



National Accreditation Board for Testing and Calibration Laboratories

(A Constituent Board of Quality Council of India)



SCOPE OF ACCREDITATION

Laboratory Name AMARA RAJA BATTERIES LTD., TESTING AND CALIBRATION LABORATORY, KARAKAMBADI RENIGUNTA KADAPA ROAD, TIRUPATI, CHITTOOR, ANDHRA PRADESH , INDIA

Accreditation Standard ISO/IEC 17025:2017

Certificate Number TC-8376 Page No. : 1 / 45

Validity 01/03/2019 to 28/02/2021 Last Amended on -

S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
Permanent Facility					
1	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance(12Volt up to 200Ah Capacity)	C5 Capacity	IS 14257, Clause 9.3.4: 1995	Current up to 50 ADCVoltage up to 36 VDC
2	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/6)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1: 2011	Current up to 3000 ADCVoltage up to 12 VDC
3	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Permissible discharge current Test	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.15 : 2014	Current up to 3000 ADC Voltage up to 12 VDC
4	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Penetration Test	AIS-048, Clause 2.2.4 : 2009	Qualitative(Visual)
5	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Roll Over Test	AIS-048, Clause 2.2.3 : 2009	Measuring jar up to 500ml



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6	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Shock Test	AIS-048, Clause 2.2.2 : 2009	Current up to 100 ADC Voltage up to 80 VDC Acceleration up to 30g
7	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Overcharge Test	AIS-048, Clause 2.1.2 : 2009	Current up to 100 ADC Voltage up to 80 VDC
8	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Penetration Test	AIS-048, Clause 2.2.4 : 2009	Qualitative(Visual)
9	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Roll Over Test	AIS-048, Clause 2.2.3 : 2009	Measuring jar up to 500ml
10	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Shock Test	AIS-048, Clause 2.2.2 : 2009	Current up to 100 ADC Voltage up to 80 VDC Acceleration up to 30g



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11	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Short circuit Test	AIS-048, Clause 2.1.1: 2009	Qualitative(Visual)
12	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (12V & 48 Volts up to 200Ah Capacity)	Vibration Test	AIS-048, Clause 2.2.1 : 2009	Current up to 100 ADC Voltage up to 80 VDC Acceleration up to 30g Frequency Upto 1000Hz
13	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Overcharge Test	AIS-048, Clause 2.1.2 : 2009	Current up to 100 ADC Voltage up to 80 VDC
14	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Short circuit Test	AIS-048, Clause 2.1.1: 2009	Qualitative(Visual)
15	ELECTRICAL- CELLS & BATTERIES	Battery operated vehicles-Safety requirements of traction batteries (1V to 120 Volts & up to 200Ah Capacity)	Vibration Test	AIS-048, Clause 2.2.1 : 2009	Current up to 100 ADC Voltage up to 80 VDC Acceleration up to 30g Frequency Upto 1000Hz



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16	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Construction, Making of polarity	IEC 61056-1, Clause 4.1,4.4 : 2012	Qualitative(Visual)
17	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Cycle Service Endurance	IEC 61056-1, Clause 5.2.1 & 7.4: 2012	Current up to 150 ADCVoltage up to 36 VDC
18	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	C1 Capacity Test	IEC 61056-1,Clause 5.1 : 2012	Current up to 200 ADCVoltage up to 36 VDC
19	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	C20 Capacity Test	IEC 61056-1, Clause 5.1 & 7.2: 2012	Current up to 200 ADCVoltage up to 36 VDC
20	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Charge acceptance after deep discharge	IEC 61056-1,Clause 5.5 & 7.9: 2012	Current up to 400 ADCVoltage up to 36 VDC
21	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Charge Retention	IEC 61056-1,Clause 5.3 & 7.7: 2012	Current up to 50 ADCVoltage up to 36 VDC



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22	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Float service Endurance@40°C	IEC 61056-1, Clause 5.2.2 & 7.6: 2012	Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to 150°C Humidity up to 95%
23	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Gas emission intensity	IEC 61056-1, Clause 5.7 & 7.10.1, 7.10.2: 2012	Current up to 150 ADC Voltage up to 36 VDC Measuring Jar up to 500 ml
24	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	High rate discharge characteristics	IEC 61056-1, Clause 5.6 : 2012	Current up to 400 ADC Voltage up to 36 VDC
25	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Maximum permissible current	IEC 61056-1, Clause 5.4 & 7.8: 2012	Current up to 3000 ADC Voltage up to 12 VDC
26	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Vibration resistance characteristics	IEC 61056-1, Clause 5.9 & 7.12 : 2012	Dimension up to 600 mm Acceleration up to 30g Frequency Upto 1000Hz
27	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Float service Endurance@25°C	IEC 61056-1 , Clause 5.2.2 & 7.5 : 2012	Current up to 50 ADC Voltage up to 36 VDC



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28	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Over pressure resistance	IEC 61056-1, Clause 5.8(b) & 7.11.2 : 2012	Current up to 150 ADC Voltage up to 36 VDC Dimension up to 600 mm
29	ELECTRICAL- CELLS & BATTERIES	General purpose lead acid batteries (Valve regulated types)(6V & 12 Volts up to 200Ah Capacity)	Shock resistant characteristics	IEC 61056-1, Clause 5.10 & 7.13: 2012	Qualitative(Visual)
30	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Heavy load life	JIS D 5302, Reference-1 : 2004	Current up to 10 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C
31	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Light load life	JIS D 5302, Reference-2: 2004	Current up to 300 ADC Current up to 10 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C
32	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Solution depletion feature	JIS D 5302, Reference-3: 2004	Current up to 10 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C Weighing Balance up to 60kg
33	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Storage Feature	JIS D 5302, Reference-4: 2004	Current up to 300 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C



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34	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	C10 Hour Capacity	JIS D 5302, Clause 8.3.2: 2004	Current up to 10 ADCVoltage up to 36 VDC
35	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Charging	JIS D 5302, Clause 8.2.2: 2004	Current up to 10 ADCVoltage up to 36 VDC
36	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	High rate discharge feature	JIS D 5302, Clause 8.3.3: 2004	Current up to 300 ADCVoltage up to 12 VDCChamber Temperature up to -40°C
37	ELECTRICAL- CELLS & BATTERIES	Lead acid Batteries for motor cycles (12Volt up to 20Ah Capacity)	Vibration resistance Test	JIS D 5302, Clause 8.3.4: 2004	Current up to 50 ADCVoltage up to 12 VDCAcceleration up to 30gFrequency Upto 1000Hz
38	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Vibration Resistance Test	JIS D 5301, Clause 9.5.6 : 2006	Current up to 50 ADCVoltage up to 36 VDCAcceleration up to 30gFrequency upto 1000Hz
39	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Charge retention Test	JIS D 5301, Anex – 1 : 2006	Current up to 3000 ADCVoltage up to 12 VDCChamber Temperature up to -40°CWater bath Temperature up to 80°C
40	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Terminal strength Test	JIS D 5301, Clause 9.5.7: 2006	Qualitative(Visual Observation)



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41	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Fastening robustness Test	JIS D 5301, Clause 9.5.8: 2006	Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to 150°C
42	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Vibration resistance Test	IEC 60095-1, Clause 9.8: 2006	Current up to 50 ADC Voltage up to 36 VDC Acceleration up to 30g Frequency Upto 1000Hz
43	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cycling Test-3	IEC 60095-1, Clause 9.6.4 : 2006	Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
44	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Electrolyte retention Test	IEC 60095-1, Clause 9.9: 2006	Qualitative(Visual)
45	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Water Consumption Test	IEC 60095-1, Clause 9.7: 2006	Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C Weighing Balance up to 60Kg
46	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Charging Conditions	BS EN 50342-1, Clause 5.6.3.1: 2006	Current up to 50 ADC Voltage up to 36 VDC
47	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Charging of Batteries	BS EN 50342-1, Clause 4.2.1&4.2.2 : 2006	Current up to 50 ADC Voltage up to 36 VDC



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48	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Cycling Test	BS EN 50342-1, Clause 5.6.3.3 : 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to - 40°C
49	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Cycling Test	BS EN 50342-1, Clause 5.7.1.2 : 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to - 40°C
50	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Electrolyte retention Test	BS EN 50342-1, Clause 5.10: 2006	Current up to 50 ADC Voltage up to 36 VDC
51	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Vibration resistance Test	BS EN 50342-1, Clause 5.9: 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Acceleration up to 30g Frequency upto 1000Hz
52	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	20 Hour Capacity	BS EN 50342-1, Clause 5.1: 2006	Current up to 50 ADC Voltage up to 36 VDC
53	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Charge acceptance Test	BS EN 50342-1, Clause 5.4 : 2006	Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to - 40°C



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54	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Charge Retention Test	BS EN 50342-1, Clause 5.5: 2006	Current up to 3000 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C Chamber Temperature up to -40°C
55	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Corrosion Test	BS EN 50342-1, Clause 5.6.3.2: 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
56	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Corrosion Test	BS EN 50342-1, Clause 5.6.2.1: 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
57	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Corrosion Test	BS EN 50342-1, Clause 5.7.1.1: 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
58	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Cranking performance Test	BS EN 50342-1, Clause 5.3: 2006	Current up to 3000 ADC Voltage up to 12 VDC Chamber Temperature up to -40°C



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59	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Cycling Test	BS EN 50342-1, Clause 5.6.2.2 : 2006	Current up to 3000 ADC Voltage up to 12 VDC Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to - 40°C
60	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Reserve Capacity	BS EN 50342-1, Clause 5.2: 2006	Current up to 50 ADC Voltage up to 36 VDC
61	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (6V & 12Volt up to 200Ah Capacity)	Water consumption Test	BS EN 50342-1, Clause 5.8: 2006	Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C Weighing Balance up to 60Kg
62	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Dimensions	JIS D 5301, Clause 9.5.1: 2006	Dimensions up to 600 mm
63	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Reserve Capacity (RC) test	JIS D 5301, Clause 9.5.2.a : 2006	Current up to 50 ADC Voltage up to 36 VDC
64	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	5h rate Capacity Test C5,e	JIS D 5301, Clause 9.5.2.b: 2006	Current up to 50 ADC Voltage up to 36 VDC
65	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Charge Acceptance Test	JIS D 5301, Clause 9.5.4 : 2006	Current up to 50 ADC Voltage up to 36 VDC Chamber Temperature up to - 40°C



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66	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Cold Cranking ampere (CCA) Test	JIS D 5301, Clause 9.5.3.a: 2006	Current up to 3000 ADC Voltage up to 12 VDC Chamber Temperature up to -40°C
67	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Electrolyte retention Test	JIS D 5301, Anex - 3: 2006	Qualitative(Visual)
68	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Light Load Endurance Test	JIS D 5301, Clause 9.5.5.a: 2006	Current up to 25 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
69	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Water Consumption Test	JIS D 5301, Anex - 2: 2006	Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C Weighing Balance up to 150kg
70	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	Heavy Load Endurance Test	JIS D 5301, Clause 9.5.5.b: 2006	Current up to 50 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
71	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12 Volt up to 200Ah Capacity)	High rate discharge characteristics Test (-15°C)	JIS D 5301, Clause 9.5.3.b: 2006	Current up to 600 ADC Voltage up to 12 VDC Chamber Temperature up to -40°C



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72	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Corrosion Test	IEC 60095-1, Clause 9.6.1: 2006	Current up to 3000A Voltage up to 12 VDC Current up to 50A Voltage up to 36 VDC Water bath Temperature up to 80°C
73	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cycling Test-2	IEC 60095-1, Clause 9.6.3 : 2006	Current up to 3000A Voltage up to 12 VDC Current up to 50A Voltage up to 36 VDC Chamber Temperature up to -40°C
74	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cycling Test-4	IEC 60095-1, Clause 9.6.5 : 2006	Current up to 3000A Voltage up to 12 VDC Current up to 25 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
75	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cycling Test-1	IEC 60095-1, Clause 9.6.2: 2006	Current up to 3000A Voltage up to 12 VDC Current up to 50A Voltage up to 36 VDC Chamber Temperature up to -40°C
76	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	C20 Hour Capacity	IEC 60095-1, Clause 9.1 : 2006	Current up to 25 ADC Voltage up to 36 VDC



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77	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Charge Acceptance Test	IEC 60095-1, Clause 9.4: 2006	Current up to 25 ADC Voltage up to 36 VDC Chamber Temperature up to -40°C
78	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Charge retention Test	IEC 60095-1: 2006	Current up to 3000A Voltage up to 12 VDC Water bath Temperature up to 80°C Chamber Temperature up to -40°C
79	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Charging	IEC 60095-1, Clause 8.2.1: 2006	Current up to 50 ADC Voltage up to 36 VDC
80	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cranking performance Test	IEC 60095-1, Clause 9.3.2: 2006	Current up to 3000 ADC Voltage up to 12 VDC Chamber Temperature up to -40°C
81	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Cranking performance Test	IEC 60095-1, Clause 9.3.1 : 2006	Current up to 3000 ADC Voltage up to 12 VDC Chamber Temperature up to -40°C
82	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries (12Volt up to 200Ah Capacity)	Reserve Capacity test	IEC 60095-1, Clause 9.2: 2006	Current up to 50 ADC Voltage up to 36 VDC
83	ELECTRICAL- CELLS & BATTERIES	Lead acid starter Batteries(12 Volt up to 200Ah Capacity)	Charging	JIS D 5301, Clause 9.4.2: 2006	Current up to 50 ADC Voltage up to 36 VDC



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84	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Checking of Dimensions	IS 1145, Clause 7.8: 1980	Dimensions up to 600 mm
85	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	HRD Test at normal Temperature	IS 1145, Clause 7.12: 1980	Current up to 50 ADCVoltage up to 12 VDC
86	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Retention of charge Test	IS 1145, Clause 7.13: 1980	Current up to 10 ADCVoltage up to 12 VDC
87	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Test for C20,C10 rate Capacity	IS 1145, Clause 7.10 : 1980	Current up to 10 ADCVoltage up to 12 VDC
88	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Life Test	IS 1145, Clause 7.15 : 1980	Current up to 50 ADCCurrent up to 10 ADCVoltage up to 12 VDCWater bath Temperature up to 80°C



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89	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Resistance to over charge Test	IS 1145, Clause 7.14: 1980	Current up to 10 ADCVoltage up to 12 VDCWater bath Temperature up to 80°C
90	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Storage Test	IS 1145, Clause 7.16: 1980	Current up to 10 ADCVoltage up to 12 VDC
91	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor Cycles,Autorickshaws & similar vehicles (6V & 12Volt & up to 14Ah Capacity)	Vibration Test	IS 1145,Clause 7.11 : 1980	Current up to 10 ADCVoltage up to 12 VDCAcceleration up to 30gFrequency Upto 1000Hz
92	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Charge Acceptance Test	IS 14257, Clause 9.3.6 : 1995	Current up to 50 ADCVoltage up to 36 VDCChamber Temperature up to - 40°C
93	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Life Cycle Test	IS 14257, Clause 9.3.7: 1995	Current up to 50 ADCVoltage up to 36 VDCWater bath Temperature up to 80°C



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94	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Robustness of Fastening Test	IS 14257, Clause 9.3.11: 1995	Chamber Temperature up to 150°C
95	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Strength of Terminal Test	IS 14257, Clause 9.3.10: 1995	Qualitative(Visual)
96	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Vibration resistance Test	IS 14257, Clause 9.3.8: 1995	Current up to 50 ADCVoltage up to 36 VDCAcceleration up to 30gFrequency Upto 1000Hz
97	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Charging	IS 14257, Clause 7.1: 1995	Current up to 50 ADCVoltage up to 36 VDC
98	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Dimensions	IS 14257, Clause 9.3.2: 1995	Dimensions up to 600 mm



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99	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	High rate discharge	IS 14257, Clause 9.3.5: 1995	Current up to 600 ADCVoltage up to 12 VDCChamber Temperature up to-40°C
100	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles with light weight & High cranking performance (12Volt up to 200Ah Capacity)	Over Charge Endurance	IS 14257, Clause 9.3.9: 1995	Current up to 600 ADCVoltage up to 12 VDCCurrent up to 25 ADCVoltage up to 36 VDCWater Bath Temperature up to 80°C
101	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	C10 Capacity test	IS 7372, Clause 9.7.4: 1995	Current up to 50 ADCVoltage up to 36 VDC
102	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	C20 Capacity test	IS 7372, Clause 9.7: 1995	Current up to 50 ADCVoltage up to 36 VDC
103	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Charging	IS 7372, Clause 7.0: 1995	Current up to 25 ADCVoltage up to 36 VDC



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104	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Dimensions	IS 7372 ,Clause 9.4 : 1995	Dimensions up to 600 mm
105	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	HRD @ Low Temperature	IS 7372, Clause 9.10: 1995	Current up to 600 ADCVoltage up to 12 VDCChamber Temperature up to - 40°C
106	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	HRD @ Normal Temperature for heavy duty application	IS 7372, Clause 9.11: 1995	Current up to 3000 ADC Voltage up to 12 VDC
107	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Life cycle test	IS 7372, Clause 9.14: 1995	Current up to 50 ADCVoltage up to 36 VDCCurrent up to 600 ADCVoltage up to 12 VDCWater bath Temperature up to 80°C
108	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Resistance to Overcharge	IS 7372, Clause 9.13: 1995	Current up to 600 ADCVoltage up to 12 VDCCurrent up to 10 ADCVoltage up to 36 VDCWater bath Temperature up to 80°C



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109	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Retention of charge	IS 7372, Clause 9.12 : 1995	Current up to 50 ADCVoltage up to 36 VDC
110	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Storage Test	IS 7372, Clause 9.15 : 1995	Current up to 600 ADCVoltage up to 12 VDC
111	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	Vibration test	IS 7372, Clause 9.8: 1995	Current up to 50 ADCVoltage up to 12 VDCAcceleration up to 30gFrequency Upto 1000Hz
112	ELECTRICAL- CELLS & BATTERIES	Lead acid storage Batteries for motor vehicles (6V & 12 Volts & up to 200Ah Capacity)	HRD @ Normal Temperature	IS 7372, Clause 9.9: 1995	Current up to 600 ADCVoltage up to 12 VDC
113	ELECTRICAL- CELLS & BATTERIES	Lead acid Traction BatteriesPart 1: General requirements and methods of test (2V & 12 Volts up to 1530Ah Capacity)	C5 Capacity test	IEC 60254, Clause 3.1 & 5.2: 2005	Current up to 400 ADCVoltage up to 36 VDC
114	ELECTRICAL- CELLS & BATTERIES	Lead acid Traction BatteriesPart 1: General requirements and methods of test (2V & 12 Volts up to 1530Ah Capacity)	Charge retention test	IEC 60254, Clause 3.2 & 5.3: 2005	Current up to 400 ADCVoltage up to 36 VDC



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115	ELECTRICAL- CELLS & BATTERIES	Lead acid Traction BatteriesPart 1: General requirements and methods of test (2V & 12 Volts up to 1530Ah Capacity)	Cyclic Endurance Test	IEC 60254, Clause 3.4 & 5.5: 2005	Current up to 400 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
116	ELECTRICAL- CELLS & BATTERIES	Lead acid Traction BatteriesPart 1: General requirements and methods of test (2V & 12 Volts up to 1530Ah Capacity)	High rate discharge performance Test	IEC 60254, Clause 3.3 & 5.4: 2005	Current up to 3000 ADC Voltage up to 12 VDC
117	ELECTRICAL- CELLS & BATTERIES	Secondary cells and Batteries for renewable energy storage(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Cycling endurance test in Photovoltaic applications (extreme conditions)	IEC 61427-1, Clause 8.4 : 2013	Current up to 300 ADC Voltage up to 12 VDC Water bath Temperature up to 80°C
118	ELECTRICAL- CELLS & BATTERIES	Secondary cells and Batteries for renewable energy storage(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Generic cycling endurance test	IEC 61427-1, Clause 8.2 : 2013	Current up to 600 ADC Voltage up to 12 VDC
119	ELECTRICAL- CELLS & BATTERIES	Secondary cells and Batteries for renewable energy storage(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C10 Capacity	IEC 61427-1, Clause 8.1: 2013	Current up to 300 ADC Voltage up to 12 VDC



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120	ELECTRICAL- CELLS & BATTERIES	Secondary cells and Batteries for renewable energy storage(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C120 Capacity test	IEC 61427-1, Clause 8.1: 2013	Current up to 300 ADCVoltage up to 12 VDC
121	ELECTRICAL- CELLS & BATTERIES	Secondary cells and Batteries for renewable energy storage(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Charge retention test	IEC 61427-1, Clause 8.3 : 2013	Current up to 600 ADCVoltage up to 12 VDC
122	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Endurance in Trickle application @40°C	JIS C 8702, Clause 5.8 & 7.8: 2009	Current up to 50 ADCVoltage up to 36 VDCEnv.Chamber Temperature up to 150°CHumidity up to 95%
123	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Gas emission intensity Test	JIS C 8702, Clause 5.9 & 7.9: 2009	Current up to 50 ADCVoltage up to 36 VDCMeasuring jar up to 500 ml
124	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Liquid leakage resistance	JIS C 8702, Clause 5.10 & 7.10.2: 2009	Current up to 50 ADCVoltage up to 36 VDC
125	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Shock Resistance Characteristics	JIS C 8702, Clause 5.12 & 7.12: 2009	Qualitative(Visual Observation)



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126	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Vibration resistance Characteristics	JIS C 8702, Clause 5.11 & 7.11: 2009	Dimension up to 600 mm Acceleration up to 30g Frequency Upto 1000Hz
127	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Charge acceptance characteristics after deep Discharge	JIS C 8702, Clause 5.6 & 7.6 : 2009	Current up to 150 ADC Voltage up to 36 VDC
128	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Cycle service Endurance	JIS C 8702, Clause 5.3 & 7.3 : 2009	Current up to 200 ADC Voltage up to 36 VDC
129	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Endurance in Trickle application	JIS C 8702, Clause 5.7 & 7.7 : 2009	Current up to 50 ADC Voltage up to 36 VDC
130	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	HRD Characteristics	JIS C 8702, Clause 5.2 & 7.2 : 2009	Current up to 400 ADC Voltage up to 36 VDC
131	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Maximum Permissible current	JIS C 8702, Clause 5.5 & 7.5 : 2009	Current up to 3000 ADC Voltage up to 12 VDC
132	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Storage Characteristics	JIS C 8702 ,Clause 5.4 & 7.4 : 2009	Current up to 200 ADC Voltage up to 36 VDC



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133	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	C1 Capacity test	JIS C 8702, Clause 5.1&7.1b: 2009	Current up to 150 ADCVoltage up to 36 VDC
134	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	C20 Capacity Test	JIS C 8702, Clause 5.1&7.2: 2009	Current up to 150 ADCVoltage up to 36 VDC
135	ELECTRICAL- CELLS & BATTERIES	Small sized Valve Regulated lead acid Batteries (6V & 12Volt up to 200Ah Capacity)	Construction, Marking items, Making of polarity	JIS C 8702, Clause 4.1,4.3,4.4 : 2009	Qualitative(Visual Observation)
136	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Ah & Wh Efficiency Test	IS 1651, Clause 12.9 : 2013	Current up to 200 ADCVoltage up to 36 VDC
137	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C1 Capacity test	IS 1651, Clause 12.5 : 2013	Current up to 3000 ADCVoltage up to 12 VDC
138	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C10 Capacity test	IS 1651, Clause 12.5: 2013	Current up to 400 ADCVoltage up to 36 VDC



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139	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C4,C3,C2 Capacity test	IS 1651, Clause 12.5: 2013	Current up to 600 ADCVoltage up to 12 VDC
140	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C9,C8,C7,C6,C5 Capacity test	IS 1651, Clause 12.5: 2013	Current up to 400 A DCVoltage up to 36 V DC Voltage up to 36 VDC
141	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Endurance Test	IS 1651, Clause 12.8 : 2013	Current up to 200 ADCVoltage up to 36 VDCWater bath Temperature up to 80°C
142	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Loss of capacity on storage	IS 1651, Clause 12.7: 2013	Current up to 400 ADCVoltage up to 36 VDC
143	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Short circuit current and Internal Resistance Test	IS 1651, Clause 12.13: 2013	Current up to 3000 ADC Voltage up to 12 VDC



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Laboratory Name AMARA RAJA BATTERIES LTD., TESTING AND CALIBRATION LABORATORY, KARAKAMBADI RENIGUNTA KADAPA ROAD, TIRUPATI, CHITTOOR, ANDHRA PRADESH , INDIA

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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
144	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Test for suitability of Floating Battery operation	IS 1651, Clause 12.12: 2013	Current up to 200 ADCVoltage up to 36 VDC
145	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Verification of Dimensions	IS 1651, Clause 12.4: 2013	Dimensions up to 600 mm
146	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With tubular positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Water loss test	IS 1651, Clause 12.11: 2013	Current up to 200 ADCVoltage up to 36 VDCWater bath Temperature up to 80°CWeighing Balance up to 150Kg
147	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid (With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C10 Capacity test	IS 1652, Clause 10.6 &10.7: 2013	Current up to 400 ADCVoltage up to 36 VDC
148	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid (With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C4,C3,C2 Capacity test	IS 1652, Clause 10.6 &10.7 : 2013	Current up to 600 ADCVoltage up to 12 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
149	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid (With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C9,C8,C7,C6,C5 Capacity test	IS 1652, Clause 10.6 &10.7 : 2013	Current up to 400 ADCVoltage up to 36 VDC
150	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid (With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Capacities and Dimensions	IS 1652, Clause 6.0 : 2013	Dimensions up to 600 mm
151	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Ah & Wh Efficiency Test	IS 1652, Clause 10.10: 2013	Current up to 200 ADCVoltage up to 36 VDC
152	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	C1 Capacity test	IS 1652, Clause 10.6 & 10.7 : 2013	Current up to 3000 ADCVoltage up to 12 VDC
153	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Loss of capacity on storage	IS 1652, Clause 10.8 :: 2013	Current up to 400 ADC Voltage up to 36 VDC



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154	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Short circuit current and Internal Resistance Test	IS 1652, Clause 10.14: 2013	Current up to 3000 ADC Voltage up to 12 VDC
155	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Test for suitability of Floating Battery operation	IS 1652, Clause 10.13: 2013	Current up to 200 ADC Voltage up to 36 VDC
156	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Endurance Test	IS 1652, Clause 10.9 : 2013	Current up to 200 A DC Voltage up to 36 V DC Water bath Temperature up to 80°C
157	ELECTRICAL- CELLS & BATTERIES	Stationary cells and Batteries,Lead acid type(With Plante positive plates)(2V to 12 Volts & up to 1530Ah Capacity)	Loss of Water test	IS 1652, Clause 10.12: 2013	Current up to 200 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C Weighing Balance up to 150 kg
158	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	Ah & Wh Efficiency Test	IS 13369, Clause 11.8: 1992	Current up to 50 ADC Voltage up to 36 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
159	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	C1 Capacity test	IS 13369, Clause 11.5: 1992	Current up to 150 ADCVoltage up to 36 VDC
160	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	C10 Capacity test	IS 13369, Clause 11.5 : 1992	Current up to 50 ADCVoltage up to 36 VDC
161	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	C3 Capacity test	IS 13369, Clause 11.5 : 1992	Current up to 50 ADCVoltage up to 36 VDC
162	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	C5 Capacity test	IS 13369, Clause 11.5 : 1992	Current up to 50 ADCVoltage up to 36 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
163	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	Endurance Test	IS 13369, Clause 11.7: 1992	Current up to 50 ADCVoltage up to 36 VDCWater bath Temperature up to 80°C
164	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	Loss of capacity on storage	IS 13369, Clause 11.6: 2013	Current up to 50 ADCVoltage up to 36 VDC
165	ELECTRICAL- CELLS & BATTERIES	Stationary lead acid Batteries,Lead acid type(With tubular positive plates) in monoblock container (6V & 12 Volts up to 200Ah Capacity)	Verification of Dimensions	IS 13369, Clause 11.4 : 1992	Dimensions up to 600 mm
166	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C3 Capacity test	IEC60896-21&22, Clause 6.11: 2004	Current up to 600 ADCVoltage up to 12 VDC
167	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C10 Capacity test	IEC60896-21&22, Clause 6.11 : 2004	Current up to 300 ADCVoltage up to 12 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
168	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C8 Capacity test	IEC60896-21&22, Clause 6.11 : 2004	Current up to 300 ADC Voltage up to 12 VDC
169	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Float service with daily discharges	IEC60896-21&22, Clause 6.13 : 2004	Current up to 600 ADC Voltage up to 12 VDC
170	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Service life at an operating temperature of 40°C	IEC60896-21&22 , Clause 6.15: 2004	Current up to 600 ADC Voltage up to 12 VDC Chamber Temp. up to 150°C Humidity up to 95%
171	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	High Current Tolerance	IEC60896-21&22, Clause 6.2: 2004	Current up to 3000 ADC Voltage up to 12 VDC
172	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C1 Capacity test	IEC60896-21&22, Clause 6.11 : 2004	Current up to 3000 ADC Voltage up to 12 VDC



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173	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C15' Capacity test	IEC60896-21&22, Clause 6.11 : 2004	Current up to 3000 ADCVoltage up to 12 VDC
174	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Recharge Behavior	IEC60896-21&22, Clause 6.14 : 2004	Current up to 600 ADCVoltage up to 12 VDC
175	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries (2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Short circuit & D.C.Internal resistance	IEC60896-21&22 ,Clause 6.3 : 2004	Current up to 3000 ADCVoltage up to 12 VDC
176	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Gas Emission	IEC60896-21&22, Clause 6.1 : 2004	Current up to 600 ADCVoltage up to 12 VDC
177	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Inter Cell Connector performance (C0.25)	IEC60896-21&22, Clause 6.10: 2004	Current up to 3000 ADCVoltage up to 12 VDC



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178	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Thermal runaway sensitivity	IEC60896-21&22, Clause 6.18: 2004	Current up to 600 ADCVoltage up to 12 VDC
179	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Stability against mechanical abuse of units during installation	IEC60896-21&22 ,Clause 6.21: 2004	Qualitative(Visual Inspection)
180	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C2 Capacity test	IS 15549, Clause 12.3: 2005	Current up to 600 ADCVoltage up to 12 VDC
181	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C3 Capacity test	IS 15549,Clause 12.3: 2005	Current up to 600 ADCVoltage up to 12 VDC
182	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	C4 Capacity test	IS 15549,Clause 12.3 : 2005	Current up to 400 ADCVoltage up to 12 VDC



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183	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Test for retention of charge	IS 15549 , Clause 12.6: 2005	Current up to 600 ADC Voltage up to 12 VDC
184	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Amper-hour and watt-hour efficiency Test	IS 15549 , Clause 12.4 & 12.5: 2005	Current up to 600 ADC Voltage up to 12 VDC
185	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Protection against internal Ignition from external spark sources	IEC 60896-21&22, Clause 6.3: 2004	Qualitative(Visual Observation)
186	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Low temperature sensitivity	IEC60896-21&22 Clause 6.19: 2004	Current up to 600 ADC Voltage up to 12 VDC Temperature up to -40°C
187	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Abusive over-discharge	IEC60896-21&22, Clause 6.17: 2004	Current up to 600 ADC Voltage up to 12 VDC



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188	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Charge retention during storage	IEC60896-21&22, Clause 6.12 : 2004	Current up to 600 ADC Voltage up to 12 VDC
189	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Impact of a stress temperature of 55°C or 60°C	IEC60896-21&22, Clause 6.16: 2004	Current up to 300 ADC Voltage up to 12 VDC Chamber Temperature up to 150°C
190	ELECTRICAL- CELLS & BATTERIES	Stationary Valve Regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Protection against ground short propensity	IEC60896-21&22, Clause 6.4: 2004	Current up to 600 ADC Voltage up to 12 VDC
191	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Endurance life cycle test	IS 15549, Clause 12.10: 2005	Current up to 600 ADC Voltage up to 12 VDC Water bath Temp. up to 80°C
192	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity & 12 Volt up to 200Ah Capacity)	Test for Oxygen recombination efficiency	IS 15549, Clause 12.9: 2005	Current up to 50 ADC Voltage up to 12 VDC Measuring jar up to 500 ml



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193	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity &12 Volt up to 200Ah Capacity)	Markings on cell	IS 15549, Clause 8: 2005	Qualitative(Visual)
194	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity &12 Volt up to 200Ah Capacity)	C8 Capacity test	IS 15549, Clause 12.3 : 2005	Current up to 400 ADCVoltage up to 12 VDC
195	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity &12 Volt up to 200Ah Capacity)	Test for C1 Capacity	IS 15549, Clause 12.2 : 2005	Current up to 3000 ADC, Voltage up to 12 VDC
196	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity &12 Volt up to 200Ah Capacity)	C5 Capacity test	IS 15549, Clause 12.3 : 2005	Current up to 400 ADCVoltage up to 12 VDC
197	ELECTRICAL- CELLS & BATTERIES	Stationary valve regulated lead acid Batteries(2 Volt up to 1530Ah Capacity &12 Volt up to 200Ah Capacity)	Test for C10 Capacity	IS 15549, Clause 12.1 : 2005	Current up to 600 ADCVoltage up to 12 VDC



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198	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity	Expected cell / Mono-block/Battery Life	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.12 & 7.6.4.4 : 2011	Current up to 600 ADCVoltage up to 12 VDCChamber Temperature up to 150°C
199	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity	Oxygen Recombination Efficiency	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 6.2&7.6.4.1 : 2011	Current up to 50 ADCVoltage up to 36 VDCMeasuring jar up to 500 ml
200	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity	Cell/Mono-block pressure	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012 ,Clause 6.3 & 7.6.4.2 : 2011	Qualitative(Visual)
201	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity	Gassing	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 6.4 & 7.6.4.3 : 2011	Current up to 600 ADCVoltage up to 12 VDCMeasuring jar up to 500 ml
202	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity	Thermal Runaway	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 6.8 & 7.6.4.5 : 2011	Current up to 600 ADCVoltage up to 12 VDC Chamber Temperature up to 150°C
203	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Battery Discharge tables	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.5 : 2011	Current up to 3000 ADCVoltage up to 12 VDC



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204	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/120)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1: 2011	Current up to 50 ADCVoltage up to 36 VDC
205	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/20)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1: 2011	Discharge Current up to 400 ADCVoltage up to 36 VDC
206	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/3)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012 ,Clause 5.1: 2011	Current up to 3000 ADCVoltage up to 12 VDC
207	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/4)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012 , Clause 5.1: 2011	Discharge Current up to 3000 ADCVoltage up to 12 VDC
208	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/5)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012 ,Clause 5.1: 2011	Current up to 3000 ADCVoltage up to 12 VDC
209	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/72)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1: 2011	Current up to 200 ADCVoltage up to 36 VDC



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210	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/8)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1 : 2011	Current up to 3000 ADCVoltage up to 12 VDC
211	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Cell Matching	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.11 & 7.6.3.10 : 2011	Current up to 600 ADCVoltage up to 12 VDCConductance up to 19900 S
212	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Charging	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.2 & 7.6.3.2(A),(B),(C): 2011	Current up to 600 ADCVoltage up to 12 VDCCurrent up to 50 ADC Voltage up to 36 VDC
213	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Float Voltage	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012 ,Clause 5.3 & 7.6.3.3 : 2011	Current up to 600 ADCVoltage up to 12 VDC
214	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Short Circuit	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.10 & 7.6.3.9 : 2011	Current up to 600 ADCVoltage up to 12 VDC
215	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Transient Response (Coup De Fouet)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.6 & 7.6.3.5 : 2011	Current up to 3000 ADCVoltage up to 12 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
216	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Voltages during discharge	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.4& 7.6.3.4: 2011	Discharge Current up to 600 ADCVoltage up to 12 VDC
217	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Watt- Hour Efficiency	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.9 & 7.6.3.8 : 2011	Current up to 600 ADCVoltage up to 12 VDC
218	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Capacity (C/10)	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.1: 2011	Current up to 600 ADCVoltage up to 12 VDC
219	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Loss of capacity during storage	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.7 & 7.6.3.6 : 2011	Current up to 600 ADCVoltage up to 12 VDCChamber Temperature up to 150°C
220	ELECTRICAL- CELLS & BATTERIES	Valve Regulated lead acid (VRLA) Batteries(2V & 12 Volts up to 5000 Ah Capacity)	Ampere Hour (Ah) Efficiency	TEC/GR/TX/BAT-001/04.JUNE 2011 with amendment-1,dated 24.07.2012, Clause 5.8 & 7.6.3.7 : 2011	Current up to 600 ADCVoltage up to 12 VDC



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221	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Ah & Wh efficiency Test	IRS:S 93/96 with Amd.1, Clause A.10.7: 1996	Current up to 200 ADC Voltage up to 36 VDC
222	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Endurance Test	IRS:S 93/96 with Amd.1, Clause A.10.6: 1996	Current up to 200 ADC Voltage up to 36 VDC Water bath Temperature up to 80°C
223	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Test for Capacity(C10,C5,C4,C3,C2,C1 rate of discharge)	IRS:S 93/96 with Amd.1, Clause A.10.4: 1996	Current up to 400 ADC Voltage up to 36 VDC
224	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Test for Charge retention	IRS:S 93/96 with Amd.1, Clause A.10.5: 1996	Current up to 200 ADC Voltage up to 36 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
225	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Test for Endurance under short circuit conditions	IRS:S 93/96 with Amd.1 ,Clause A.10.9 : 1996	Current up to 200 ADC Voltage up to 36 VDC
226	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Verification of Constructional Requirements	IRS:S 93/96 with Amd.1 , Clause A.10.2: 1996	Qualitative(Visual)
227	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Verification of marking	IRS:S 93/96 with Amd.1, Clause A.10.3: 1996	Qualitative(Visual)
228	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Test for gas Recombination efficiency	IRS:S 93/96 with Amd.1, Clause A.10.11: 1996	Current up to 200 ADC Voltage up to 36 VDC Measuring jar up to 500ml



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
229	ELECTRICAL- CELLS & BATTERIES	Valve Regulated(Sealed)Lead acid stationary Battery & Charger for Railway S&T installations (2V to 12 Volts & up to 500Ah Capacity)	Test for voltage during discharge	IRS:S 93/96 with Amd.1, Clause A.10.8: 1996	Current up to 200 ADC Voltage up to 36 VDC
230	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Capacity at 0°C	RDSO/PE/SPEC/AC/009-(Rev.2) , Clause 5.22 : 2014	Current up to 400 ADC Voltage up to 36 VDC Chamber Temperature up to 150°C
231	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Capacity at 10Hrs Rate	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.6 : 2014	Current up to 400 ADC Voltage up to 36 VDC
232	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Capacity at 3Hrs Rate	RDSO/PE/SPEC/AC/009-(Rev.2) , Clause 5.8 : 2014	Current up to 400 ADC Voltage up to 36 VDC
233	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Capacity at 5Hrs Rate	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.7 : 2014	Current up to 400 ADC Voltage up to 36 VDC



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
234	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Conductance measurement of cell	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.23 : 2014	Conductance up to 19900 S
235	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Equilibrium Float current Test	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.14 : 2014	Current up to 200 ADCVoltage up to 36 VDC Water bath Temperature up to 80°C
236	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Life Test	RDSO/PE/SPEC/AC/009-(Rev.2), ,Clause 5.11 : 2014	Current up to 400 ADCVoltage up to 36 VDC Water bath Temperature up to 80°C
237	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Loss of cell weight	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 5.13 : 2014	Current up to 200 ADCVoltage up to 36 VDC Water bath Temperature up to 80°C Weighing Balance up to 150Kg
238	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Overall dimensions and masses	RDSO/PE/SPEC/AC/009-(Rev.2), Clause 3.0 : 2014	Dimension up to 600 mmWeighing Balance up to 150Kg



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S.No	Discipline / Group	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing/ Limits of Detection
239	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Recharge Capability Test	RDSO/PE/SPEC/AC/0 009-(Rev.2), Clause 5.12 : 2014	Current up to 400 ADCVoltage up to 36 VDC
240	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Retention of charge and storage Test	RDSO/PE/SPEC/AC/0 009-(Rev.2) , Clause 5.10 : 2014	Current up to 200 ADCVoltage up to 36 VDC
241	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Watt-Hour and Ampere-Hour Efficiency Test	RDSO/PE/SPEC/AC/0 009-(Rev.2) , Clause 5.9 : 2014	Current up to 200 ADCVoltage up to 36 VDC
242	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Internal Resistance of cells	RDSO/PE/SPEC/AC/0 009-(Rev.2), Clause 5.21 : 2014	Current up to 3000 ADCVoltage up to 12 VDC
243	ELECTRICAL- CELLS & BATTERIES	VRLA Batteries for 110V train lighting ,Air conditioned and LHB coaches(2V ,6V & 12 Volts up to 1100Ah Capacity)	Vibration Test	RDSO/PE/SPEC/AC/0 009-2014(Rev.2), Clause 5.20: 2014	Current up to 200 ADCVoltage up to 36 VDCAcceleration up to 30gFrequency Upto 1000Hz