National Accreditation Board for Testing and Calibration Laboratories

SCOPE OF ACCREDITATION

Laboratory Name :	UNIVERSAL TESTING LABORATORIES, SHIRDI SAI ELECTRICALS LIMITED, PLOT NOS: 13/82, 53, 54, 55, 58, 59 & 60, INDUSTRIAL DEVELOPMENT AREA, CUDDAPAH, Y.S.R., ANDHRA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9139	**Page No**	1 of 7
Validity	01/12/2022 to 30/11/2024	**Last Amended on**	23/12/2022

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
Permanent Facility				
1	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Check of Phase Displacement Polarity test (for 1-Ø Transformers only) Vector group test (for 3-Ø transformers)	IEC 60076 (Part 1):Cl. No-11.3
2	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Check of Phase Displacement Polarity test (for 1-Ø Transformers only) Vector group test (for 3-Ø transformers)	IEEE Std C.57.12.90:Cl.No-6
3	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Check of Phase Displacement Polarity test (for 1-Ø Transformers only) Vector group test (for 3-Ø transformers)	IS 1180 (Part 1): Cl. No-21.2(b)
4	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Check of Phase Displacement Polarity test (for 1-Ø Transformers only) Vector group test (for 3-Ø transformers)	IS 2026 (Part 1):Cl. No-10.3
5	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of capacitances windings-to earth, and between windings	IEC 60076 (Part 1):Cl. No.: 11.1.4 (d)
6	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of capacitances windings-to earth, and between windings	IEEE std C.57.12.90:Cl. No.: 10.10
7	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of capacitances windings-to earth, and between windings	IS 2026 (Part 1):Cl. No.: 10.1.3(b)
8	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of sound level	IEC 60076 (Part 10)
9	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of sound level	IEEE Std C.57.12.90:Cl. No.: 13
10	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of sound level	IS 1180 (Part 1):Cl. No.: 21.4 (a)
11	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Determination of sound level	IS 2026 (Part 10)

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Last Amended on 23/12/2022

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
12	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Induced over voltage withstand test / Induced voltage withstand test (IVW)	IEC 60076 (Part 3):Cl. No.: 11.2
13	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Induced over voltage withstand test / Induced voltage withstand test (IVW)	IEEE Std C.57.12.90:Cl. No.: 10.7
14	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Induced over voltage withstand test / Induced voltage withstand test (IVW)	IS 1180 (Part 1):Cl. No.: 21.2 (f)
15	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Induced over voltage withstand test / Induced voltage withstand test (IVW)	IS 2026 (Part 3):Cl. No.: 11.2
16	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Insulation of Auxiliary Wiring Test	IEC 60076 (Part 3) Cl. No.: 9
17	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Insulation of Auxiliary Wiring Test	IS 2026 (Part 3):Cl. No.: 9
18	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Leake test with pressure (Routine) (for oil immersed transformers only)	IEC 60076 (Part 1):Cl. No.: 11.1.2.1 (g) & 11.8
19	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Lightning Impulse Test	IEC 60076 (Part 3):Cl No.: 13
20	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Lightning Impulse Test	IEEE Std C.57.12.90 Cl No.:10.3
21	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Lightning Impulse Test	IS 1180 (Part 1):Cl No.: 21.3(a)
22	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Lightning Impulse Test	IS 2026 (Part 3):Cl. No.:13
23	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Magnetic balance test (for3-Ø transformers only)	CBIP Manual - 317:Cl. No.: 3.17, Sec.: BB
24	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Magnetic Circuit Test(Core to Core Frame Insulation Resistance test)	CBIP Manual - 317:Cl. No.: 3.15, Sec.: BB
25	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Magnetic Circuit Test(Core to Core Frame Insulation Resistance test)	IEC 60076 (Part 1):Cl. No.: 11.12

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26	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Magnetization Current at Low Voltage Test	CBIP Manual - 317: Cl. No.: 3.23, Sec.: BB
27	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of dissipation factor (Tan d) of the insulation system capacitances	IEC 60076 (Part 1):Cl. No.: 11.1.4 (d)
28	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of dissipation factor (Tan d) of the insulation system capacitances	IEEE std C.57.12.90:Cl. No.: 10.10
29	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of dissipation factor (Tan d) of the insulation system capacitances	IS 2026 (Part 1):Cl. No.: 10.1.3(b)
30	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of harmonics of no-load current	IEC 60076 (Part 1):Cl. No.: 11.1.1
31	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of harmonics of no-load current	IS 2026 (Part 1):Cl. No.: 10.6& 10.1.3 (g)
32	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of impedance voltage/short circuit impedance	1180 (Part 1): Cl. No-21.2(c)
33	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of impedance voltage/short circuit impedance	IEC 60076 (Part 1):Cl. No-11.4
34	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of impedance voltage/short circuit impedance	IEEE Std C.57.12.90:Cl.No-9
35	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of impedance voltage/short circuit impedance	IS 2026 (Part 1):Cl. No-10.4
36	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of insulation resistance	IEC 60076 (Part 1):Cl. No-11.1.4(h)
37	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of insulation resistance	IEEE Std C.57.12.90:Cl.No-10.11
38	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of insulation resistance	IS 1180 (Part 1):Cl.No-21.2(e)
39	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of insulation resistance	IS 2026 (Part 1):Cl. No-10.1.3(j)

SCOPE OF ACCREDITATION

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S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
40	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of load loss	IEC 60076 (Part 1):Cl. No-11.4
41	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of load loss	IEEE Std C.57.12.90:Cl.No-9
42	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of load loss	IS 1180 (Part 1): Cl. No-21.2(c)
43	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of load loss	IS 2026 (Part 1):Cl. No-10.4
44	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load current	1180 (Part 1): Cl. No-21.2(d)
45	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load current	IEC 60076 (Part 1):Cl. No-11.5
46	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load current	IEEE Std C.57.12.90:Cl.No-8
47	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load current	IS 2026 (Part 1):Cl. No-10.5
48	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load loss	IEC 60076 (Part 1):Cl. No-11.5
49	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load loss	IEEE Std C.57.12.90:Cl.No-8
50	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load loss	IS 1180 (Part 1): Cl. No-21.2(d)
51	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no- load loss	IS 2026 (Part 1):Cl. No-10.5
52	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no-load current & no -load loss at 90%, 105%, 110% & 112.5% of Rated voltage.	IS 1180 (Part 1):Cl. No.: 21.4(c)

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53	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of no-load current & no -load loss at 90%, 105%, 110% & 112.5% of Rated voltage.	IEC 60076 (Part 1):Cl.11.5 &11.1.3 (e)
54	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of unbalance/ Neutral current (for3-Ø transformers only)	CBIP Manual - 317:Cl. No.: 6.3, Sec: B
55	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of voltage ratio / turns ratio	1180 (Part 1): Cl. No-21.2(b)
56	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of voltage ratio / turns ratio	IEC 60076 (Part 1):Cl. No-11.3
57	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of voltage ratio / turns ratio	IEEE Std C.57.12.90:Cl.No-7
58	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of voltage ratio / turns ratio	IS 2026 (Part 1):Cl. No-10.3
59	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of Winding Resistance	1180 (Part 1): Cl. No 21.2(a)
60	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of Winding Resistance	IEC 60076 (Part 1):Cl. No-11.2
61	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of Winding Resistance	IEEE Std C.57.12.90:Cl.No-5
62	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of Winding Resistance	IS 2026 (Part 1):Cl. No-10.2
63	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of zero sequence impedance (for 3-Ø transformer only)	IEC 60076 (Part 1):Cl. No.: 11.6 & 11.1.4 (f)
64	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of zero sequence impedance (for 3-Ø transformer only)	IEEE Std C.57.12.90:Cl. No.: 9.5
65	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Measurement of zero sequence impedance (for 3-Ø transformer only)	IS 2026 (Part 1):Cl. No.: 10.1.3 (d)& 10.7

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66	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Oil leakage test (for oil immersed transformers only)	CBIP Manual - 317:Cl. No.: 3.28, Sec.: BB
67	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Oil leakage test (for oil immersed transformers only)	IS 1180 (Part 1):Cl. No.: 21.5, 21.2 (j)
68	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Adhesion Test	ASTM D3359
69	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Adhesion Test	IS 1180 (Part 1):Cl No.: 21.4 (d)
70	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Adhesion Test	ISO 2409
71	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Thickness Test	ASTM D7378:2016, ASTM D1186
72	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Thickness Test	CBIP Manual - 317: Cl. No.: 1.6, Sec.: A
73	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Paint Thickness Test	IEC 60076 (Part 1): Cl. No.: 11.1.4 (m)
74	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Polarization Index (PI) and Absorption Index (AI)	CBIP Manual - 317:Cl. No.: 3.5, Sec.: BB
75	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Polarization Index (PI) and Absorption Index (AI)	IEEE Std C.57.12.90:Cl.No.:10.11
76	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Pressure test (Type) (for oil immersed transformers only)	IEC 60076 (Part 1):Cl. No.11.1.4 (j) & 11.10
77	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Pressure test (Type) (for oil immersed transformers only)	IS 1180 (Part 1):Cl. No.: 21.5, 21.3 (d), 21.5.1.1, 21.5.2.1, 21.5.3.1
78	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Separate source voltage withstand test / Applied voltage test (AV)	IEC 60076 (Part 3):Cl. No.: 10
79	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Separate source voltage withstand test / Applied voltage test (AV)	IEEE Std C.57.12.90:Cl. No.: 10.6

SCOPE OF ACCREDITATION

Laboratory Name :	UNIVERSAL TESTING LABORATORIES, SHIRDI SAI ELECTRICALS LIMITED, PLOT NOS: 13/82, 53, 54, 55, 58, 59 & 60, INDUSTRIAL DEVELOPMENT AREA, CUDDAPAH, Y.S.R., ANDHRA PRADESH, INDIA		
Accreditation Standard	ISO/IEC 17025:2017		
Certificate Number	TC-9139	**Page No**	7 of 7
Validity	01/12/2022 to 30/11/2024	**Last Amended on**	23/12/2022

S.No	Discipline / Group	Materials or Products tested	Component, parameter or characteristic tested / Specific Test Performed / Tests or type of tests performed	Test Method Specification against which tests are performed and / or the techniques / equipment used
80	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Separate source voltage withstand test / Applied voltage test (AV)	IS 1180 (Part 1):Cl. No.: 21.2 (g)
81	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Separate source voltage withstand test / Applied voltage test (AV)	IS 2026 (Part 3):Cl. No.: 10
82	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Temperature rise test	IEC 60076 (Part 2)
83	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Temperature rise test	IEEE Std C.57.12.90:Cl. No.:11
84	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Temperature rise test	IS 1180 (Part 1):Cl. No.: 21.3 (b)
85	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Temperature rise test	IS 2026 (Part 2)
86	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Test On On-Load Tap Changers	IEC 60076 (Part1):Cl. No.: 11.1.2.1 (f)& 11.7
87	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Test On On-Load Tap Changers	IS 2026 (Part 1):Cl. No.: 10.8 & 10.1.1(f)
88	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Vacuum test (Type/ Special) (for oil immersed transformers only)	CBIP Manual - 317:Cl. No.: 6.1.3& 17.3.1 (a1), Sec.: A & Sec.:BB,Cl.No.:3.27
89	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Vacuum test (Type/ Special) (for oil immersed transformers only)	IEC 60076 (Part 1): Cl. No.: 11.1.4 (i)& 11.9
90	ELECTRICAL- INDUCTORS & TRANSFORMERS	Oil Immersed, 1-Ø & 3-Ø, Distribution and Power Transformer's (Sealed/ Non-Sealed and Outdoor/ Indoor type) Range: up to 12500 kVA Voltage class: up to 36 kV	Vacuum test (Type/ Special) (for oil immersed transformers only)	IS 1180 (Part 1):Cl. No.: 21.5
91	ELECTRICAL- INDUCTORS & TRANSFORMERS	Pressure test (Routine) (for oil immersed transformers only)	Pressure test (Routine) (for oil immersed transformers only)	IS 1180 (Part 1):Cl. No.: 21.5, 21.2 (h),21.5.1.2, 21.5.2.2, 21.5.3.2