

**RECOMMENDED SCOPE OF ACCREDITATION
(For Testing Laboratories)**

Laboratory: Chemical Analytical-C, ATIRA				Date(s) of Visit:28/07/2012	
Discipline: Chemical (Waste Water)					
Sl	Product / Material of test	Specific tests performed	* Test Method / Standard against which tests are performed	Range of Testing/ Limits of detection	Uncertainty of Measurement ⁺ (±) Value
1	Wastewater	Colour, true colour units,	IS-3025 (Part 4) -1983 (Reaffirmed-2006) APHA 21 st Edition – 2005: 2120 /C	1–2000 Co. Pt. units	N.A.
2		Turbidity, NTU	IS-3025 (Part 10)-1984 (Reaffirmed-2006) APHA 21 st Edition – 2005: 2130/B	1 –100 NTU (1 NTU)	2.2± 0.115 (at 2 NTU)
3		Total dissolved solids mg/1,	IS-3025 (Part 16)- 1984 (Reaffirmed-2006) APHA 21 st Edition – 2005: 2540 /C	100-10000 mg/l	496.6± 2.947 (at 500 mg/L)
4		pH	IS-3025 (Part 11) - 1983 (Reaffirmed-2006) APHA 21 st Edition – 2005: 4500 /H ⁺	1 to 14	7.29± 0.06 (at 7 pH)
5		Copper (as Cu), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500 /Cu	0.04 – 10 mg/l	50.81± 5.56 (at 50 µg/L)
6		Iron (as Fe), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500 Fe /	0.05 – 25 mg/l	105.30±15.36 (at 100 µg/l)
7		Manganese (as Mn), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500 /Mn	0.1 – 10 mg/l	100.74 ±11.44 (at 100 µg/l)
8		Nitrate (as NO ₃), mg/L	IS 3025 (Part 34)- 1988(Reaffirmed-1999) APHA 21 st Edition – 2005: 4500 /NO ₃	10 – 100 mg/l	46.65± 1.465 (at 45 mg/L)
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9	Wastewater	Nitrite (as NO ₂), mg/L	IS 3025 (Part 34)- 1988(Reaffirmed-1999) APHA 21 st Edition – 2005: 4500 /NO ₂ ⁻	0.01 – 5 mg/l	19.16± 1.713 (at 20 µg/L)
10		Fluoride (as F), mg/L,	IS 3025-(Part-60):2008 APHA 21 st Edition – 2005: 4500 /F ⁻	0.5 – 50 mg/l	0.96 ±0.144 (at 1 mg/L)
11		Zinc (as Zn), mg/l	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/Zn	0.05 – 100 mg/l	5.1±0.505 (at 5 mg/L)
12		Chloride (as Cl), mg/ L	IS 3025 (Part 32)- 1988(Reaffirmed-1999) APHA 21 st Edition – 2005: 4500/ Cl ⁻	50 to 10000 mg/l	199.65± 6.659 (at 200mg/L)
13		Sulphate (as SO ₄), mg/L,	IS 3025 (Part 24)- 1988(Reaffirmed-1998) APHA 21 st Edition – 2005: 4500/SO ₄ ²⁻	25 to 5000 mg/l	202.87± 2.926 (200 mg/L)
14		Alkalinity (as HCO ₃), mg/L	IS 3025 (Part 23) - 1986(Reaffirmed-1998) APHA 21 st Edition – 2005: 2320	25 to 500 mg/l	198.85± 4.99 (at 200 mg/L)
15		Calcium (as Ca), mg/L	DIN EN ISO 11885- April1998[ICP Technique] APHA 21 st Edition – 2005: 3500/Ca	10 to 500 mg/l	75.40± 8.776 (at 75 mg/L)
16		Magnesium (as Mg), mg/L	DIN EN ISO 11885 April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/Mg	10 to 250 mg/l	33.82± 3.32 (at 30 mg/L)
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17	Waste Water	Sodium (as Na), mg/L	DIN EN ISO 11885 April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500 /Na	100 to 1000 mg/l	211.08±27.65 (at 200 mg/L)
18		Residual free chlorine, mg/L	IS-3025 (Part 26)-1986 APHA 21 st Edition 2005 - 4500-Cl/G	0.1 – 50 mg/l	0.22±0.0233 (at 0.2mg/L)
19		Phenolic compounds (as C ₆ H ₂ OH), mg/L	IS-3025 (Part 43) :1992 (Reaffirmed 1998) APHA 21 st Edition 2005: 5530/D	1.0 to 100 mg/l	1.11±0.088 (at 1 mg/L)
20		Sulphide (as H ₂ S), mg/L	IS 3025 (Part 29)-1986 (Reaffirmed-1998) APHA 21 st Edition – 2005: 4500/S ²⁻	0.5 – 200 mg/l	0.05±0.01 (at 0.05 mg/L)
21		Mercury (as Hg), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/Hg	0.001 – 10 mg/l	1.13±0.215 (at 1 µg/l)
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22	Waste water	Cadmium (as Cd), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/Cd	0.005 – 10 mg/l	9.81± 1.172 (at 10 µg/l)
23		Arsenic (as As), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/As	0.002 – 10 mg/l	48.86±5.063 (at 50 µg/l)
24		Cyanide (as CN), mg/L	IS 3025 (Part 27)-1986(Reaffirmed-1998)	0.001 to 1 mg/l	19.18±1.902 (at 20 µg/L)
25		Lead (as Pb), mg/L	DIN EN ISO 11885-April 1998 [ICP Technique] APHA 21 st Edition – 2005: 3500/Pb	0.001 – 10 mg/l	7.67±1.446 (at 10 µg/l)
26		Chromium (as Cr) mg/l	DIN EN ISO 11885-April 1998 [ICP Technique]	0.02 – 20 mg/l	51.64± 5.502 (at 50 µg/l)
27		Nickel (as Ni) mg/l	DIN EN ISO 11885-April 1998 [ICP Technique]	0.01 – 20 mg/l	18.86±2.695 (at 20 µg/l)
28		Conductivity, µS/cm	APHA 21 st Edition 2005: 2510	<5000 µS/cm	12.81±0.208 (at 12.88 µg/l)
29		Total Suspended Solids, mg/L	IS 3025 (Part 17)-1984(Reaffirmed-2006) APHA 21 st Edition 2005:2540 /D	>25.0 mg/L	496.20±42.026 (at 500 mg/l)
30		Chemical Oxygen Demand (COD), mg/L	IS 3025 (Part -58)- 2006 APHA 21 st Edition – 2005: 2540 /B	<3.25 lacs mg/L	506.268±10.949 (at 500 mg/l)
31		Biological Oxygen Demand (BOD), mg/L	IS 3025 (Part 44)-1993 APHA 21 st Edition – 2005: 5210 /B	<1.0 lacs mg/L	201.10±16.621 (at 200 mg/l)
32		Ammonical Nitrogen, mg/L	IS 3025 (Part 17)-1984(Reaffirmed-2006) APHA 21 st Edition – 2005: 4500 /NH ₃	0.0 – 500 mg/L	4.57±0.363 (at 5 mg/l)
33		Dissolved Oxygen (DO), mg/L	IS 3025 (Part 38)-1989(Reaffirmed-2003) APHA 21 st Edition – 2005: 5210 /C	0.0 – 6.0 mg/L	206.27±10.504 (at 200 mg/l)

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