

Laboratory	Electronics Regional Test Laboratory (North), Okhla Industrial Area, Phase- II, New Delhi		
Accreditation Standard	ISO/IEC 17025: 2005		
Discipline	Electronics Testing	Issue Date	18.03.2015
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	IT EQUIPMENTS			
1.	Personal Computer	General Requirement	IS 14896: 2001 (RA 2007)	Qualitative
		Micro Processor Used		Qualitative
		RAM Expansion		Qualitative
		RAM Capacity		Qualitative
		External And Internal Interfaces Display Key Board		Qualitative
		Power Supply		25 mW to 5 kW
		Leakage Current		0.001 mA to 20 mA
		Dielectric Test		Qualitative 0.5 kV to 5 kV
		Conducted Emission		Upto 10 A for 1 phase Upto 32 A for 3 phase
		Radiated Emission		30 MHz to 6 GHz 3 m
		Immunity To Electrostatic Discharge		0.1 kV to 15 kV
		Electrical Fast Transient/Burst		Upto 16 A for 1 phase Upto 32 A for 3 phase

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Personal Computer	Surge/Spike	IS 14896: 2001 (RA 2007)	Upto 16 A for 1 phase Upto 32 A for 3 phase Max amplitude : 4 kV
		Performance Requirements Visual Examination And Functional Performance		Qualitative
		Effect of Power Supply: Voltage Frequency		10 V to 270 V 30 Hz to 70 Hz
		Verification of Marking		Qualitative
		Drop		Qualitative (25 mm to 1 m)
		Bump		Qualitative (No. of Bumps: 1000 (±) 10 or 4000 (±) 10 Acc: 400 m/s ² 250 m/s ² Pulse Duration: 6 m/s)
		Vibration		Qualitative (Max. Force: 5000 Kgf (Peak Sine) Freq: 5 Hz to 2 kHz Displacement: 50.0 mm (P-P))
		Dry Heat		Qualitative (40 °C to 200 °C)

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	Personal Computer	Damp Heat Test	IS 14896: 2001 (RA 2007)	Qualitative 40 °C, 55 °C, 65 °C R.H. Ambient to 95%
		Cold		(-) 70 °C to 10 °C
		Burn-In		40 °C to 200 °C
II. AUDIO EQUIPMENTS				
1.	TV Receiver & Audio Video Equipments	Parameter	IEC: 62087 (Edition 3) IEC 62301	
		Standby Mode Power		25 mW to 10 kW
		On Mode Power Consumption		25 mW to 10 kW
		Maximum Annual Power Consumption (Kwh/Yr)		25 mW to 10 kW
III. DOMESTIC ELECTRONIC APPLIANCES & ACCESSORIES				
1.	Taxi Meter Electronic	Parameter	IS 2747: 1990 (RA 2006)	
		General		Qualitative
		Constructional And Operational Requirements		Qualitative (Any Distance /Fare Time Upto 99 hrs 99 minutes 99 seconds)
		Fair Indication		
		Flag		

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	Taxi Meter Electronic	Distance Drive	IS 2747: 1990 (RA 2006)	Qualitative (Any Distance /Fare Time Upto 99 hrs 99 minutes 99 seconds)
		Bench Test		
		Time Test		
		Endurance Test		
		Dry Heat Test		Qualitative (40 °C to 200 °C)
		Damp Heat Test (Cycle)		Qualitative (40 °C, 55 °C, 65 °C R.H. Ambient to 95 %)
		Vibration Test		Qualitative (5000 Kgf (Peak Sine) 5 Hz to 2 kHz 50.0 mm (P-P))
		Bump Test		Qualitative (No. of Bumps: 1000 (±) 10 or 4000 (±) 10 Acc: 400 m/sec ² 250 m/sec ² Pulse Duration: 6 ms)
2.	Electronic Fan Regulator	Design And Construction	IS 11037: 1984 (RA 2005)	Qualitative
		General And Safety Requirements		Qualitative
		Performance		Qualitative

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	Electronic Fan Regulator	Verification of Marking	IS 11037: 1984 (RA 2005)	Qualitative
		Temperature Rise		Upto 300 °C
		Leakage Current		0.001 mA to 20 mA
		High Voltage		Qualitative (50 V to 5 kV)
		Insulation Resistance		0.1 MΩ to 250 MΩ
		Earthing		Upto 25 A, 12V
		Protection Against Electric Shock		Qualitative (5 N to 200 N 0.1 mA to 20 mA Upto 25 A, 12 V 200 mV to 1000 V 50 kV AC to 5 kV AC 0.01 mm to 200 mm)
		Voltage Drop Performance		Upto 300 V
		Moisture Resistance		Qualitative
		Mechanical Strength		0.22 Nm to 0.50 Nm
		Power Loss		25 mW to 200 kW _{PK}
		Creepage Distances And Clearances		Upto 200 mm
		Ripple Content		Upto 300 V

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	Electronic Fan Regulator	Dry Heat Test	IS 11037: 1984 (RA 2005)	Qualitative (40 °C to 200 °C)
		Cold Test		Qualitative (-) 70 °C to 10 °C)
		Vibration Test		Qualitative (5000 Kgf (Peak Sine) 5 Hz to 2 kHz 50.0 mm (P-P))

IV. ENVIRONMENTAL TEST FACILITY

1. All Electronic Product	Dry Heat Test	IS 9000 (Part 3): 1977 IEC 60068-2-2: 2007 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998 IEC 60571: 1998	Qualitative (40 °C to 180 °C)
	Cold Test	IS 9000 (Part 2): 1977 IEC 60068-2-1: 1990 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998 IEC 60571: 1998	Qualitative (-)70 °C to 10 °C)
	Damp Heat Test (Steady State)	IS 9000 (Part 4): 1981 IEC 60068-2-78: 2001 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998	Qualitative (30 °C/ 40 °C R.H. 85 %/95 %)

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	All Electronic Product	Damp Heat Test (Cycle)	IS 9000 (Part 5): 1981 IEC 60068-2-30: 2005 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998 IEC 60571: 1998	Qualitative (40 °C, 55 °C, 65 °C R.H. Amb to 95 %)
		Salt Mist Test	IS 9000 (Part 11): 1983 IEC 60068-2-11: 1981 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998 IEC 60571: 1998	Qualitative
		Temperature Cycling/ Change Of Temperature	IS 9000 (Part 14): 1981 IEC 60068-2-14: 1984 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998	(-) 65 °C to 175 °C Rate of change 10°C/min.
		Solder ability Test	IS 9000 (Part 18): 1981 IEC 60068-2-20: 1979	225 °C to 260 °C
		Dust Test	IS 9000 (Part 12): 1981 JSS 50101: 1996)	Upto 40 °C
		Vibration Test (Sine & Random)	IS 9000 (Part 8): 1981 IEC 60068-2-6: 1995 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998 IEC 60571: 1998 IEC 60068-2-35, 36,37: 2006	Qualitative (5000 Kgf (Peak Sine) 5000 Kgf (RMS Random) 5 Hz to 2 kHz 50.0 mm (P-P) 1000 m/s ² PSD : 32 g RMS)

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	All Electronic Product	Bump Test	IS 9000 (Part 7/Sec II): 1979 IEC 60068-2-29: 1987 JSS 50101: 1996 JSS 55555: 2000 QM 333: 1998	Qualitative (No. of Bumps 1000(±)10 4000(±)10 Acc: 400 m/s ² 250 m/s ² Pulse Duration: 6 m Sec)
		Shock Test	IS 9000 (Part 7/Sec I): 1979 IEC 60068-2-27: 2008 JSS 50101: 1996 JSS 55555: 2000	Acc: 150m/s ² to 15000 m/s ² Duration of Pulse: 0.5 m/sec to 18 m/sec. Pulse shape: Half sine
		Degree Of Protections	IS/IEC 60947: 2004 IS 13947: 1993 (RA 2004) IEC 60529: 2001 IS 12063: 1987 (RA 2004)	Qualitative (Upto IP 56 (Cat.II only))
		Constant Acceleration Test	IEC 60068-2-7: 1983 JSS 50101: 1996	Upto 300,000 m/s ² Duration 1 min.
		Combined Temp/Vibration Test	IEC 60068-2-50: 1983 IEC 60068-2-51: 1983	Qualitative (5000 Kgf (Peak Sine) 5 Hz to 2 KHz 50.0 mm (P-P) 1000 m/sec ² (-) 65 °C to 180 °C Cooling rate 10 °C/ min. average Heating rate 20 °C/ min. average)

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V. SAFETY TEST FACILITY				
1.	Audio, Video And Similar Electronic Apparatus	Verifications of Marking And Instructions	IS 616 : 2010 IEC 60065: 2014 Clause 5	Qualitative (0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W)
		Hazardous Radiations (Ionization Radiation)	IS 616 : 2010 IEC 60065: 2014 Clause 6.1	0.1 mR/H to 100 mR/H
		Heating Under Normal Operating Conditions	IS 616 : 2010 IEC 60065: 2014 Clause 7.1	3 mΩ to 30 kΩ Upto 1300 °C
		Heat Resistance of Insulating Material	IS 616 : 2010 IEC 60065: 2014 Clause 7.2	Upto 200 °C Upto 20 N Upto 20 mm
		Constructional Requirements With Regard to the Protection Against Electric Shock	IS 616 : 2010 IEC 60065: 2014 Clause 8	Upto 200 mm Upto 45 °C (temp.) Upto 95 % (RH) Upto 50 GΩ, 0V to 1000 VDC 1 N to 200 N Upto 6.0 Nm
		Electric Shock Hazard Under Normal Operating Conditions.	IS 616 : 2010 IEC 60065: 2014 Clause 9	0.05 mA to 20 mA DC V: 200 mV to 1000 V AC V: 200 mV to 750 V Upto 200 N (Upto 6.0 Nm Upto 200 mm)

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	Audio, Video And Similar Electronic Apparatus	Insulation Requirements	IS 616 : 2010 IEC 60065: 2014 Clause 10	Upto 25 kV Upto 45 °C (temp.) Upto 95 % (R.H.) Upto 50 GΩ Upto 1000 V DC Upto 5 kV AC Upto 6 kV DC	
		Fault Conditions	IS 616 : 2010 IEC 60065: 2014 Clause 11	3 mΩ to 30 kΩ Upto 1300 °C	
		Mechanical Strength		IS 616 : 2010 IEC 60065: 2014 Clause 12.1.1	Upto 50 mm
				IS 616 : 2010 IEC 60065: 2014 Clause 12.1.2	10 Hz-55 Hz-10 Hz 1 Octave/min. 0.35 mm
				IS 616: 2010 IEC 60065: 2014 Clause 12.1.3	0.22 Nm to 2.0 Nm Upto 200 mm Upto 200 N 500 gm Ø 50 mm 2.1 Nm to 3.5 Nm
				IS 616 : 2010 IEC 60065: 2014 Clause 12.1.4	Upto 1000 mm 52 mm
				IS 616 : 2010 IEC 60065: 2014 Clause 12.1.5	Upto 70 °C

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	Audio, Video And Similar Electronic Apparatus	Mechanical Strength	IS 616 : 2010 IEC 60065: 2014 Clause 12.3	Upto 200 mm
			IS 616 : 2010 IEC 60065: 2014 Clause 12.4	1 N to 50 N
			IS 616 : 2010 IEC 60065: 2014 Clause 12.5	0.5 Nm
			IS 616 : 2010 IEC 60065: 2014 Clause 12.6	1 N to 50 N
		Clearances And Creepage Distances	IS 616 : 2010 IEC 60065: 2014 Clause 13	Upto 200 mm Upto 600 V rms Upto 2.0 A rms 0.01 s to 60 Minutes
		Terminals	IS 616 : 2010 IEC 60065: 2014 Clause 15	Qualitative (Upto 200 mm 10 A & 25 A Upto 12 Vmax 1 N to 200 N Upto 6.0 Nm Upto 0.25 Nm Upto 1000 mm 52 mm (Wooden Platform) Upto 100 °C 3 mΩ to 30 kΩ

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	Audio, Video And Similar Electronic Apparatus	External Flexible Cords	IS 616 : 2010 IEC 60065: 2014 Clause 16	Upto 200 mm 1 N to 40 N 35 A, 7 kg
		Electrical Connections And Mechanical Fixings	IS 616 : 2010 IEC 60065: 2014 Clause 17	1 N to 200 N Upto 6.0 Nm
		Mechanical Strength of Picture Tubes and Protection Against The Effects of Implosion	IS 616 : 2010 IEC 60065: 2014 Clause 18	Ø 40 mm Upto 1000 mm
		Stability and Mechanical Hazards	IS 616 : 2010 IEC 60065: 2014 Clause 19	Upto 200 mm 1 kg to 100 kg
		Resistance To Fire	IS 616 : 2010 IEC 60065: 2014 Clause 20	0.5 mm to 9.5 mm 0.01 s to 60 minute Upto 100 °C
2.	Information Technology Equipment	Power Interface	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 1.6	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W
		Verification of Marking And Instructions	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 1.7	Qualitative
		Protection From Electric Shock And Energy Hazards	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.1	Qualitative (DC : 200 mV to 1000 V AC: 200 mV to 750 V Upto 200 N)

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	Information Technology Equipment	SELV Circuits	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.2	DC: 200 mV to 1000 V AC: 200 mV to 750 V
		TNV Circuits	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.3	DCV: 200 mV to 1000 V ACV: 200 mV to 750 V
		Limited Current Circuits	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.4	DCV: 200 mV to 1000 V ACV: 200 mV to 750 V 0.999 pF to 10 μF at 1kHz 99 μH to 10 H at 1 kHz 0.1 Ω to 1 MΩ at 1 kHz
		Limited Power Source	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.5	DC: 200 mV to 1000 V AC: 200 mV to 750 V
		Provisions For Earthing And Bonding	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.6	DC: 200 mV to 1000 V AC: 200 mV to 750 V Upto 200 mm 10 A & 150 A Upto 12 Vmax
		Overcurrent And Earth Fault Protection In Primary Circuits	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.7	DC: 200mV to 1000 V AC: 200mV to 750 V

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	Information Technology Equipment	Safety Interlocks	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.8	Upto 200 mm Upto 45 °C (temp.) Upto 95 % R.H.
		Insulation Requirements	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.9	Upto 50 GΩ Upto 45 °C (temp.) Upto 95 % R.H.
				Upto 25 kV Upto 1000 V DC
				Upto 5 kV AC Upto 6 kV DC
				3 mΩ to 30 kΩ
				Upto 200 mm
		Clearances and Creepage Distances	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 2.10	Upto 600 V rms Upto 2.0 A rms 0.01 s to 60 Minutes Upto 50 GΩ, Upto 1000 V DC
		Wiring, Connections and Supply-General Requirement	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 3.1	Upto 200 mm
		Connection to Mains Supply	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 3.2	Upto 6.0 Nm Upto 100 N Upto 20 mm

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	Information Technology Equipment	Wiring Terminals for Connection of External Conductors	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 3.3	Upto 6.0 Nm Upto 100 N Upto 20 mm
		Disconnection From The Mains Supply	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 3.4	Upto 6.0Nm Upto 100 N
		Interconnection Of Equipment	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 3.5	Upto 600V rms Upto 2.0A rms 0.01 s to 60 minutes
		Stability Test	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.1	Upto 6.0Nm Upto 100 kg Upto 20 mm
		Mechanical Strength	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.2	Qualitative (0.22 Nm to 2.0 Nm Upto 200 mm Upto 100 kg 500 gm Ø 50 mm Upto 1000 mm 52 mm (Wooden Platform))
		Design And Construction	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.3	Upto 6.0 Nm Upto 100 kg Upto 20 mm 0.1 mR/H to 100 mR/H

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	Information Technology Equipment	Protection Against Hazardous Moving Parts	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.4	Upto 200 mm
		Thermal Requirements	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.5	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W Upto 200 °C 3 mΩ to 30 kΩ Upto 180°C 5 mm (Ball Pressure) 20 N
		Openings In Enclosures	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.6	Upto 200 mm
		Resistance To Fire	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 4.7	Upto 960 °C 0.5 mm to 9.5 mm 0.01 s to 60 minute
		Touch Current And Protective Conductor Current	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 5.1	0.05 mA to 20 mA
		Electric Strength	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 5.2	Upto 5 kV AC Upto 6 kV DC

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	Information Technology Equipment	Abnormal Operating And Fault Conditions	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 5.3	0.1 V to 300V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 200 °C
		Protection of Equipment Users from Over voltages on Telecommunication Networks	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 6.1-6.3	Upto 4 kV ±10 % Upto 5 kV AC Upto 5 kV DC Upto 50 GΩ, Upto 1000 V DC
		Protection Of Cable Distribution System Service Persons, And Users Of Other Equipment Connected To The System, From Hazardous Voltages In The Equipment	IS 13252 (Part 1): 2010 IEC 60950 (Part 1): 2013 Clause 7	Upto 25 kV Upto 5 kV AC Upto 5 kV DC
3.	Plugs And Socket-Outlets For House Hold And Similar Purposes	Verification of Marking	IS 1293: 2005 IEC 60884-1: 2013 Clause 8	Qualitative
		Checking Of Dimensions (Go - No go Gauges)	IS 1293: 2005 IEC 60884-1: 2013 Clause 9	Qualitative (Upto 200 mm)
		Protection Against Electric Shock Standard pins & finger	IS 1293: 2005 IEC 60884-1: 2013 Clause 10	Qualitative (Upto 200 mm)

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	Plugs And Socket-Outlets For House Hold And Similar Purposes	Provision For Earthing	IS 1293: 2005 IEC 60884-1: 2013 Clause 11	10 A & 25 A Upto 12 Vmax
		Terminals And Terminations	IS 1293: 2005 IEC 60884-1: 2013 Clause 12	Upto 6.0 Nm Upto 100 Kg Upto 20 mm Upto 200 N
		Construction of Fixed Socket-Outlets Standard pins & finger	IS 1293: 2005 IEC 60884-1: 2013 Clause 13	Upto 200 mm
		Construction of Plugs And Portable Socket-Outlets Standard pins & finger	IS 1293: 2005 IEC 60884-1: 2013 Clause 14	Upto 200 mm
		Interlocked Socket-Outlets Standard pins & finger	IS 1293: 2005 IEC 60884-1: 2013 Clause 15	Upto 200 mm
		Resistance To Ageing, Protection Provided By Enclosures And Resistance To Humidity	IS 1293: 2005 IEC 60884-1: 2013 Clause 16	Upto 70 °C Upto 45 °C (temp.) Upto 95 % (RH)
		Insulation Resistance And Electric Strength	IS 1293: 2005 IEC 60884-1: 2013 Clause17	Upto 50 GΩ, Upto 1000 V DC Upto 5 kV AC
		Operation Of Earthing Contacts	IS 1293: 2005 IEC 60884-1: 2013 Clause 18	Upto 10 kg Upto 20 mm

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	Plugs And Socket- Outlets For House Hold And Similar Purposes	Temperature Rise	IS 1293: 2005 IEC 60884-1: 2013 Clause 19	0.1 V to 300 V AC 0.01 A to 60 A Upto 200 °C
		Breaking Capacity	IS 1293: 2005 IEC 60884-1: 2013 Clause 20	0.1 V to 300 V AC 0.01 A to 60 A
		Normal Operation	IS 1293: 2005 IEC 60884-1: 2013 Clause 21	0.1 V to 300V AC 0.01 A to 60 A
		Force Necessary to Withdraw the Plug	IS 1293: 2005 IEC 60884-1: 2013 Clause 22	Upto 200 N
		Flexible Cables And Their Connection	IS 1293: 2005 IEC 60884-1: 2013 Clause 23	Upto 200 mm 1 N to 200 N 35 A, 7 kg
		Mechanical Strength (Impact tester Tumbling barrel test)	IS 1293: 2005 IEC 60884-1: 2013 Clause 24	Upto 200 mm 4 N (abrasion test on insulating sleeves of plug pins) (-) 15 °C

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Plugs And Socket- Outlets For House Hold And Similar Purposes	Resistance To Heat	IS 1293: 2005 IEC 60884-1: 2013 Clause 25	Upto 180 °C 20 N Upto 30 kg Upto 200 N
		Screws, Current -Carrying Parts & Connections	IS 1293: 2005 IEC 60884-1: 2013 Clause 26	Upto 200 mm 0.1 V to 300 V AC 0.01 A to 60 A Upto 6.0 Nm Upto 5 kg Upto 20 mm Upto 50 mm Upto 5 kV AC
		Creepage Distances, Clearances & Distances Through Sealing Compound	IS 1293: 2005 IEC 60884-1: 2013 Clause 27	Upto 200 mm
		Resistance of Insulating Material To Abnormal Heat, To Fire And To Tracking	IS 1293: 2005 IEC 60884-1: 2013 Clause 28	Upto 180 °C 5mm 20N Upto 25 mm Upto 960 °C 0.1 sec to 999 sec. Upto 600V rms Upto 2.0A rms 0.01 S to 60 Minutes

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Plugs And Socket- Outlets For House Hold And Similar Purposes	Resistance To Rusting	IS 1293: 2005 IEC 60884-1: 2013 Clause 29	Upto 180 °C Upto 45 °C (temp.) Upto 95 % R.H.
		Additional Tests On Pins Provided With Insulating Sleeves Pressure Test At High Temperature	IS 1293: 2005 IEC 60884-1: 2013 Clause 30.1	Upto 200 °C Upto 300 gm Upto 25 mm Upto 50 mm
		Additional Tests On Pins Provided With Insulating Sleeves Static Damp Heat Test Abrasion test on insulating sleeves of plug pins	IS 1293: 2005 IEC 60884-1: 2013 Clause 30.2	Upto 45 °C (temp.) Upto 95 % (RH) Upto 5 kV AC Upto 4N
		Additional Tests on Pins Provided with Insulating Sleeves Test at Low Temperature	IS 1293: 2005 IEC 60884-1: 2013 Clause 30.3	(-) 15 °C (temp.) Upto 50GΩ, Upto 1000 V DC
		Additional Tests On Pins Provided With Insulating Sleeves Impact Test At Low Temperature	IS 1293: 2005 IEC 60884-1: 2013 Clause 30.4	Upto 5 kV AC (-) 15 °C Upto 100 g

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Appliance Couplers For Household And Similar General Purposes	Verification of Marking	IEC 60320-1 Clause 8	Qualitative
		Dimensions & Compatibility (Go-No go Gauges)	IEC 60320-1 Clause 9	Upto 200 mm
		Protection Against Electric Shock Standard pins & finger	IEC 60320-1 Clause 10	Upto 200 mm
		Provision For Earthing Terminals And Terminations	IEC 60320-1 Clause 11 IEC 60320-1 Clause 12	10 A & 25 A Upto 12 Vmax Upto 6.0 Nm
				Upto 100 kg Upto 20 mm Upto 200 N
		Construction	IEC 60320-1 Clause 13	Upto 200 mm
		Resistance to Ageing, Protection Provided By Enclosures and Resistance to Humidity	IEC 60320-1 Clause 14	Upto 70 °C Upto 45 °C Upto 95 % (RH)
		Insulation Resistance and Electric Strength	IEC 60320-1 Clause 15	Upto 50 GΩ Upto 1000 V DC Upto 5 kV AC
	Forces Necessary To Insert And To Withdraw The Connector	IEC 60320-1 Clause 16	Upto 10 kg	

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	Appliance Couplers For Household And Similar General Purposes	Operation Of Contacts	IEC 60320-1 Clause 17	Upto 10 kg Upto 20 mm
		Resistance to Heating of Appliance Couplers for Hot Conditions or Very Hot Conditions	IEC 60320-1 Clause 18	Upto 10 kg Upto 20 mm
		Breaking Capacity	IEC 60320-1 Clause 19	0.1 V to 300V AC 0.01 A to 60 A
		Normal Operation	IEC 60320-1 Clause 20	0.1 V to 300 V AC 0.01 to 60 A
		Temperature Rise	IEC 60320-1 Clause 21	0.1 V to 300 V AC 0.01 A to 60 A
		Cords and their Connection	IEC 60320-1 Clause 22	Upto 200 mm 1 N to 200 N 35 A, 7 kg
		Mechanical Strength	IEC 60320-1 Clause 23	Pendulum hammer Upto 200 mm (-) 15 °C Impact tester Tumbling barrel test Compression Jig

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Appliance Couplers For Household And Similar General Purposes	Resistance To Heat And Ageing	IEC 60320-1 Clause 24	Upto 180 °C 20 N Upto 30 kg Upto 200 N
		Screws, Current-Carrying Parts & Connections	IEC 60320-1 Clause 25	Upto 200 mm 3 mΩ to 30 kΩ 0.1 V to 300 V AC 0.01 A to 60 A Upto 6.0 Nm (torque Screw driver) Upto 5 kg Upto 20 mm Upto 50 mm Upto 5 kV AC
		Creepage Distances , Clearances & Distances Through Sealing Compound	IEC 60320-1 Clause 26	Upto 200 mm
		Resistance Of Insulating Material To Abnormal Heat, To Fire And To Tracking	IEC 60320-1 Clause 27	Upto 180 °C 5 mm 20 N Upto 25 mm

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	Appliance Couplers For Household And Similar General Purposes	Resistance Of Insulating Material To Abnormal Heat, To Fire And To Tracking	IEC 60320-1 Clause 27	Upto 960 °C 0.1 sec to 999 sec. Upto 600 V rms Upto 2.0 A rms 0.01 s to 60 minute
		Resistance To Rusting	IEC 60320-1: Clause 28	Upto 180 °C Upto 45 °C Upto 95 % (RH)
5.	Switches For Domestic And Similar Purposes	Verification of Marking	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 8 IEC-61058-1, (Edition 3.2) Clause 8.0	Qualitative
		Verification of Dimensions	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 9	Upto 200 mm
		Protection Against Electric Shock Provision For Earthing	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 10 IEC-61058-1, (Edition 3.2), Clause 9 IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 11 IEC-61058-1, (Edition 3.2), Clause 10	Qualitative (Upto 200 N 0.05 mA to 20mA DCV: 200 mV to 1000 V ACV: 200 mV to 750 V Upto 5 kV AC Upto 6 kV DC Upto 20 mA AC Upto 200 mm) 10A & 25A Upto 12 Vmax

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	Switches For Domestic And Similar Purposes	Terminals	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 12 IEC-61058-1, (Edition 3.2) Clause 11	0.04 Nm to 5.0 Nm Upto 200 N
		Constructional Requirement Mechanism	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 13 IEC-61058-1, (Edition 3.2) Clause 12 IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 14 IEC-61058-1, (Edition 3.2) Clause 13	Upto 200 N Upto 200 mm (-)40 °C to 200 °C DCV: 200 mV to 1000 V ACV: 200 mV to 750 V Upto 5 kV AC Upto 6 kV DC
		Resistance To Ageing, To Harmful Ingress of Water and to Humidity	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 15 IEC-61058-1 (Edition 3.2), Clause 14	Upto 200°C Upto 45°C Upto 95% (RH) Upto IP56
		Insulation Resistance And Electric Strength	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 16 Table 13 IEC-61058-1, (Edition 3.2), Clause 15	Upto 5 kV AC Upto 6 kV DC Upto 50 GΩ Upto 1000 V
		Temperature Rise	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 17 IEC-61058-1, (Edition 3.2), Clause 16	Upto 200 °C

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	Switches For Domestic And Similar Purposes	Making And Breaking Capacity (Endurance)	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 18 IEC-61058-1, (Edition 3.2), Clause 17	200A, AC 0.1V to 300.0V AC Resistive/ Inductive Load 20A/125A (Endurance Test Jig)
		Normal Operation	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 19	200 A, AC 0.1 V to 300.0 V AC Resistive/ Inductive Load 20 A/125 A (Endurance Test Jig) Upto 200 °C Upto 5 kV AC Upto 6 kV DC
		Mechanical Strength	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 20 IEC-61058-1, (Edition 3.2), Clause 18	0.04 Nm to 5.0 Nm Upto 200 N
		Resistance To Heat	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 21	Qualitative (Upto 200 °C Upto 200 N)
		Screws , Current Carrying Parts & Connections	IS 3854: 1997 (RA 2002) Clause 22 IEC-61058-1, (Edition 3.2) Clause 19	0.04 Nm to 5.0 Nm

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	Switches For Domestic And Similar Purposes	Creepage Distances, Clearances And Distance Through Sealing Compound Resistance Of Insulating Material To Abnormal Heat, To Fire & To Tracking	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 23 Table 19 IEC-61058-1 (Edition 3.2), Clause 20 IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 24 IEC-61058-1, (Edition 3.2), Clause 21	Upto 200 mm 0 °C to 960 °C Upto 600 V Ac 1 A
		Resistance To Rusting	IS 3854: 1997 (RA 2002) Amd. 3 to 7 Clause 25 IEC-61058-1, (Edition 3.2) Clause 22	Upto 200 °C Upto 45 °C 95 % R.H.
6.	Household And Similar Electrical Appliances – Safety	Marking & Instruction	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 7.0	Visual Inspection
		Protection Against Electric Shock & Energy Hazards	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 8.0	Upto 200 mm 1 N to 200 N Upto 6.0 Nm
		Marking Starting Of Motor Operated Appliances	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 9.0	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W
		Power Input & Current	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 10	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W

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	Household And Similar Electrical Appliances – Safety	Heating Under Normal Operating Conditions	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 11	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 200 °C
		Void	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 12	Qualitative
		Leakage Current And Electric Strength At Operating Temperature	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 13	0.05 mA to 20 mA Upto 5 kV AC Upto 5 kV DC
		Transient Over Voltages	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 14	Upto 20 kV
		Moisture Resistance	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 15	Upto 45 °C (temp.) Upto 95% (RH) Upto IP56
		Leakage Current & Electrical Strength	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 16	Upto 50 GΩ, Upto 1000 VDC 0.05 mA to 20 mA Upto 5 kV AC Upto 6 kV DC
		Overload Protection Of Transformers And Associated Circuits	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 17	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 180 °C

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	Household And Similar Electrical Appliances – Safety	Endurance Test	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 18	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W
		Abnormal Operation	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 19	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 180 °C
		Stability and Mechanical Hazards	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 20	Upto 6.0 Nm Upto 100 kg Upto 20 mm
		Mechanical Strength	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 21	0.22 Nm to 2.0 Nm (Adj. Spring Hammer) Upto 200 mm Upto 100 kg 500 g Ø 50 mm
		Construction	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 22	Upto 200 N Upto 200 mm Upto 6.0 Nm Upto 100 kg Upto 20 mm 0.01 s to 60 minute Upto 100°C
		Internal Wiring	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 23	Upto 200 mm Upto 5 kV AC Upto 6 kV DC Upto 50 mm

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Household And Similar Electrical Appliances – Safety	Supply Connection And External Flexible Cords	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 25	Upto 200mm Upto 5 kV AC Upto 5 kV DC Upto 6.0 Nm Upto 100 kg Upto 20 mm Upto 50mm
		Terminals For External Conductors	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 26	Upto 6.0 Nm Upto 100 kg Upto 20 mm
		Provision For Earthing	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 27	Upto 200 mm 10A & 25A Upto 12 Vmax
		Screws And Connections	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 28	Upto 200 mm Upto 6.0 Nm Upto 20 mm
		Clearances And Creepage Distances	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 29	Upto 200 mm Upto 600 V rms Upto 2.0 A rms 0.01 s to 60 minutes
		Resistance To Heat And Fire	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 30	0.1 °C to 200 °C 5 mm 20 N Upto 25 mm Upto 960 °C 0.1 s to 60 minute

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Household And Similar Electrical Appliances – Safety	Resistance To Rusting	IS 302 (Part 1): 2008 IEC 60335-1: 2013 Clause 31	Upto 180 °C (temp.) Upto 45°C (temp.) Upto 95% (RH)
VI. MEDICAL EQUIPMENTS				
1.	Medical Electrical Equipments	Power Input	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 4.11	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W
		Humidity Preconditioning Treatment	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 5.7	Upto 45°C (temp.) Upto 95% (RH)
		ME Equipment Identification, Marking And Documents	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 7.0	Qualitative
		Accessible Parts Including Applied Parts	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.4.2	Qualitative (1 N to 200 N) Upto 6.0 Nm Upto 200 mm
		Limitations Voltage And Energy	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.4.3, IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.4.4	DCV: 200 mV to 1000 V ACV: 200 mV to 750 V
		Energy Reduction Test	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.5.5.2	Voltage: Upto 1000 V Time: 10 nS to 500 mS Freq. Upto 1.0 kHz

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	Medical Electrical Equipments	Impedance And Current-Carrying Capability	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.6.4	10A & 25A Upto 12 Vmax
		Leakage Currents And Patient Auxiliary Currents	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.7	0.05 mA to 20 mA
		Dielectric Strength	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.8.3	Upto 5 kV AC Upto 6 kV DC
		Ball Pressure Test	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.8.4.1	Upto 180 °C 5mm (Ball Pressure) 20 N
		Creepage Distances And Air Clearances	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.9	1 N to 200 N Upto 200 mm
		Material Groups Classification Tracking Test	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.9.1.7	Upto 600 V rms Upto 2.0 A rms 0.01 S to 60 Minutes
		Thermal Cycling	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.9.3.4	(-) 40 °C to 200 °C
		Cord Anchorage	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.11.3.5	Upto 200 mm 1 N to 200 N Weights
		Cord Guards	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 8.11.3.6	Upto 200 mm

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	Medical Electrical Equipments	Instability Hazards	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 9.4	Upto 200 mm
		Cathode Ray Tubes	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 9.5.2	Qualitative
		Audible Acoustic Energy	IS 13450 (Part 1): 2008 IEC-60601-1: 2005 Clause 9.6.2.1	Upto 100 dB sound pressure level according to ISO 3746, ISO 9614-1 or IEC 61672-1
		X-Radiation	Clause 10.1	0.1 mR/H to 100 mR/H
		Excessive Temperatures	Clause 11.1	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 180 °C
		Fire Prevention	Clause 11.2	Upto 180 °C
		Constructional Requirements for Fire Enclosures	Clause 11.3	0.5 mm to 9.5 mm 0.01 s to 60 minute
		Spillage	Clause 11.6.3	Qualitative
		Ingress Of Water Or Particulate Matter	Clause 11.6.5	Qualitative (Upto IP57)

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	Medical Electrical Equipments	Cleaning And Disinfection	Clause 11.6.6	0.05 mA to 20 mA Upto 5 kV AC Upto 6 kV DC
		Sterilization	Clause 11.6.7	Qualitative
		Hazardous Situations And Fault Conditions	Clause 13	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 180 °C
		Mechanical Strength	Clause 15.3	Upto 200 mm Upto 200 N 500 g Ø 50 mm 2.1 Nm to 3.5 Nm Upto 1000 mm
		Temperature and Overload Control Devices	Clause 15.4.2	0.1 V to 300 V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 200 °C
		Actuating Parts Of Controls	Clause 15.4.6	Upto 200 N Upto 6.0 Nm
		Cord-Connected Hand-Held And Foot-Operated Control Devices	Clause 15.4.7	Upto 200 N Upto 6.0 Nm

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	Medical Electrical Equipments	Entry of Liquids	Clause 15.4.7.3	Qualitative
		Transformers	Clause 15.5.1.1	0.1 V to 300V AC 0.01 A to 12.5 A 0.01 W to 3000 W 3 mΩ to 30 kΩ Upto 180 °C
		Leakage Currents	Clause 16.6	0.05 mA to 20 mA 500 μA 1000 μA
		Protection Against Hazards of Ignition of Flammable Anesthetic Mixtures	G	0.5 mm to 9.5 mm 0.01 s to 60 minute Gas Pressure gauge (Upto 400 Pa range) Upto 200 N
2.	Particular Requirements For The Basic Safety And Essential Performance Of High Frequency Surgical Equipment And High Frequency Surgical Accessories	RF Output Measurement	IEC 60601-2-2 (Edition 5.0): 2009-02 Clause 6.8	50W/50Ω 100W/100Ω 300W/100Ω 300W/200Ω 300W/300Ω 500W/400Ω
3.	Safety of Cord Set	Cord Length	IEC-60799, (Edition 2.0): 1998	Upto 1000

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
4.	Mechanical Safety of Cathode Ray Tubes	Checking of Dimensions	IEC 61965, (Edition 2.0): 2003 Clause 8.1,8.2 & 8.3 and	Upto 200 mm Upto 1000 mm
		Conditioning of Crts At High Temp.	IEC 61965, (Edition 2.0): 2003 Clause 8.1,8.2 , 8.3 & 8.4 and 9.1,9.2 , 9.3 & 9.4	150 °C
		Conditioning of Crts In Moisture	IEC 61965, (Edition 2.0): 2003 Clause 8.1,8.2 , 8.3 & 8.4 and 9.1,9.2 , 9.3 & 9.4	50 °C Upto 95% (RH)
		Conditioning For Thermal Cycle At The Rate Of 2 Cycles Per Day for 5cycles		(-) 40 °C and 70 °C
		Mechanical Strength (Ball Impact Test)	IEC 61965, (Edition 2.0): 2003 Clause 8.1	Ø 40 (±) 1 mm (Steel Ball) 260 (±) 15 g
		Implosion Test (Missile)	IEC 61965, (Edition 2.0): 2003 Clause 8.2	2, 3 kg (Steel Missile) 1.4 kg (Steel Missile)
		Implosion Test (Thermal Shock)	IEC 61965, (Edition 2.0): 2003 Clause 8.3	Liquid Nitrogen
		High-Energy Impact Test	IEC 61965, (Edition 2.0): 2003 Clause 8.4	4.5 kg Ø 25 mm
		Mechanical Strength (Ball Impact Test)	IEC 61965, (Edition 2.0): 2003 Clause 9.1	Ø 40 (±) 1 mm (Steel Ball) 260 (±) 15 g
Implosion Test (Missile)	IEC 61965, (Edition 2.0): 2003 Clause 9.2	2,3 kg (Steel Missile) 1.4 kg (Steel Missile)		

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Mechanical Safety of Cathode Ray Tubes	Implosion Test (Thermal Shock)	IEC 61965, (Edition 2.0): 2003 Clause 9.3	Liquid Nitrogen
		High-Energy Impact Test	IEC 61965, (Edition 2.0): 2003 Clause 9.4	450 g Ø9.5 mm
		Marking	IEC 61965, (Edition 2.0): 2003 Clause 11	Visual Inspection

VII. ELECTRONIC COMPONENTS & EQUIPMENTS SUB ASSEMBLIES

1. Capacitor	Capacitance	IS 4317: 1983 IS 9256: 1979	0.01 pF to 1999 mF
	Tangent Of Loss Angle	IS 9638: 1980 IS 7305: 1984	0.0001 to 9.999
	Impedance	IEC 60384: 2007 JSS 50200: 2003	0.001 mΩ to 19.999 MΩ
	Inductance		0.001 nH to 1999.9 H
	Insulation Resistance		I.R.: $2 \times 10^{16} \Omega$ (max) IL: $2 \times 10^{-5} \text{ A}$ to $2 \times 10^{-12} \text{ A}$
	Outer Foil Termination		V: 10 V AC
	Surge Voltage		V: 200 mV to 1000 V DC 1sec to 999 min (On/Off Time)
	Charge & Discharge		V: 200 mV to 1000 V DC
	Temperature Coefficient & Temperature Characteristics Of Capacitance		C: 0.01 fF to 1999 mF d: 0.0001 to 9.999

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Capacitor	Endurance	IS 4317: 1983 IS 9256: 1979 IS 9638: 1980	V Upto 1000 V DC V Upto 750V AC
		Voltage Proof	IS 7305: 1984 IEC 60384: 2007 JSS 50200: 2003	Upto 15.5KV AC & 40KV DC AC I: 5mA(Max) DC I: 5mA(Max)
		Leakage Current		2 μ A to 20 mA 65 VDC
2.	Resistors	Resistance	IS 5786 : 1978 IEC 60115: 2008 JSS 50400: 1996	Upto 100 M Ω Resolution: 100 $\mu\Omega$
		Insulation Resistance		R: 2 x 10 ¹⁶ Ω (max) Voltage: Upto 1000V DC
		Voltage Proof		Upto 15.5 kV AC & 40 kV DC IL: 5 mA(Max) (AC/DC)
		Temperature Characteristics Of Resistor		100 Ω to 100 M Ω
		Overload		Upto 3 kV max.
		Life		V Upto 1000 V DC Time: 1sec. to 999 min (On/Off)

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	Potentiometer	Terminal Resistance	IS 8872: 1977	Range 2 mΩ to 20 kΩ
		Element Resistance	IEC 60393: 1989-04 JSS 50500: 1996	Range 2 mΩ to 20 kΩ
		Continuity		Range 2 mΩ to 20 kΩ
		Rotational Noise		GO/ NOGO
		Switch Contact Resistance		Range 2 mΩ to 20 kΩ
		Voltage Proof		Upto 15.5 kV AC & 40 kV DC IL: 5 mA(Max) (AC/DC)
		Resistance Law		Angle measuring 360°max.
		Temperature Characteristics		100Ω to 100MΩ Temp.: (-) 65 °C to 150 °C
	Endurance Test		V Upto 1000 V DC Time: 1 sec. to 999 min (On/Off)	
4.	Transformer	Insulation Resistance	IS 6297: 1971	R: 2 x 10 ¹⁶ Ω (max) Voltage: Upto 1000 V DC
		DC Resistance Of Winding		Range: 2mΩ to 20kΩ
		No Load Test		
	Secondary No Load Voltage & Primary Tap Voltages		V: 750 V AC (max) I: 2A (max)	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Transformer	Voltage Regulations	IS 6297: 1971	V: 750 V AC (max)
		Voltage Proof		Upto 15.5 kV AC & 40KV DC IL: 5 mA (Max) (AC/DC)
		Temperature Rise		Upto 130 °C
5.	Electro-Mechanical Relays	Coil Resistance	IS 5051: 1982 IEC 60255-5: 2002	DC: 100 Ω to 100 MΩ Resolution: 100 μΩ (max)
		Impedance		0.001 mΩ to 19.999 MΩ Freq. 100 Hz to 10 MHz in steps
		Inductance		0.01 nH to 1999.9 H Freq. 100 Hz to 10 MHz in steps
		Dielectric Test		Upto 15.5 kV AC & 40 kV DC IL: 5 mA(Max) (AC/DC)
		Impulse Voltage Test		V: 200 mV to 1000 V DC V: 750 VAC (max) I: 2 A(max) 12 kV
		Insulation Resistance		R: 2 x 10 ¹⁶ Ω (max) Voltage: Upto 1000 V DC

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Electro-Mechanical Relays	Contact Voltage Drop	IS 5051: 1982 IEC 60255-5: 2002	V: 200 mV to 1000 V DC
		Timing Tests		Time: 1 s to 999 min
		Life Test		V: 200 mV to 1000 V DC V: 750 V AC (max)
		Overload		Voltage Upto 3 kV DC
		Capacitance		0.01 fF to 1999 mF Freq. 100 Hz
6.	Connector, Plug & Socket	Contact Resistance	IEC 60603-1 QC 010000: 1991	1 mΩ to 100 Ω
7.	Battery	Capacity	IS 7372: 1995 IS 14257: 1995 IS 1651: 2013, IS 9128: 1999, IS 6303: 1984 JIS C8702-1: 1998	Voltage: 6V, 12 V or 24V Discharge Current Range: 0.1 A to 50 A
		AH Efficiency & WH Efficiency		Voltage:6V, 12V or 24V Discharge Current Range: 0.1 A to 50 A
		High Rate Discharge At Normal Temperature		Voltage:6V, 12V or 24V Discharge Current Range: 0.1 A to 50 A
		High Rate Discharge At Low Temperature		Voltage:6V, 12V or 24V Discharge Current Range: 0.1 A to 50 A
		Retention of Charge Test		Voltage:6V, 12V or 24V Discharge Current Range: 0.1 A to 50 A

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Battery	Resistance To Over Charge Test	IS 7372: 1995 IS 14257: 1995 IS 1651: 2013, IS 9128: 1999, IS 6303: 1984 JIS C8702-1: 1998	Voltage:6V, 12V or 24V Discharge Current Range: 0.1 A to 50 A
		Initial/ Delayed Life		(-) 70 °C to 180 °C V: 750 V AC (max)
8.	Diode	Signal & Switching General Measurements	JSS 51300 (Part 2): 1971 JSS 50115: 1999 MIL-STD-750: 1999	
		Forward Voltage, VF	JSS 51307: 1993	20.0 V (max)
		Reverse Current, IR	Clause 16	9.99 mA (max)
		Reverse Recovery Time, Trr		>1 ns
		Forward Recovery Time, Ttr		> 1ns
		Breakdown Voltage Vr		Upto 3kV
		Voltage Regulator Diodes & Voltage Regulator Diodes.	JSS 51302: 1993 Clause 16	
		Working Voltage, Vz		Upto 3kV
		Temp. Coefficient Of Working Voltage		1000 V (max.)
		Rectifier Diodes	JSS 51305: 1993 Clause 16	
		Breakdown Voltage V (BR)		Upto 3 kV
		Peak Reverse Current		9.99 mA(max)

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9.	Transistor	Collector Emitter Saturation Voltage, Vce (Sat)	JSS 51300 (Part 2): 1993 JSS 50115: 1999 MIL-STD-750D: 1999	0 mV to 20 V
		Base Emitter Saturation Voltage, Vbe (Sat)	JSS 5132: 1993 JSS 51327 : 1993 JSS-51328: 1993	0 mV to 20 V
		Breakdown Voltage Vr		Upto 3 kV
		Static Value Of Common Emitter Forward Current Transfer Ratio Hfe		1×10^{-12} to 1×10^8
		Leakage Currents Or Cut Off Currents		9.99mA (max.)
		Collector Base Capacitnce(Cobo)		0.1pF to 1 μ F
		Small Signal Forward Current Transfer Ratio Hfe		1×10^{-12} to 1×10^8
		Transition Frequency Ft	JSS 51300 (Part 2): 1993 JSS 50115: 1999 MIL-STD-750D: 1999 JSS 5132: 1993	10 MHz to 2 GHz , F:10 MHz, 30 MHz, 100 Mhz, 200 Mhz
		Storage Time, Ts	JSS 51327 : 1993 JSS-51328: 1993	>1ns
		Rise Time, Tr		>1ns
		Turn On Time Ton		>1ns
		Turn Off Time, Toff		>1ns
		Delay Time Td		>1ns
Fall Time Tf		>1ns		

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10.	Fixed Capacitor for EMI Suppression & Connection to the Supply Mains	Capacitance	IEC-60384-14, (Edition 3.0 & 4.0, 4.2.2)	0.01 fF to 1999 mF 0.999 pF to 10 μF
		Resistance	IEC-60384-14, (Edition 3.0& 4.0, 4.2.4)	0.1 Ω to 1 MΩ
		Voltage Proof	IEC-60384-14, (Edition 3.0 & 4.0, 4.2.1)	Upto 5 kV AC Upto 6 kV DC
		Insulation Resistance	IEC-60384-14, (Edition 3.0 & 4.0, 4.2.5)	Upto 50 GΩ Upto 1000 V DC
		Creepage Distances & Clearances	IEC-60384-14, (Edition 3.0 & 4.0, 4.1.1)	Upto 200 mm
		Robustness Of Terminations (Dead Wts.)	IEC-60384-14, (Edition 3.0 & 4.0, 4.3)	5 kg
		Resistance To Soldering Heat	IEC-60384-14, (Edition 3.0 & 4.0, 4.4)	0 °C to 500 °C
		Damp Heat ,Steady State	IEC-60384-14, (Edition 3.0 & 4.0, 4.12)	Temp.: Upto 45 °C RH - Upto 95 %
		Impulse Voltage	IEC-60384-14, (Edition 3.0 & 4.0, 4.13)	Upto 10KV Pulse shape: 1.2/50μS
		Endurance	IEC-60384-14, (Edition 3.0 & 4.0, 4.14)	Upto180 °C
	Passive Flammability	IEC-60384-14, (Edition 3.0 & 4.0, 4.17)	Specified Solvents	

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	Fixed Capacitor for EMI Suppression & Connection to the Supply Mains	Active Flammability	IEC-60384-14, (Edition 3.0 & 4.0, 4.18)	Pulse Amplitude: Upto 6 kV AC Voltage: Upto 650 V Pulse shape: 1.2/50µS

-X-X-X-X-X-X-X-X-X-X-X-X-