltage:50 Vto 1000Vdc Insulation Res: 0.01MΩ to 10GΩ

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Fault Condition Test	IS 616:2010+A1+A2:2014 (Cl. No 11 (11.1, 11.2))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 11)	Temperature: 0.1˚C to 400˚C
				Leakage Current: 0.1uA to 20mA , 0.1V to 270V
				Voltage DC : 0.001V to 300V Voltage AC : 0.06 V to 300V
		Bump Test	IS 616:2010+A1+A2:2014 (Cl. No 12.1.1)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.1.1)	Qualitative
		Impact Test	IS 616:2010+A1+A2:2014 (Cl. No 12.1.3)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.1.3)	Impact Energy :0.5 J Wt.:500g, Ball Dia. : (50 ± 1) mm,
				Scale: 1mm to 1000mm
		Drop Test	IS 616:2010+A1+A2:2014 (Cl. No 12.1.4)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.1.4)	Thickness of Hardwood Board:52 mm Scale 1 mm to 1000 mm
		Stress Relief Test	IS 616:2010+A1+A2:2014 (Cl. No 12.1.5)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.1.5)	Temperature: Amb. to 150˚C
		Fixing of Actuating Elements	IS 616:2010+A1+A2:2014 (Cl. No 12.2)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.2)	Torque:0.2 to 5Nm
				Force:Upto 300N
		Remote Control devices held in hand	IS 616:2010+A1+A2:2014 (Cl. No 12.3)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.3)	Dist: 0.01mm to150mm
		Drawers	IS 616:2010+A1+A2:2014 (Cl. No 12.4)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No	Dist: 0.01 to150mm Force:Upto 300N

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			12.4)	
		Antenna coaxial sockets mounted on the apparatus & Telescoping or rod antennas	IS 616:2010+A1+A2:2014 (Cl. No 12.5 & 12.6)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 12.5 & 12.6)	Force: Upto300N
				Impact Energy: 0.5 J Wt.: 500g, Ball Dia : (50 ± 1) mm, Length: 0.01mm to150mm
		Clearance And Creepage Distance (Tracking Index)	IS 616:2010+A1+A2:2014 (Cl. No 13.0)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 13.0)	Distance: 0.01mm to 150mm
		Terminals	IS 616:2010+A1+A2:2014 (Cl. No 15.0(15.1, 15.2, 15.3, 15.4))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 15.0)	Force: Upto 300N Torque: 0.2 Nm to 5Nm
				Distance: 0.01mm to150mm
				Temperature: Amb. to 150°C
				Current : 0.5A to 160 A Voltage : 0.05V to 12 V Resistance: 1 mΩ to 500 mΩ
		External Flexible cable	IS 616:2010+A1+A2:2014 (Cl. No 16.0 (16.1 to 16.7))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 16.0)	Dist:0.01 mm to 150mm
				Force: Upto 300N
				Torque: 0.2 Nm to 5Nm
		Electrical & Mechanical Connections	IS 616:2010+A1+A2:2014 (Cl. No 17.0 (17.1 to 17.9))/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 17.0)	Torque: 0.2 Nm to 5Nm
		Stability and Mechanical hazards	IS 616:2010+A1+A2:2014 (Cl. No 19.1 to 19.4)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 19.1 to 19.4)	Angle : Upto 15°

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			IS 616:2010+A1+A2:2014 (Cl. No 19.5)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 19.5)	Impact Energy:0.5 J, Wt.:500gm, Ball (50 ± 1) mm.
			IS 616:2010+A1+A2:2014 (Cl. No 19.6)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 19.6)	Torque: 0.2 to 5Nm Force: Upto 300N
		Resistance to fire	IS 616:2010+A1+A2:2014 (Cl. No 20.0)/ IEC-60065, 2005+A1 + A2:2010 (Cl. No 20.0 (20.1 to 20.4))	Length: 0.01mm to 150mm
				Burner Dia:9.5 mm Needle Dia:0.5 mm Time: 1m sec to 99.99min
IV.	**MEDICAL ELECTRICAL EQUIPMENT**			
1.	**Medical Electrical Equipment – Part 1: General Requirements for Basic Safety and Essential Performance**	General Requirement (Power input)	IS 13450(Part1): 2008 Cl. No: 4.11 / IEC-60601-1,Ed. 3.1,2012 Cl. No: 4.11	Voltage:20.0V to 300.0 V Curent:5.00mA to 18A Power:1.000W to 5.000 kW
		General Requirement for testing ME Equipment (Humidity preconditioning treatment)	IS 13450(Part1): 2008 Cl. No: 5.7/ IEC-60601-1, Ed. 3.1,2012 Cl. No: 5.7	Temp: 20°C to 50°C, RH:10 % to 99%
		Me Equipment identification, marking and documents	IS 13450(Part1): 2008 Cl. No: 7.0 / IEC-60601-1, Ed. 3.1,2012 Cl. No:7.0	Qualitative
		Protection against electrical Hazards from ME Equipment	IS 13450(Part1): 2008 Cl. No: 8.4.2/ IEC-60601-1,Ed. 3.1,2012 Cl. No: 8.4.2	Force:Upto100N
				Length : 0.001 mm to 25mm
		Limitations voltage and energy	IS 13450(Part1): 2008 Cl. No: 8.4.3 & 8.4.4 / IEC-60601-1,Ed. 3.1,2012 Cl. No: 8.4.3 & 8.4.4	0.001 V to 300V DC 0.06V to 300VAC 0.001 A to 10A DC 0.1 A to 10AAC

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Impedance and current-carrying capability	IS 13450(Part1): 2008 Cl. No: 8.6.4 / IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.6.4	Current : 0.5 Ato 160 A Voltage : 0.05V to 12 V Resistance: 1 mΩ to 500mΩ
		Leakage currents and patient auxiliary currents	IS 13450(Part1): 2008 Cl. No: 8.7 / IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.7	Current: 0.1uA to 20 mA Voltage:0.1V to277V
		Dielectric strength	IS 13450(Part1): 2008 Cl. No: 8.8.3 / IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.8.3	Voltage:0.1kV to 5 kV~ Trip Current: 0.1mA to 100mA
		Ball pressure test	IS 13450(Part1): 2008 Cl. No: 8.8.4.1 / IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.8.4.1	Oven: Amb. to 250°C ∅ of ball 5mm, Thickness: 0.01mm to 150mm
		Creepage distances and air clearances	IS 13450(Part1): 2008 Cl. No: 8.9 / IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.9	Dia.:0.01mm to 150mm
		Material groups classification (Tracking Test)	IS 13450(Part1): 2008 Cl. No: 8.9.1.7/IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.9.1.7	Voltage: Upto 600Vrms Currnet:Upto 2.0Arms
		Thermal cycling	IS 13450(Part1): 2008 Cl. No: 8.9.3.4/IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.9.3.4	Temp: 0.1°C to 400°C
		Cord anchorage	IS 13450(Part1): 2008 Cl. No: 8.11.3.5/IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.11.3.5	Thickness: 0.01mm to 150mm Force: Upto 300N
		Cord guards	IS 13450(Part1): 2008 Cl. No: 8.11.3.6/IEC-60601-1, Ed. 3.1,2012 Cl. No: 8.11.3.6	Thickness: 0.01mm to 150mm
		Protection against mechanical hazards of ME Equipment and ME systems (Instability hazards)	IS 13450(Part1): 2008 Cl. No: 9.4/IEC-60601-1, Ed. 3.1,2012 Cl. No: 9.4	Angle : Upto 30°

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Audible acoustic energy	IS 13450(Part1): 2008 Cl. No: 9.6/IEC-60601-1, Ed. 3.1,2012 Cl. No: 9.6	30dB to 130dB
		Protection against excessive temperature and other hazards	IS 13450(Part1): 2008 Cl. No: 11.1/IEC-60601-1, Ed. 3.1,2012 Cl. No: 11.1	Voltage: 20.0V to 300.0 V 5 mA to 30 A 1 W to 6 kW
				Temp: 0.1°C to 400°C
		Constructional requirements for fire enclosures	IS 13450(Part1): 2008 Cl. No: 11.3/IEC-60601-1, Ed. 3.1,2012 Cl. No: 11.3	Burner Dia:9.5 mm Needle Dia:0.5 mm Time: 1 msec to 99.99 min
		Spillage	IS 13450(Part1): 2008 Cl. No: 11.6.3/IEC-60601-1, Ed. 3.1,2012 Cl. No: 11.6.3	Qualitative
		Cleaning and disinfection	IS 13450(Part1): 2008 Cl. No: 11.6.6/IEC-60601-1, Ed. 3.1,2012 Cl. No: 11.6.6	Current: 0.1uA to 20 mA Voltage: 0.1V to 277V
				Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
		Sterilization	IS 13450(Part1): 2008 Cl. No: 11.6.7/IEC-60601-1, Ed. 3.1,2012 Cl. No: 11.6.7	Temp: 0.1°C to 400°C
		Accuracy of controls and instruments and protection against hazardous output	IS 13450(Part1): 2008 Cl. No: 12/IEC-60601-1, Ed. 3.1,2012 Cl. No: 12	Qualitative
		Hazardous situations and fault conditions	IS 13450(Part1): 2008 Cl. No: 13/IEC-60601-1, Ed. 3.1,2012 Cl. No: 13	Temp: 0.1°C to 400°C
		Construction of ME equipment (Mechanical	IS 13450(Part1): 2008 Cl. No: 15.3/IEC-60601-1,	500g , 0,5 J Ball Dia : (50 ± 1) mm,

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		strength)	Ed. 3.1,2012 Cl. No: 15.3	500 g steel ball, 50 mm thick hardwood board
				Force: Upto 300N
		Temperature and overload control devices	IS 13450(Part1): 2008 Cl. No: 15.4.2/IEC-60601-1, Ed. 3.1,2012 Cl. No: 15.4.2	Force: Upto100N
		Actuating parts of controls	IS 13450(Part1): 2008 Cl. No: 15.4.6/IEC-60601-1, Ed. 3.1,2012 Cl. No: 15.4.6	Force: Upto 300N
				Torque: 0.2 to 5Nm
		Cord-connected hand-held and foot-operated control devices	IS 13450(Part1): 2008 Cl. No: 15.4.7/IEC-60601-1, Ed. 3.1,2012 Cl. No: 15.4.7	Force: Upto 300N
		Overheating (Transformers)	IS 13450(Part1): 2008 Cl. No: 15.5.1/IEC-60601-1, Ed. 3.1,2012 Cl. No: 15.5.1	Temp: 0.1°C to 300°C
		Dielectric Strength	IS 13450(Part1): 2008 Cl. No: 15.5.2/IEC-60601-1, Ed. 3.1,2012 Cl. No: 15.5.2	Voltage:0.1 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
		ME Systems	IS 13450(Part1): 2008 Cl. No: 16.6/IEC-60601-1, Ed. 3.1,2012 Cl. No: 16.6	Current: 0.1uA to 20 mA Voltage:0.1V to 277V
2.	**Medical electrical equipment –Part 2-41: Particular requirements for the safety of surgical luminaires and luminaires for diagnosis**	General Requirement (Power input)	IEC 60601-2-41:2010 (Cl. No. 201.4)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 4.11)	Voltage: 20.0 V to 300.0 V Curent:5.00 mA to 18A Power:1.000W to 5.000 kW
		General Requirement for testing ME Equipment (Humidity preconditioning treatment)	IEC 60601-2-41:2010 (Cl. No. 201.5)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 5.7)	Temp: 20 °C to 50 °C, RH:10 % to 99 %
		Me Equipment identification, marking and documents	IEC 60601-2-41:2010 (Cl. No. 201.7)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 7.0)	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Protection against electrical Hazards from ME Equipment	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.4.2)	Force: Upto 100N Length : 0.001 mm to 25mm
		Limitations voltage and energy	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.4.3,8.4.4)	Voltage DC:0.001 to300V Voltage AC : 0.06 to300V Current DC:0.001 to 10A Current AC :0.1 to 10A
		Impedance and current-carrying capability	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.6.4)	Current : 0.5 to 160 A Voltage : 0.05 to 12 V Resistance: 1mΩ to 500mΩ
		Leakage currents and patient auxiliary currents	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.7)	Current: 0.1uA to 20 mA Voltage:0.1V to 277V
		Dielectric strength	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.8.3)	Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1mA to100mA
		Ball pressure test	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.8.4.1)	Oven: Amb. to 250°C ∅ of ball 5mm, Board Thickness: 0.01mm to150mm
		Creepage distances and air clearances	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.9)	0.01 mm to 150 mm
		Material groups classification (Tracking Test)	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.9.1.7)	Voltage:Upto 600Vrms Currnet: Upto 2.0Arms

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Thermal cycling	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.9.3.4)	Temp: 0.1°C to 400°C
		Cord anchorage	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.11.3.5)	Thickness: 0.01 mm to 150mm
				Micrometer: 0.01 mm to 25mm
				Force: Upto 100N
		Cord guards	IEC 60601-2-41:2010 (Cl. No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 8.11.3.6)	Thickness: 0.01 mm to 150mm
		Protection against mechanical hazards of ME Equipment and ME systems Instability hazards)	IEC 60601-2-41:2010 (Cl. No. 201.9)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 9.4)	Angle : Upto 30°
		Audible acoustic energy	IEC 60601-2-41:2010 (Cl. No. 201.9)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 9.6)	30 dB to 130 dB
		Instability excluding transport, Tensile safety factor	IEC 60601-2-41:2010 (Cl. No. (201.9.2.101, 201.9.4 & 201.9.8.3.2)/IS 13450	Force: Upto100N
		Protection against excessive temperature and other hazards	IEC 60601-2-41:2010 (Cl. No.(201.11)/ IEC-60601-1,Ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 11.1)	Voltage: 20.0 V to 300.0 V 5 mA to 30 A 1 W to 6 kW
				Temp: 0.1°C to 400°C
		Constructional requirements for fire	IEC 60601-2-41:2010 (Cl. No.(201.11)/ IEC-60601-	Burner Dia:9.5 mm Needle Dia:0.5 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		enclosures	1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 11.3)	Time: 1mSec. to 99.99 Minute
		Spillage	IEC 60601-2-41:2010 (Cl. No.(201.11)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 11.6.3)	Qualitative
		Cleaning and disinfection	IEC 60601-2-41:2010 (Cl. No.(201.11)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 11.6.6)	Current: 0.1uA to 20 mA Voltage: 0.1V to 277V
				Voltage: 0.1 kV to 5 kV~ Leakage Current: 0.1mA to 100mA
		Sterilization	IEC 60601-2-41:2010 (Cl. No.(201.11)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 11.6.7)	Temp: 0.1°C to 400°C
		Interruption of power supply	IEC 60601-2-41:2010 (Cl. No.(201.11.8)/ IS 13450	1 lx to 200000lx
		Accuracy of controls and instruments and protection against hazardous output	IEC 60601-2-41:2010 (Cl. No.(201.12)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 12)	Qualitative
		Characteristics of illumination	IEC 60601-2-41:2010 (Cl. No.(201.12.1.102)/IS 13450	1 lx to 200000lx
		Hazardous situations and fault conditions	IEC 60601-2-41:2010 (Cl. No.(201.13)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 13)	Temp: 0.1°C to 400°C
		Construction of ME equipment (Mechanical strength)	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450	Impact Energy 0,5 J , 500g Ball Dia : (50 ± 1) mm,

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			(Part1): 2008 (Cl. No. 15.3)	circular plane ∅ 30 mm 500 g steel ball, 50 mm thick hardwood board
				Force: Upto 300N
		Temperature and overload control devices	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 15.4.2)	Force: Upto 100N
		Actuating parts of controls	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 15.4.6)	Force: Upto 300N
				Torque: 0.2 to 5Nm
		Cord-connected hand-held and foot-operated control devices	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 15.4.7)	Force: Upto 300N
		Transformers	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 15.5.1)	Temp: 0.1°C to 400°C
		Dielectric Strength	IEC 60601-2-41:2010 (Cl. No.(201.15)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 15.5.2)	Voltage:0.1 to 5 kV~ Trip Current: 0.1 mA to 100mA
		ME Systems	IEC 60601-2-41:2010 (Cl. No.(201.16)/ IEC-60601-1,ed. 3.1,2012 & IS 13450 (Part1): 2008 (Cl. No. 16.6)	Current: 0.1uA to 20 mA Voltage:0.1V to 277V

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Medical electrical equipment –Part 2-46: Particular requirements for the basic safety and essential performance of operating tables**	General Requirement (Power input)	IEC 60601-2-46:2010(Cl.No. 201.4)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 4.11)	Voltage:20.0 V to 300.0 V Curent:5.00mA to 18A Power: 1.000 W to 5.000 kW
		General Requirement for testing ME Equipment (Humidity preconditioning treatment)	IEC 60601-2-46:2010(Cl.No. 201.5)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 5.7)	Temp: 20°C to 50°C, RH:10 % to 99%
		ME EQUIPMENT identification, marking and documents	IEC 60601-2-46:2010(Cl.No. 201.7)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No.7)	Qualitative
		Protection against electrical Hazards from ME Equipment	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.4.2)	Force:0 to100N
				Micrometer : 0.001 mm to 25mm
		Limitations voltage and energy	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.4.3,8.4.4)	Voltage DC :0.001 to 300V Voltage AC : 0.06 to 300V Current DC:0.001 to 10 A Current AC : 0.1 to 10A
		Impedance and current-carrying capability	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.6.4)	Current : 0.5 to 160 A Voltage : 0.05 to 12 V Resistance:1 to 500mΩ
		Leakage currents and patient auxiliary currents	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,Ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.7)	Current: 0.1uA to 20 mA Voltage:0.1V to277V
		Dielectric strength	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.8.3)	Voltage:0.1 kV to 5 kV~ Trip Current: 0.1mA to100mA

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ball pressure test	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.8.4.1)	Oven: Amb. to 250ºC ∅ of ball 5mm, Thickness:0.01-150mm
		Creepage distances and air clearances	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.9)	Force:0 to 300N Dia.:0.01 to 150mm
		Material groups classification (Tracking Test)	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.9.1.7)	Voltage:0 to 600Vrms Currnet:0 to 2.0Arms
		Thermal cycling	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.9.3.4)	Temp: 0.1°C to 400°C
		Cord anchorage	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.11.3.5)	Thickness: 0.01mm to 150mm Force: Upto 300N
		Cord guards	IEC 60601-2-46:2010(Cl.No. 201.8)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 8.11.3.6)	Thickness: 0.01mm to 150mm
		Protection against mechanical hazards of ME Equipment and ME systems (Instability hazards)	IEC 60601-2-46:2010 (Cl.No. 201.9)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 9.4)	Angle : Upto 30°
		Audible acoustic energy	IEC 60601-2-46:2010(Cl.No. 201.9)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 9.6)	30 dB to 130dB
		Instability excluding transport, Tensile safety	IEC 60601-2-46:2010(Cl.No. 201.9.4.2.2, 201.9.8.2 &	Qualitative 0.01 mm to 150 mm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		factor	201.9.8.3.2)/ IS13450	
		Protection against excessive temperature and other hazards	IEC 60601-2-46:2010(Cl.No. 201.11)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 11.1)	Voltage:20.0 V to 300.0 V
				Temp: 0.1 to 400°C
		Constructional requirements for fire enclosures	IEC 60601-2-46:2010(Cl.No. 201.11)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 11.3)	Burner Dia:9.5 mm Needle Dia:0.5 mm Time:1mSec.to 99.99Minute
		Spillage	IEC 60601-2-46:2010(Cl.No. 201.11)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 11.6.3)	Qualitative
		Cleaning and disinfection	IEC 60601-2-46:2010(Cl.No. 201.11)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 11.6.6)	Current: 0.1uA to 20 mA Voltage:0.1V-277V
				Voltage:0.1-5KV~ Trip Current:0.1-100mA
		Sterilization	IEC 60601-2-46:2010(Cl.No. 201.11)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 11.6.7)	Temp: 0.1°C to 400°C
		Accuracy of controls and instruments and protection against hazardous output	IEC 60601-2-46:2010(Cl.No. 201.12)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 12)	Qualitative
		Hazardous situations and fault conditions	IEC 60601-2-46:2010(Cl.No. 201.13)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 13)	Temp: 0.1°C to 400°C
		Mechanical strength	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.3)	500g Ball Dia : (50 ± 1) mm, circular plane ∅ 30 mm ,500 g steel ball, 50 mm thick hardwood board

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				Force: Upto 300N
		Temperature and overload control devices	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.4.2)	Force: Upto 100N
		Actuating parts of controls	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.4.6)	Force: Upto 300N
				Torque: 0.2Nm to 5Nm
		Cord-connected hand-held and foot-operated control devices	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.4.7)	Force: Upto 300N
		Transformers	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.5.1)	Temp: 0.1°C to 400°C
		Dielectric Strength	IEC 60601-2-46:2010(Cl.No. 201.15)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 15.5.2)	Voltage: 0.1 kV to 5 kV~ Trip Current: 0.1 mA to 100mA
		ME Systems	IEC 60601-2-46:2010(Cl.No. 201.16)/ IEC-60601-1,ed. 3.1,2012 & IS13450(Part1): 2008 (Cl. No. 16.6)	Current: 0.1uA to 20 mA Voltage:0.1V to 277V
V.	**ELECTRONIC COMPONENTS & EQUIPMENT SUB ASSEMBLIES**			
1.	**Mobile Phone HandsetsPart 3 Indian Language Support for Mobile Phone Handsets – Specific Requirements**	Tests	IS 16333 (Part 3) : 2016	Inputting and display of all the characters in English, Hindi and at least an additional Indian official language (Qualitative)

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
VI.	**EMC TEST FACILITY**			
1.	**Electrical & Electronics Products**	Electrostatic Discharge Test	IEC 61000-4-2:2008 IS14700,(Part4/Sec2):2008	Discharge Mode: Air& Contact 0.5 kV to 15 KV Contact) 0.5 kV to 30 KV(Air) Polarity: Positive & Negative

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

PHOTOMETRY TESTING

I.	**LUMINAIRES**			
1.	**Method For Photometric Testing Of Indoor Fluorescent Luminaires**	Luminous Flux Intensity Distribution	IES LM-41-14 (Cl. 7.0)	1 to 37000 lm 0.0001 to 37000 lx at d = 16m
		Chromaticity Coordinates, CCT and CRI Spectroradiometric Measurements	IES LM-58:2013	1000 K to 10000 K Ra: 1 to 100
		Electrical Characteristics Input AC Voltage Input AC Current Input Frequency Input Power Power Factor Input DC Voltage Input DC Current Input Power	IES LM-41-14 (Cl.5.0)	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0
2.	**Photometric Testing Of Indoor Luminaries Using High Intensity Discharge Or Incandescent Filament Lamps**	Luminous Flux, Intensity Distribution	IES LM-46-04 (Cl. 6.0,7.0, 8.0)	1 to 37000 lm 0.0001 to 37000 lx at d = 16m
		Electrical Characteristics Input AC Voltage Input AC Current Input Frequency Input Power Power Factor Input DC Voltage Input DC Current	IES LM-46-04 (Cl. 4.0)	Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Input Power		
3.	**Methods of Measurement of Lumen Maintenance of Solid State Light (LED) Sources**	Case Temperature	IS 16105 : 2012 (Cl. 5.5) / LM80-08 ,Cl.5.5	0.1˚C to 400˚C
		Photometry Measurement	IS 16105 : 2012 (Cl. 6.2) / LM80-08 ,Cl.6.2	1 lm to 37000 lm
		Photometry Measurement Temperature	IS 16105 : 2012 (Cl. 6.3) / LM80-08 , Cl.6.3	Upto 50˚C
		Chromaticity	IS 16105 : 2012 (Cl. 7.4) / LM80-08, Cl.7.4	Upto 10000 K Ra: Upto 100
		Lumen Maintenance Testing Duration and Interval	IS 16105 : 2012 (Cl. 7.1) / LM80-08 ,Cl.7.1	Upto 37000 lm
		Lumen Measurement		Upto 37000 lx
4.	**Electrical and Photometric Measurements of Solid State Lighting Products**	Electrical Instrumentation	IES LM 79-08 (Cl. 8.0) / IS 16106 : 2012 ,Cl.10	Voltage:0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0
		Test Method for Total Luminous Flux measurements	IES LM 79-08 (Cl. 9.0) / IS 16106 : 2012,Cl.11	Upto 37000 lm
		Luminous Intensity Distribution	IES LM 79-08 (Cl. 10.0) / IS 16106 : 2012 (Cl. 12.0)	Upto 37000 lx at d = 16m 0 to 360˚
		Luminous Efficacy	IES LM 79-08 (Cl. 11.0) / IS 16106 : 2012 (Cl. 13.0)	Upto 37000 lm Voltage: 0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W
		Test Method for Color Characteristics of SSL Products	IES LM 79-08 (Cl. 11.0) / IS 16106 : 2012 (Cl. 14.0)	Upto 10000 K CRI: Upto 100
5.	**Method for the Electrical and**	Luminous Flux Normal Intensity	IES LM-45-15 (Cl. 7.0)	1lm to 37000 lm 0.0001 to 37000 lx at d

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Photometric Measurement of General Service Incandescent Filament Lamps	(Candela) and Intensity Distribution (Candela)		= 16m
		Colour Measurements Correlated Colour Temperature, Colour Renedering Index, Chromaticity Coordinates, Spectral Power Distribution Spectroradiometric Measurements,	IES LM-45-15 (Cl.7.0) IES LM-58:2013	1000 K to 10000 K Ra:Upto 100
		Electrical Characteristics Input AC Voltage Input AC Current Input Frequency Input Power Power Factor Input DC Voltage Input DC Current Input Power	IES LM-45-15 (Cl.5.0)	Voltage:0.5V to 300V Current:0.005A to 40A Power:0.0001W to 3000W Power factor : ±1.0
6.	**Electrical and Photometric Measurements of Single-Based Fluorescent Lamps**	Luminous Flux and Intensity Distribution	IES LM-66:2014 (Cl. 6.0)	0.0001 to 37000 lx at d=16m 1 to 37000 lm
		Colour Measurements Correlated Colour Temperature, Colour Rendering Index, Chromaticity Coordinates, Spectral Power Distribution, Spectroradiometric Measurements	IES LM-58:2013	1000 K to 10000 K Ra: 1 to100

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Electrical Characteristics Input AC Voltage Input AC Current Input Frequency Input Power, Power Factor, Input DC Voltage Input DC Current Input Power	IES LM-66-14 (Cl.5.0)	Voltage:0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0
7.	**Method for Photometry of Reflector Type Lamps**	Intensity Distribution, Beam Angle, Field Angle, Luminous Flux	IES LM-20-13 (Cl.5.0, 7.0, 8.0)	0.0001 to 37000 lx at d = 16 m 0.001˚ to 360˚ 1 lm to 37000 lm
		Colour Measurements Correlated Colour Temperature, Colour Renedering Index, Chromaticity Coordinates, Spectral Power Distribution, Spectroradiometric Measurements, Method of Measuring and Specifying Colour Rendering of Light Sources	IES LM-20-13 (Cl.8.0) IES LM-58:2013	1000 to 10000 K Ra: 1 – 100 1 lm to 37000 lm
		Electrical Characteristics Input AC Voltage Input AC Current Input Frequency Input Power Power Factor Input DC Voltage Input DC Current Input Power	IES LM-20-13 (Cl.5.0)	Voltage:0.5V to 300V Current : 0.005A to 40A Power : 0.0001W to 3000W Power factor : ±1.0