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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. <b>W</b> A	ATER			
	a)Surface Water, b)Ground water, c)Drinking Water, d)Industrial Water	Color	IS:3025 (Part-4 ) 1983 (Reaffirmed 2003) 2120 C, APHA 22 <sup>nd</sup> Edition	2 to 500 Hazen
		Turbidity	IS:3025 (Part-10 ) 1984 (Reaffirmed 2002) 2130 B, APHA 22 <sup>nd</sup> Edition	1 NTU to 400 NTU
		рН	IS:3025 (Part-11 ) 1983 (Reaffirmed 2002) 4500-H+ B, APHA 22 <sup>nd</sup> Edition	1 to 14
		Total Dissolved Solids	IS:3025 (Part-16) 1984 (Reaffirmed 2002) at105°C 2540 C, APHA 22 <sup>nd</sup> Edition at 180°C	10 mg/L to 20,000mg/L
		Conductivity	IS:3025 (Part-14) 1984 (Reaffirmed 2002) 2510 B, APHA 22 <sup>nd</sup> Edition	2 µS/cm to 20,000µS/cm
		Iron as Fe	IS:3025 (Part-53)2003 3500-Fe B, 3111 B, APHA 22 <sup>nd</sup> Edition	0.01 mg/L to 10 mg/L
		Total Suspended Solids	IS:3025 (Part-17) 1984 (Reaffirmed 2002) 2540 D, APHA 22 <sup>nd</sup> Edition	1.0 mg/L to 1000 mg/L

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No. Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
a)Surface Water, b)Ground water, c)Drinking Water,	Nitrate as NO <sub>3</sub>	IS:3025 (Part-34 ) 1988 (Reaffirmed 2003) 4500-NO <sub>3</sub> B, APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 50 mg/L
d)Industrial Water	Nitrite as NO <sub>2</sub>	IS:3025 (Part-34 ) 1988 (Reaffirmed 2003) 4500-NO <sub>2</sub> B, APHA 22 <sup>nd</sup> Edition	0.01 mg/L to 5 mg/L
	Fluoride as F	IS:3025 (Part-60) 2008 4500-F D, APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 5 mg/L
	Chloride as Cl	IS:3025 (Part-32) 1988 (Reaffirmed 2003) 4500-Cl- B APHA 22 <sup>nd</sup> Edition	2 mg/L to 2000 mg/L
	Sulphate as SO <sub>4</sub>	IS:3025 (Part-24) 1986 (Reaffirmed 2003) 4500-SO4, APHA 22 <sup>nd</sup> Edition	4 mg/L to 1000 mg/L
	Total Alkalinity as CaCO <sub>3</sub>	IS:3025 (Part-23) 1986 (Reaffirmed 2003) 2320 B, APHA 22 <sup>nd</sup> Edition	2 mg/L to 1000 mg/L
	Total Hardness as CaCO <sub>3</sub>	IS:3025 (Part-21) 1983 (Reaffirmed 2002) 2340 C, APHA 22 <sup>nd</sup> Edition	2 mg/L to 8000 mg/L
	Calcium as Ca	IS:3025 (Part-40) 1991 (Reaffirmed 2003) 3500-Ca B,APHA22 <sup>nd</sup> Edition	1 mg/L to 1000 mg/L

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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
a)Surface Water, b)Ground water, c)Drinking Water,	Magnesium as Mg	IS:3025 (Part-46) 1994 (Reaffirmed 2003) 3500-Mg B,APHA22 <sup>nd</sup> Edition	1 mg/L to 400 mg/L
d)Industrial Water	Sodium as Na	IS:3025 (Part-45) 1993 (Reaffirmed 1999) 3500-Na B, APHA22 <sup>nd</sup> Edition	1 mg/L to 400 mg/L
	Potassium as K	IS:3025 (Part-45) 1993 (Reaffirmed 1999) 3500-Na B, APHA 22 <sup>n</sup> Edition	1 mg/L to 400 mg/L
	Residual free chlorine	IS:3025 (Part-26) 1986 (Reaffirmed 2003) 4500-Cl B APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 10 mg/L
	Chromium asCr <sup>6+</sup>	IS:3025 (Part-52) 2003 APHA – 22nd ed. (3500-Cr B)	0.05 mg/L to 5 mg/L
II.POLLUTION & ENVI	RONMENT		
1. Effluents	Color	IS:3025 (Part-4 ) 1983 (Reaffirmed 2003) 2120C, APHA 22 <sup>nd</sup> Edition	2 to 500 Hazen
	Total Dissolved Solids	IS:3025 (Part-16 ) 1984 (Reaffirmed 2002) 2540 C, APHA 22 <sup>nd</sup> Edition at 180°C	10 mg/L to 20,000 mg/

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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
	Effluents	Total Suspended Solids	IS:3025 (Part-17) 1984 (Reaffirmed 2002) 2540 D, APHA 22 <sup>nd</sup> Edition	10 mg/L to 1000 mg/L
		Hexavalent Chromium as Cr6+	IS:3025 (Part 52) : 2003 3500-Cr B, APHA 22 <sup>nd</sup> Edition	0.05 mg/L to 10 mg/L
		Residual Chlorine	IS:3025 (Part-26) 1986 (Reaffirmed 2003) 4500-Cl B APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 2.0 mg/L
		Chloride as Cl	IS:3025 (Part-32) 1988 (Reaffirmed 2003) 4500-Cl- B APHA 22 <sup>nd</sup> Edition	10 mg/L to 5000 mg/L
		Fluoride as F	IS:3025 (Part-60) 2008 4500-F D, APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 3.0 mg/L
		рН	IS:3025 (Part-11) 1983 (Reaffirmed 2002) 4500-H+ B, APHA22 <sup>nd</sup> Edition	1 to 14
		Dissolved Phosphate as PO <sub>4</sub>	IS:3025 (Part-31) 1988 (Reaffirmed 2003) 4500-P D, E, APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 100 mg/L
		Sulphate as SO <sub>4</sub>	IS:3025 (Part-24) 1986 (Reaffirmed 2003) 4500-SO4, APHA 22 <sup>nd</sup> Edition	2.0 mg/L to 5000 mg/L

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	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
F	Effluents	Biochemical Oxygen Demand (BOD)	IS:3025 (Part-44) 1993 (Reaffirmed 2003) 5210 B, APHA 22 <sup>nd</sup> Edition	3.0 mg/L to 2000 mg/L
		Chemical Oxygen Demand (COD)	IS:3025 (Part-58) 2006 5220 B, APHA 22 <sup>nd</sup> Edition	5.0 mg/L to 6000 mg/L
		Oil and Grease	IS:3025 (Part-39) 1991 (Reaffirmed 2003) 5520 C, APHA 22 <sup>nd</sup> Edition	1.0 mg/L to 1000 mg/L
		Dissolved Oxygen	IS:3025 (Part -38) 1989 4500-O C , APHA 22 <sup>nd</sup> Edition	1.0 mg/L to 10 mg/L
		Ammonical Nitrogen as N	IS:3025 (Part-34) 1988 4500-NH <sub>3</sub> B,C APHA 22 <sup>nd</sup> Edition	1.0 mg/L to 100 mg/L
		Total Kjeldahl Nitrogen as N	IS:3025 (Part-34) 1988 4500- $N_{org}C$ , APHA 22 <sup>nd</sup> Edition	1 mg/L to 100 mg/L
		Free Ammonia as NH3	IS:3025 (Part-34) 1988 4500-NH <sub>3</sub> B,C APHA 22 <sup>nd</sup> Edition	0.1~mg/L to 100 mg/L
		Sulphide as S	4500-S <sup>2-</sup> D, APHA 22 <sup>nd</sup> Edition	0.1 mg/L to 10 mg/L
		Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	IS:3025 (Part-43) 1992 5530 C , APHA 22 <sup>nd</sup> Edition	0.01 mg/L to 10 mg/L
		Hexavalent Chromium as Cr <sup>6+</sup>	IS:3025 (Part – 52) 2003 APHA – 22nd ed. (3500-Cr B)	0.05 mg/L to5 mg/L

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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
2.	Soils	pН	IS 2720(Part 26) 1987 (reaffirmed 2011)	1 to14
		Conductivity	IS 14767-2000 (reaffirmed 2010)	10 to 10,000 μS/cm
		Moisture	IS 2720(Part 2) 1173 (reaffirmed 2010)	1 % to 75%
		Loss on drying at 550°C	FAO Methods, 2007	0.5 % to 50%
		Sodium as Na	FAO Methods, 2007, Chapter 6, 6.3.2 Method	2 mg/kg to 1000 mg/kg
		Potassium as K	FAO Methods, 2007, Chapter 6, 6.3.2 Method	2 mg/kg to 1000 mg/kg
		Calcium as Ca	FAO Methods, 2007, Chapter 6, 6.3.3 Method	2 mg/kg to 1000 mg/kg
		Magnesium as Mg	FAO Methods, 2007, Chapter 6, 6.3.3 Method	1 mg/kg to 1000 mg/kg
		Nitrogen as N	IS 10158-1982 (reaffirmed 2003)	5 mg/kg to 1000 mg/kg
		Phosphorous as P	FAO Methods, 2007, Chapter 12, 12.6 Method	0.5 mg/kg to 1000mg/kg

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Chloride as Cl	FAO Methods, 2007, chapter 6.3	5 mg/kg to 1000 mg/kg
Sulphate as SO4	IS 12720(Part 27) 1977, (Reaffirmed 2007)	1 mg/kg to 1000 mg/kg
Oil & Grease	3540C, EPA SW-846	5 mg/kg to 1000 mg/kg
Hexavalent chromium as Cr6+	7196 A, EPA SW-846	0.5 mg/kg to 1000 mg/kg
Total Organic Carbon	FAO Methods, 2007	0.1% to 10%
Total Organic Matter	FAO Methods, 2007	0.1% to 10%
	Chloride as Cl Sulphate as SO4 Oil & Grease Hexavalent chromium as Cr6+ Total Organic Carbon	against which tests are performedChloride as ClFAO Methods, 2007, chapter 6.3Sulphate as SO4IS 12720(Part 27) 1977, (Reaffirmed 2007)Oil & Grease3540C, EPA SW-846Hexavalent chromium as Cr6+7196 A, EPA SW-846Total Organic CarbonFAO Methods, 2007

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