Laboratory	**Lucid Laboratories Pvt. Ltd., B-1/A T. I. E, Phase- II, Balanagar, Hyderabad, Telangana**			
Accreditation Standard	**ISO/IEC 17025: 2005**			
Discipline	**Chemical Testing**	**Issue Date**	**24.04.2015**	
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S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**WATER**			
1.	**Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry and R.O Water**	Color, Color Units (Pt-Co)	IS 3025 (Part 4): 1983, APHA (22nd Edition) 2120-B	(1 to 500)Color Units
		Odor	IS 3025 (Part 5):1983, APHA (22nd Edition) 2150: 2012	Qualitative (Agreeable or disagreeable)
		Taste	IS 3025 (Part 8): 1984, APHA (22nd Edition) 2160-C: 2012	Qualitative (Agreeable or disagreeable)
		Total Dissolved Solids	IS 3025 (Part 16): 1984, APHA (22nd Edition) 2540-C: 2012	1 mg/l to 1000 mg/l
		Turbidity	IS 3025 (Part 10): 1984, APHA (22nd Edition) 2130-B: 2012	0.1 NTU to 100 NTU
		pH Value	IS 3025 (Part 11): 1983, APHA (22nd Edition) 4500-H^+ B: 2012	1 to 13
		Conductivity	IS 3025 (Part 14): 1984, APHA (22nd Edition 2012) 2510-B	1 µS/cm to 10000 µS/cm
		Residual Free Chlorine	IS 3025 (Part 26): 1986	0.1 mg/l to 10 mg/l
		Alkalinity as $CaCo_3$	IS 3025 (Part 23): 1986, APHA (22nd Edition) 2320-B: 2012	1 mg/l to 1000 mg/l
		Colour Retention of KMnO4 @27±2˚C	IS 1070: 1992 Annexure A	Upto 60 min
		Total Hardness as CaCo3	IS 3025 (Part 21): 1983, APHA (22nd Edition) 2340-C: 2012	1.0 mg/l to 1000 mg/l

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	Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry and R.O Water	Ammoniacal Nitrogen as N	IS 3025 (Part 34)	1.0 mg/l to 100 mg/l
		Cyanide (as CN)	IS 3025 (Part 27): 1986 , APHA (22nd Edition) 4500-CN^-E: 2012	0.02 mg/l to 15.0 mg/l
		Chloride (as Cl)	IS 3025 (Part 32): 1988, APHA (22nd Edition) 4500-Cl^- B: 2012	1 mg/l to 1000 mg/l
		Fluoride (as F)	IS 3025 (Part 60): 2008, APHA (22nd Edition) 4500-F C: 2012	0.1 mg/l to 15 mg/l
		Nitrate (NO_3)	IS 3025 (Part 34): 1988 , APHA (22nd Edition) 4500-NO_3 B: 2012	1 mg/l to 200 mg/l
		Nitrite (NO_2)	IS 3025 (Part 34): 1988, APHA (22nd Edition) 4500-NO_2 B: 2012	0.005 mg/l to 10mg/l
		Sulfate(as SO_4)	IS 3025 (Part 24): 1986, APHA (22nd Edition) 4500-SO_4 E: 2012	1 mg/l to 1000 mg/l
		Sulfide as H_2S	IS 3025 (Part 29): 1986,	0.02 mg/l to 10 mg/l
		Anionic Surface Active Agents (as MBAS)	IS 13428: 2005, Annexure K APHA (22nd Edition) 5540-C: 2012	0.05 mg/l to 10.0 mg/l
		Mineral Oil	IS 3025 (Part 39): 1986	0.1 mg/l to 10 mg/l

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	Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry and R.O Water	Phenolic Compounds (as C_6H_5OH)	IS 3025 (Part 43): 1992, APHA (22nd Edition) 5530-C: 2012	0.001 mg/l to 1.0 mg/l
		Aluminium (as Al)	IS 3025 (Part 2): 2004 by ICP-OES APHA (22nd Edition) 3120-B: 2012 EPA 200.7	0.01 mg/l to 10.0 mg/l
			IS 3025 (Part 55) by UV-Vis Spectrophotometer	0.001 mg/l to 1.0 mg/l
		Antimony (as Sb)	IS 13428 Annexure G	0.001 mg/l to 1.0 mg/l
		Arsenic (as As)	APHA (22nd Edition) 3114-B: 2012, IS 3025 (Part 37) By Hydride Generation technique	0.002 mg/l to 1.0 mg/l
		Barium (as Ba)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004 by ICP-OES	0.01 mg/l to 10 mg/l
		Boron (as B)	EPA 200.7 IS 3025 (Part 2): 2004 by ICP-OES	0.01 mg/l to 10.0 mg/l
		Calcium (as Ca)	IS 3025 (Part 40): 1991	1.0 mg/l to 1000 mg/l

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	Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry And R.O Water	Cadmium (as Cd)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	0.002 mg/l to1.0mg/l
			IS 3025 (Part 41)	0.005 mg/l to 1.0 mg/l
		Chromium (as Cr)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 10.0 mg/l
		Cobalt (as Co)	APHA (22nd Edition) 3120-B: 2012, EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 10.0 mg/l
		Copper (as Cu)	APHA (22nd Edition) 3120-B: 2012, EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 10 mg/l
		Iron (as Fe)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	0.02 mg/l to 100 mg/l
		Lead (as Pb)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 10mg/l
			IS 3025 (Part 47)	0.1 mg/l to 1.0 mg/l
		Magnesium (as Mg)	IS 3025(Part 46):1994,	1.0 mg/l to 1000 mg/l

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	Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry and R.O Water	Manganese (as Mn)	APHA (22nd Edition) 3120-B: 2012, EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 100 mg/l
		Mercury (as Hg)	APHA (22nd Edition) 3112-B: 2012, IS 3025 (Part 48) By Hydride generation technique	0.0005 mg/l to 1.0mg/l
		Sodium (as Na)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	1.0 mg/l to 1000 mg/l
			APHA (22nd Edition) 3500-N-K,B: 2012	1.0 mg/l to 1000 mg/l
		Nickel (as Ni)	APHA (22nd Edition) 3120-B: 2012 EPA 200.7 IS 3025 (Part 2): 2004	0.01 mg/l to 100 mg/l
			APHA (22nd Edition) 3111-B: 2012 By AAS direct flame	0.1 mg/l to 10.0 mg/l
			IS 13428 Annexure L By AAS-MIBK Extraction	0.01 mg/l to 10.0 mg/l
		Selenium (as Se)	IS 3025 (Part 56) By Hydride Generation Technique APHA (22nd Edition) 3114-B: 2012,	0.002 mg/l to 1.0mg/l
		Silica (as Sio_2)	APHA (22nd Edition) 4500-D: 2012	0.01 mg/l to 100 mg/l
		Silver (as Ag)	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10mg/l
			IS 13428 Annexure J	0.001 mg/l to 1.0 mg/l

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	Packaged Drinking Water/ Packaged Natural Mineral Water/Drinking Water/Bore Well Water/Surface Water, Processed Water For Food Industry And R.O Water	Zinc (as Zn)	IS 3025 Part 2:2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10.0 mg/l
		Molybdenum (as Mo)	IS 3025 (Part 2): 2004	0.01 mg/l to 10 mg/l
		Hexavalent Chromium (Cr^{6+})	EPA 7196A	0.03 mg/l to 10 mg/l
		Chloramines(as Cl_2)	IS 3025 (Part 26)	0.1 mg/l to 10mg/l
		Trihalomethanes Bromoform Dibromochloromethane Bromodichloromethane Chloroform	STP No-12/35 (Issue Date: Based on APHA (22nd Edition) 6232: 2012	0.01 mg/l to 0.5mg/l
2.	**Water /Packaged Drinking Water / Packaged Natural Mineral Water**	**Polychlorinated Biphenyl (Pcb)**		
		2,4-Dichlorobiphenyl	STP No-12/03 (Issue date:08/09/2014)	0.02 µg/l to 10µg/l
		2 2 5-Trichlorobiphenyl	Based on USEPA 508 IS 13428	0.02 µg/l to 10µg/l
		2 4 4-Trichlorobiphenyl	Annexure M APHA (22nd Edition) 6431-C	0.02 µg/l to 10µg/l
		2 2 3 5-Tetrachlorobiphenyl		0.02 µg/l to 10µg/l
		2 2 5 5-Tetrachlorobiphenyl		0.02 µg/l to 10µg/l
		2 3 4 4 – Tetrachlorobiphenyl		0.02 µg/l to 10µg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Water /Packaged Drinking Water / Packaged Natural Mineral Water	2,2,4,5,5,-Pentachlorobiphenyl	STP No-12/03 (Issue date:08/09/2014) Based on USEPA 508	0.02 µg/l to 10µg/l
		3 3 4 4-Tetrachlorobiphenyl	IS 13428 Annexure M APHA (22nd Edition) 6431-C	0.02 µg/l to 10µg/l
		2,3,34,4-Pentachlorobiphenyl		0.02 µg/l to 10µg/l
		2,34,4,5-Pentachlorobiphenyl		0.02 µg/l to 10µg/l
		3,3,4,4,5-Pentachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,3,4,4-Hexachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,4,4,5-Hexachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,3,4,4,5-Heptachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,4,4,5,5,-Hexachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,3,4,4,5,6-Octachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,4,4,5,5,-Heptachlorobiphenyl		0.02 µg/l to 10µg/l

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	Water /Packaged Drinking Water / Packaged Natural Mineral Water	2,2,3,4,5,5,6-Heptachlorobiphenyl	STP No-12/03 (Issue date:08/09/2014) Based on USEPA 508	0.02 µg/l to 10µg/l
		2,2,3,3,4,5,6,6-Octachlorobiphenyl	IS 13428 Annexure M APHA (22nd Edition) 6431-C	0.02 µg/l to 10µg/l
		2,2,3,3,4,4,5,5,6-Nonachlorobiphenyl		0.02 µg/l to 10µg/l
		2,2,3,3,4,4,5,5,6,6-Decachlorobiphenyl		0.02 µg/l to 10µg/l
		Polynuclear Aromatic Hydrocarbons (PAH)		
		Naphthalene ,	STP No-12/01 (Issue date: 08/09/2014) Based on APHA (22nd Edition) 6440-B: 2012	0.02 µg/l to 10 µg/l
		Naphthalene 2-Methyl,		0.02 µg/l to 10 µg/l
		Naphthalene 1-Methyl,		0.02 µg/l to 10 µg/l
		Acenaphthylene		0.02 µg/l to 10 µg/l
		Acenaphthane,		0.02 µg/l to 10 µg/l
		Fluorene,		0.02 µg/l to 10 µg/l
		Anthracene,		0.02 µg/l to 10 µg/l
		Phenanthrene,		0.02 µg/l to 10 µg/l
		Fluoranthene		0.02 µg/l to 10 µg/l
		Pyrene		0.02 µg/l to 10 µg/l
		Benz(A) Anthracene		0.02 µg/l to 10 µg/l
		Chrysene		0.02 µg/l to 10 µg/l
		Benzo(K) Fluoranthene		0.02 µg/l to 10 µg/l
		Benzo(A)Pyrene		0.02 µg/l to 10 µg/l
		Benzo(B) Fluoranthene		0.02 µg/l to 10 µg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Water /Packaged Drinking Water / Packaged Natural Mineral Water	**Pesticide Residues**		
		Organochlorine Pesticides		
		Alpha HCH	STP No-12/01	0.02 µg/l to 10.0 µg/l
		Beta HCH	(Issue date:08/09/2014)	0.02 µg/l to 10.0 µg/l
		Delta HCH	Based on USEPA 508	0.02 µg/l to 10.0 µg/l
		Gamma HCH		0.02 µg/l to 10.0 µg/l
		Alachlor		0.02 µg/l to 10.0 µg/l
		Aldrin		0.02 µg/l to 10.0 µg/l
		O.P-DDE		0.02 µg/l to 10.0 µg/l
		Alpha Endosulfan		0.02 µg/l to 10.0 µg/l
		Dieldrin		0.02 µg/l to 10.0 µg/l
		O.P-DDD		0.02 µg/l to 10.0 µg/l
		P,P-DDE		0.02 µg/l to 10.0 µg/l
		Beta Endosulfan		0.02 µg/l to 10.0 µg/l
		P,P-DDD		0.02 µg/l to 10.0 µg/l
		O,P-DDT		0.02 µg/l to 10.0 µg/l
		Endosulfan Sulfate		0.02 µg/l to 10.0 µg/l
		P,P-DDT		0.02 µg/l to 10.0 µg/l
		Organo Phosphorus Pesticides		
		Monocrotophos	STP No-12/02	0.02 µg/l to 10.0 µg/l
		Phorate	(Issue date: 08/09/2014)	0.02 µg/l to 10.0 µg/l
		Atrazine	Based on USEPA 525.2	0.02 µg/l to 10.0 µg/l
		Methyl Paraxaon		0.02 µg/l to 10.0 µg/l
		Methy Parathion		0.02 µg/l to 10.0 µg/l
		Malaxon		0.02 µg/l to 10.0 µg/l
		Phorate Sulfoxide		0.02 µg/l to 10.0 µg/l
		Malathion		0.02 µg/l to 10.0 µg/l
		Phorate Sulfone		0.02 µg/l to 10.0 µg/l
		Chlorpyriphos		0.02 µg/l to 10.0 µg/l
		Butachlor		0.02 µg/l to 10.0 µg/l
		Ethion		0.02 µg/l to 10.0 µg/l

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	Water /Packaged Drinking Water / Packaged Natural Mineral Water	Isoproturon	STP No-12/05 (Issued date:08/09/2014) Based on USEPA 532	0.02 µg/l to 10.0 µg/l
		2, 4-D	STP No-12/04 (Issued date:08/09/2014) Based on USEPA 515.1	0.02 µg/l to 10.0 µg/l
II.	**POLLUTION AND ENVIRONMENT**			
1.	**Sewage and effluents water (Raw & Process)**	pH	IS 3025 (Part 11): 1983, APHA (22nd Edition) 4500-H^+ B: 2012	1 to 13
		Conductivity	IS 3025 (Part 14): 1984, APHA (22nd Edition) 2510-B: 2012	1 µs/cm to 10000 µs/cm
		Colour Pt-Co (For Treated Effluent& Sewage Water)	IS 3025 (Part 4): 1983, APHA (22nd Edition) 2120 B: 2012	1 to 500 Color units
		Total Residual Chlorine	IS 3025 (Part 26): 1986, APHA (22nd Edition) 4500-Cl B: 2012	1.0 mg/l to 100 mg/l
		Arsenic as As	IS 3025 (Part 37) By Hydride Generation Technique APHA (22nd Edition) 3114-B: 2012	0.002 mg/l to 10 mg/l
		Mercury As Hg	IS 3025 (Part 48) By Hydride Generation Technique APHA (22nd Edition) 3112-B: 2012	0.0005 mg/l to 1.0 mg/l

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	Sewage and effluents water (Raw & Process)	Lead As Pb	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, B,EPA 200.7	0.01 mg/l to 10 mg/l
		Cadmium As Cd	APHA (22nd Edition) 3120-B: 2012, EPA 200.7 IS 3025 (Part 2): 2004,	0.002 mg/l to 10 mg/l
		Copper As Cu	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10 mg/l
		Total Chromium As Cr	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10 mg/l
		Zinc As Zn	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7/	0.01 mg/l to 10 mg/l
		Selenium As Se	APHA (22nd Edition) 3114-B: 2012, IS 3025 (Part 56) By Hydride Generation Technique	0.002 mg/l to 1.0 mg/l
		Nickel As Ni	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10 mg/l
		Boron As B	IS 3025 (Part 2): 2004 EPA 200.7	0.01 mg/l to 10 mg/l

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	Sewage and effluents water (Raw & Process)	Percent Sodium	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012 EPA 200.7	0.1 mg/l to 50%
		Fluoride	IS 3025 (Part 60): 2008, APHA (22nd Edition) 4500-F B and C: 2012	0.1 mg/l to 100 mg/l
		Chloride As Cl	IS 3025 (Part 32), 2: 1988, APHA (22nd Edition) 4500-Cl^- B: 2012	1.0 mg/l to 1000 mg/l
		Phenolic Compounds as C_6H_5OH	IS 3025 (Part 43): 1992, APHA (22nd Edition) 5530-C: 2012	0.001 mg/l to 10.0 mg/l
		Manganese as Mn	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 100 mg/l
		Vanadium as V	IS 3025 (Part 2): 2004	0.01 mg/l to 10 mg/l
		Cobalt (as Co)	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3120-B: 2012, EPA 200.7	0.01 mg/l to 10 mg/l
		Total Suspended Solids	IS 3025 (Part 17): 1984, APHA (22nd Edition) 2540-D: 2012	1.0 mg/l to 5000 mg/l
		Total Dissolved Solids	IS 3025 (Part 16): 1984, APHA (22nd Edition)	1.0 mg/l to 5000 mg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			2540-C: 2012	
	Sewage and effluents water (Raw & Process)	Volatile Solids	IS 3025 (Part 18): 1984, APHA (22nd Edition) 2540-E: 2012	1.0 mg/l to 1000 mg/l
		Total Solids	IS 3025 (Part 15): 1984, APHA (22nd Edition) 2540-B: 2012	1 mg/l to 5000 mg/l
		Fixed Solids	IS 3025 (Part 18): 1984, APHA (22nd Edition) 2540-E: 2012	1.0 mg/l to 5000 mg/l
		Turbidity	IS 3025 (Part 10): 1984, APHA (22nd Edition) 2130-B: 2012	0.1 NTU to 100 NTU
		Oil And Grease	IS 3025 (Part 39): 1986	1.0 mg/l to 1000 mg/l
		Total Kjeldahl Nitrogen	IS 3025 (Part 34), 3: 1988 , APHA (22nd Edition) 4500-Norg: 2012	1.0 mg/l to 1000 mg/l
		Nitrate Nitrogen as NO_3^-	IS 3025 (Part 34), 3: 1988	1.0 mg/l to 200 mg/l
		Ammonical Nitrogen as NH_3	IS 3025 (Part 34) APHA (22nd Edition) 4500-NH_3,F: 2012	1.0 mg/l to 500 mg/l
		Total Phosphorus as P	IS 3025 (Part 31): 1988 by UV-VIS spectrometer	0.1 mg/l to 100 mg/l

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	Sewage and effluents water (Raw & Process)	Iron as Fe	APHA (22nd Edition) 3120-B: 2012, EPA 200.7 IS 3025 (Part 2): 2004	0.02 mg/l to 100 mg/l
		Hexavalent Chromium (Cr6+)	EPA 7196A	0.03 mg/l to 100 mg/l
		Sulphates as SO_4	IS 3025 (Part 24): 1986, APHA (22nd Edition) 4500-SO_4 E: 2012	1.0 mg/l to 1000 mg/l
		Sulfide as S	IS 3025 (Part 29): 1986, APHA (22nd Edition) 4500-S^{2-} F: 2012	1 mg/l to 100 mg/l
		Nitrite as NO_2	IS 3025 (Part 34), 4: 1988, APHA (22nd Edition) 4500-NO_2 B: 2012	0.005 mg/l to 10.0 mg/l
		Cyanide as CN	IS 3025 (Part 27), 3: 1986 , APHA (22nd Edition) 4500-CN^-B,E: 2012	0.02 mg/l to 15 mg/l
		Potassium as K	IS 3025 (Part 2): 2004 APHA (22nd Edition) 3500-K^-B: 2012, by Flame photometer	1 mg/l to 1000 mg/l
		Calcium as Ca	IS 3025 (Part 40): 1991	1 mg/l to 1000 mg/l
		Magnesium as Mg	IS 3025 (Part 46): 1994	1 mg/l to 1000 mg/l
		Total Alkalinity as $CaCo_3$	IS 3025 (Part 23): 1986, APHA (22nd Edition) 2320-B: 2012	1 mg/l to 1000 mg/l

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Sewage and effluents water (Raw & Process)	Total Hardness as CaCo3	IS 3025 (Part 21): 2008, APHA (22nd Edition) 2340-C: 2012	1 mg/l to 1000 mg/l
		Dissolved Oxygen	IS 3025 (Part 38): 1989, APHA (22nd Edition) 4500-B: 2012	1 mg/l to 9 mg/l
		Biochemical Oxygen Demand 3 Day At 27^0C	IS 3025 (Part 44): 1993	3 mg/l to 1000 mg/l
		Chemical Oxygen Demand	IS 3025 (Part 58): 2006, APHA (22nd Edition) 5220-B: 2012	5 mg/l to 5000 mg/l
III.	**METALS & ALLOYS**			
1.	**Steels – MS, LAS & Cast Iron**	Carbon	IS 228 (Part 1): 1987 (RA 2008)	0.01 % to 5 %
		Chromium	IS 228 (Part 6): 1987 (RA 2009)	0.01 % to 5.0 %
		Manganese	IS 228 (Part 2): 1987 (RA 2008)	0.01 % to 3 %
		Molybdenum	IS 228 (Part 7): 1989 (RA 2008)	0.05 % to 5.0 %
		Nickel	IS 228 (Part 5): 1987 (RA 2009)	0.1 % to 5 %
		Phosphorous	IS 228 (Part 3): 1987 (RA 2008)	0.01 % to 0.25 %
		Silicon	IS 228 (Part 8): 1989 (RA 2009)	0.05 % to 5.0 %
		Sulphur	IS 228 (Part 9): 1989 (RA 2009)	0.01 % to 0.25 %
		Nitrogen	IS 228 (Part 19): 1998 (RA 2010)	0.002 % to 0.50 %

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	Steels – MS, LAS & Cast Iron	Aluminum	SOP No: 07/15 Issue No: 2.0 & Issue Date: 10-05-2014,	0.01 % to 12 %
		Boron		0.005 % to 0.20 %
		Chromium		0.01 to 5.0
		Copper		0.005 % to 1.50 %
		Manganese		0.01 % to 3 %
		Molybdenum		0.05 % to 5.0 %
		Nickel		0.1 % to 5 %
		Niobium		0.005 % to 0.50 %
		Phosphorous		to 0.25 %
		Titanium		0.005 % to 1.0 %
		Vanadium		0.005 % to 0.50 %
2.	**Stainless Steel**	Carbon	IS 228 (Part 1): 1987 (RA 2008)	0.01 % to 1.5 %
		Chromium	IS 228 (Part 6): 1987 (RA 2009)	1 % to 30 %
		Manganese	IS 228 (Part 2): 1987 (RA 2008)	0.1 % to 20.0 %
		Molybdenum	IS 228 (Part 7): 1989 (RA 2008)	0.1 % to 5 %
		Nickel	IS 228 (Part 5): 1987 (RA 2009)	1 % to 25 %
		Phosphorous	IS 228 (Part 3): 1987 (RA 2008)	0.01 % to 0.25 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Stainless Steel	Silicon	IS 228 (Part 8): 1989 (RA 2009)	0.05 %to 2.0 %
		Sulphur	IS 228 (Part 9): 1989 (RA 2009)	0.01 % to 0.25 %
		Nitrogen	IS 228 (Part 19): 1998 (RA 2010)	0.002 % to 0.50 %
		Chromium Manganese Molybdenum Nickel Phosphorous Vanadium Copper Niobium As Nb Aluminium As Al Titanium As Ti	SOP No: 07/14 Issue No: 2.0 & Issue Date: 10-05-2014,	1 % to 30 % 0.06 % to 20.0 % 0.01 % to 5 % 1 % to 25 % 0.01 % to 0.25 % 0.005 % to 1.00 % 0.005 % to 5.0 % 0.005 % to 1.0 % 0.005 % to 1.50 % 0.005 % to 1.0 %
3.	**Copper and Its Alloy; Brass, Gun Metal, Bronzes, Dutch Metal**	Copper (By Electrolysis)	ASTM E 53: 2007 (Reapproved 2013) IS 3685: 1966 (RA 2006) IS 4027-1: 1987 (RA 2006)	10 % to 99.99 %
		Silver Aluminium Berylium Cadmium Iron Magnesium Nickel Tin Zinc Antimony Lead	SOP No: 07/18 Issue No: 2.0 & Issue Date: 10-05-2014	0.001 % to 0.1 % 0.001 % to 2 % 0.001 % to2 % 0.001 % to 0.1 % 0.001 % to 5 % 0.001 % to 0.1 % 0.001 % to 5 % 0.001 % to20 % 0.001 % to 50 % 0.1 % to 1 % 0.1 % to 27 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Copper and Its Alloy; Brass, Gun Metal, Bronzes, Dutch Metal	Manganese Phosphorous Bismuth Arsenic	SOP No: 07/18 Issue No: 2.0 & Issue Date: 10-05-2014	0.01 % to 0.1 % 0.001 % to 1 % 0.001 % to 1.0 % 0.001 % to 1.0 %
4.	**Aluminium And Its Alloys**	Copper	ASTM E 34: 2011	0.01 % to 20 %
		Iron	ASTM E 34: 2011	0.01 % to 3 %
		Magnesium	ASTM E 34: 2011	0.1 % to 20 %
		Manganese	ASTM E 34: 2011	0.01 % to 2 %
		Nickel	ASTM E 34: 2011	0.01 % to 4 %
		Silicon	IS 504 (Part 1): 2002 (RA 2010)	0.1 % to 20 %
		Tin	IS 504 (Part 9): 2002 (RA 2010)	0.03 % to 1.0 %
		Titanium	IS 504 (Part 11): 2002 (RA 2010)	0.01 % to 0.03 %
		Zinc	ASTM E 34: 2011	0.01 % to 12.0 %
		Chromium Copper Iron Lead Magnesium Manganese Nickel Zinc Zirconium	In house Method: SOP No: 07/16 Issue No: 2.0 & Issue Date: 10-05-2014, (ICP-OES)	0.01 % to 0.5 % 0.01 % to 20 % 0.01 % to 3 % 0.01 % to 1 % 0.1 % to 20 % 0.01 % to 2 % 0.01 % to 4 % 0.01 % to 12.0 % 0.02 % to 1.0 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Titanium Alloys**	Aluminum	ASTM E2371: 2013	0.009 % to 8.00 %
		Copper		0.004 % to 0.50 %
		Iron		0.004 % to 3.0 %
		Molybdenum		0.005 % to 2.00 %
		Vanadium		0.004 % to 6.00 %
		Chromium		0.005 % to 4.0 %
		Nickel		0.001 % to 1.0 %
6.	**Magnesium Alloys**	Aluminum	In house Method: SOP 07/21 Issue No: 1.0 & Issue Date: 15-05-2014 , (ICP-OES)	0.006 % to 12.00 %
		Beryllium		0.001 % to 0.5 %
		Cadmium		0.001 % to 0.5 %
		Calcium		0.001 % to 0.5 %
		Copper		0.005% to 0.5%
		Iron		0.002 % to 1.00 %
		Lead		0.001 % to 0.5 %
		Manganese		0.005 % to 0.3 %
		Nickel		0.001% to 0.10%
		Silicon		0.01 % to 1.5 %
		Tin		0.001 % to 2.50 %
		Zinc		0.001 % to 2.50 %
7.	**Mild Steels, Low Alloy Steels, All Carbon Steels**	Aluminum	ASTM E415: 2014, IS 8811: 1998 (RA 2008)	0.005 % to 0.20 %
		Arsenic		0.001 % to 0.10 %
		Boron		0.002 % to 0.10 %
		Carbon		0.01 % to 0.50 %
				0.50 % to 1.40 %
		Chromium		0.005 % to 1.0 %
				1.0 % to 5.00 %
		Cobalt		0.008 % to 0.10 %
		Copper		0.005 % to 0.50 %
		Manganese		0.10 % to 1.00 %
				1.00 % to 2.00 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Molybdenum	ASTM E415: 2014,	0.005 % to 0.60 %
		Nickel	IS 8811: 1998 (RA 2008)	0.01 % to 3.50 %
		Niobium		0.01 % to 0.085 %
		Phosphorus		0.005 % to 0.10 %
		Silicon		0.03% to 0.50 %
				0.50 to 2.0 %
		Sulfur		0.005 % to 0.10 %
		Tin		0.003 % to 0.10 %
		Titanium		0.001 % to 0.20 %
		Vanadium		0.001 % to 0.20 %
		Zirconium		0.002 % to 0.10 %
8.	**Cast Iron**	Aluminum	ASTM E1999: 2011,	0.001 % to 0.10 %
		Boron	IS 15338: 2003 (RA 2008)	0.01 % to 0.10 %
		Carbon		1.00 % to 4.50 %
		Chromium		0.003 % to 5.0 %
		Cobalt		0.005 % to 0.2 %
		Copper		0.01 % to 0.75 %
		Magnesium		0.001 % to 0.20 %
		Manganese		0.01 % to 2.0 %
		Molybdenum		0.002 % to 0.20 %
		Nickel		0.003 % to 5.0 %
		Niobium		0.005 % to 0.40 %
		Phosphorus		0.01 % to 1.50 %
		Silicon		0.02 % to 3.50 %
		Sulfur		0.01 % to 0.20 %
		Tin		0.005 % to 0.20 %
		Titanium		0.005 % to 0.40 %
		Vanadium		0.001 % to 0.2 %
		Tungsten		0.002 % to 0.2 %
		Zinc		0.002 % to 0.2 %
		Zirconium		0.002 % to 0.2 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	**Stainless Steel**	Aluminum	ASTM E1086: 2014,	0.005 % to 1.2 %
		Boron	IS 9879: 1998	0.005 % to 0.20 %
		Carbon		0.005 % to 0.30 %
		Cobalt		0.005 % to 1.0 %
		Chromium		5.00 % to 15.0 %
				15.0 % to 30.0 %
		Copper		0.001 % to 1.50 %
				1.50 % to 5.0 %
		Manganese		0.01 % to 1.00 %
				1.00 % to 15.00 %
		Molybdenum		0.005 % to 4.00 %
		Nickel		1.00 % to 30.0 %
		Niobium		0.005 % to 1.0 %
		Phosphorus		0.005 % to 0.10 %
		Silicon		0.01 % to 2.0 %
		Sulfur		0.005 % to 0.30 %
		Titanium		0.001 % to 0.25 %
		Tungsten		0.001 % to 0.25 %
10.	**Aluminium And Aluminium Alloys**	Bismuth	ASTM E1251: 2011	0.001 % to0.6 %
		Chromium		0.005 % to 0.25 %
		Cobalt		0.01 % to 0.50 %
		Copper		0.01 % to 5.5 %
		Iron		0.005 % to 1.0 %
		Lead		0.001 % to 0.30 %
		Magnesium		0.001 % to 6.0 %
		Manganese		0.001 % to 2.0 %
		Nickel		0.001 % to 2.5 %
		Silicon		0.01 % to 20.0 %
		Tin		0.001 % to 0.50 %
		Titanium		0.005 % to % 0.50 %
		Vanadium		0.001 % to 0.10 %
		Zinc		0.005 % to 8.0 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5	**Copper And Copper Alloys**	Aluminum	EN 15079: 2007	0.005 % to 0.50 %
		Antimony		0.001 % to 0.50 %
		Arsenic		0.001 % to 0.25 %
		Bismuth		0.001 % to 0.15 %
		Cobalt		0.001 % to 0.15 %
		Iron		0.005 % to 2.0 %
		Lead		0.001 % to 12.50 %
		Magnesium		0.001 % to 0.10 %
		Manganese		0.005 % to 0.10 %
		Nickel		0.001 % to 10.0 %
		Phosphorus		0.001 % to 0.50 %
		Silicon		0.005 % to 0.50 %
		Sulphur		0.001 % to 0.10 %
		Tin		0.005 % to 6.0 %
				6.0 % to 12.0 %
		Zinc		0.010 % to 40.0 %
IV.	**ORES & MINERALS**			
1.	**Iron Ore**	Loss On Ignition	Chemical &Instrumental Analysis of Ores, IBM, 2012, Page 292	0.5 % to 30 %
		Moisture	IS 1493 (Part 1): 1981 (RA 2006)	2.0 % to 20 %
		Fe_2O_3	IS 1493 (Part 1): 1981 (RA 2006)	50 % to 99 %
		FeO	IBM Manual	0.5 % to 25 %
		Fe	IS 1493 (Part 1): 1981 (RA 2006)	0.5 % to 70 %
		Al_2O_3	IS 1493 (Part 1): 1981 (RA 2006)	0.1 % to 10 %
		SiO_2	IS 1493 (Part 1): 1981 (RA 2006)	0.1 % to 30 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Iron Ore	Sulphur	IS 1493: 1959 (RA 2006)	0.1 % to 2 %
		P_2O_5	IS 1493: 1959 (RA 2006)/	0.1 % to 2 %
		Na_2O	IS 1493 (Part 6): 1990 (RA 2006)/ SOP 07/ 26, Issue No : 1.0 & Issue Date 31-12-2014	0.1 % to 5 %
		K_2O		0.1 % to 5 %
2	**Manganese Ore**	Mn	IS 1473: 2004 (RA 2008)	10 % to 60 %
		MnO_2	IBM Manual	10 % to 80 %
		SiO_2	IS 1473: 2004 (RA 2008)/ IBM Manual	0.5 % to 35 %
		Al_2O_3	IBM Manual/ ICP-OES	0.25 % to 25 %
		Fe	IS 1473: 2004 (RA 2008)	0.25 % to 25 %
		TiO2	In house Method: SOP No. 07/ 23	0.1 % to 2.5 %
		CaO	Issue No : 1.0 &	0.01 % to 10 %
		MgO	Issue Date 31-12-2014,	0.01 % to 10 %
		Na_2O	In house Method: SOP No. 07/ 26	0.001 % to 2.0 %
		K_2O	Issue No : 1.0 &	0.001 % to 2.0 %
		P	Issue Date 31-12-2014,	0.01 % to 0.20 %
		Pb		0.001 % to 0.1 %
		Zn		0.001 % to 0.1 %
		Cr		0.001 % to 0.1 %
		Co		0.001 % to 0.1 %
		V		0.001 % to 0.1 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Bauxite**	Loss On Ignition	IS 2000 Part 1: 1985 (RA 2006)	5 % to 40 %
		Sio_2	IS 2000 Part 2: 1985 (RA 2006)	0.5 % to 60 %
		Fe_2O_3	IS 2000 Part 4: 1985 (RA 2006)	0.5 % to 35 %
		Al_2O_3	IS 2000 Part 3:1985 (RA 2006)	0.5 % to 75 %
		TiO_2	SOP No. 07/25, Issue 1.0 & Issue Date 31-12-2014	0.1 % to 5 %
		V_2O_5		0.1 % to 5 %
		CaO	IS 2000 Part 9: 1989 (RA 2006) (AAS) / SOP No. 07/25, Issue 1.0 & Issue Date 31-12-2014	0.1 % to 5 %
		MgO		0.01 % to 5 %
		MnO		0.01 % to 5 %
		Na_2O	IS 1493 (Part 6): 1990 (RA 2006)/ SOP No. 07/25, Issue 1.0 & Issue Date 31-12-2014	0.01 % to 5 %
		K_2O		0.01 % to 5 %
4.	**Limestone Dolomite**	Loss On Ignition	IS 1760 (Part 1): 1991	0.5 % to 50 %
		SiO_2	IS 1760 (Part 2): 1991	0.5 % to 40 %
		Al_2O_3	IS 1760 (Part 3): 1992	0.01 % to 10 %
		CaO	IS 1760 (Part 3): 1992	0.1 % to 56 %
		MgO	IS 1760 (Part 3): 1992	0.1 % to 35 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Rock Phosphate**	Total Phosphate As P_2O_5	IS 11224: 1985	10 % to 50 %
		Chloride As Cl	IS 11224: 1985	0.01 % to 0.2 %
		Silica As SiO_2	IS 11224: 1985	1 % to 10 %
		Moisture	IS 11224: 1985	0.5 % to 10 %
6.	**Quartz, Silica Sand, Marine Sands**	SiO_2	IS 1917 (Part 3): 1992	1.0 % to 99.95 %
V.	**COAL, COKE & OTHER SOLID FUELS**			
1	**Biomass/Coal/ Coke**	Moisture (Total And Inherent)	IS 1350 (Part 1): 1984	0.1 % to 50 %
		Ash Content	IS 1350 (Part 1): 1984	0.1 % to 70 %
		Volatile Matter	IS 1350 (Part 1): 1984	0.1 % to 90 %
		Fixed Carbon	IS 1350 (Part 1): 1984	Calculated Value by Difference
		Nitrogen Content	IS 1350 (Part 4/ Sec 2): 1975	0.1 % to 2.0 %
		Total Sulphur	IS 1350 (Part 3): 1969	0.01 % to 5 %
		Gross Calorific Value	IS 1350 (Part 2): 1970	(1000 kcal to 9000 kcal)/ kg

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
VI.	**BUILDING MATERIALS**			
1	**Cement**			
	OPC 33grd ,43 Grd 53 Grd WPC PPC,PSC SRC	Loss In Ignition	IS 4032: 1985 (RA 2005); 4.2;	0.1 % to 5.0 %
		SiO_2	IS 4032: 1985 (RA 2005); 4.3	0.1 % to 70.0 %
		CaO	IS 4032: 1985 (RA 2005); 4.7.2	0.2 % to 75 %
		MgO	IS 4032: 1985 (RA 2005); 4.8.2	0.2 % to 8.0 %
		Al_2O_3	IS 4032: 1985 (RA 2005); 4.4 & 4.6.1	0.5 % to 35.0 %
		Fe_2O_3	IS 4032: 1985 (RA 2005); 4.5	0.2 % to 10.0 %
		SO_3	IS 4032: 1985 (RA 2005); 4.9	0.1 % to 5.0 %
		Insoluble Residue	IS 4032: 1985 (RA 2005); 4.10	0.1 % to 3.0 %
		Sulphide Sulphur	IS 4032: 1985 (RA 2005); 6.12	0.1 % to 5.0 %
		Na_2O	IS 4032: 1985 (RA 2005); 4.11	0.1 % to 10.0 %
		K_2O	IS 4032: 1985 (RA 2005);4.11	0.1 % to 10.0 %
2.	**Fly Ash**	SiO_2	IS 1727: 1967 (RA 2004); 5.4	0.1 % to 30 % 30 % to 70 %
		Loss On Ignition	IS 1727: 1967 (RA 2004); 5.3	0.1 % to 1.0 % 1 % to 12 %

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Fly Ash	Al_2O_3	IS 1727: 1967 (RA 2004); 5.3 & 5.7	0.5 % to 50 %
		Fe_2O_3	IS 1727: 1967 (RA 2004); 5.6	0.2 % to 10 %
		CaO	IS 1727: 1967 (RA 2004); 5.8	0.2 % to 10 %
		MgO	IS: 1727: 1967 (RA 2004); 5.9	0.2 % to 5 %
		SO_3	IS 1727: 1967 (RA 2004); 5.10	0.1 % to 5 %
		Na_2O	IS 4032: 1985 (RA 2005); 4.11	0.1 % to 10.0 %
		K_2O	IS 4032: 1985 (RA 2005); 4.11	0.1 % to 10.0 %
		Chlorides	IS 12423: 1988 (RA 2004) IS 4032: 1985 (RA 2005)	0.005 % to 1 %

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NOTE: The Laboratory has demonstrated competence for the stated scope for **WATER**. This however **does not fully cover** the specification requirements of **BIS for the Packaged Drinking Water as per IS:14543 and the Packaged Natural Mineral Water IS:13428.**