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<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
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#### **I. METALS AND ALLOYS**

<b>1.</b>	<b>Plain Carbon Steel, Boron Steels, Low Alloy Steel, Stainless Steel, Tool Steel (Ferrous Base)</b>	C	IS 228 (Part 1)- 1987	0.01% to .25%
		Cr	IS 228 (Part 6) 1987	0.1% to 30.0%
			ASTM E 1024- 97 IS 1493 (Part 3) 1987	0.1% to 20.0%
		Ni	IS 228 (Part 5) 1987	0.1% to 30.0%
			ASTM E 1024- 97 IS 12122- 1987	0.5% to 15.0%
		Mo	IS 228 (Part 7) 1990	1.0% to 15.0%
			ASTM E 1024- 97 IS 12042- 1987	0.1% to 4.0%
		Mn	IS 228 (Part 2) 1987	0.1% to 5.0%
			ASTM E 1024- 97	0.1% to 5.0%
		Si	IS 228 (Part 8) 1989	0.05% to 5.0%
S	IS 228 (Part 9) 1989	0.01% to 0.30%		
P	IS 228 (Part 3) 1987	0.01% to 1.0%		

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	<b>Plain Carbon Steel, Boron Steel, Low Alloy Steel, Stainless Steel, Tool Steel (Ferrous Base)</b>	Pb	ASTM E 1024- 97 IS 1493 (Part 7)- 1993	0.10% to 0.30%
		V	ASTM E 1024- 97 IS 1493 (Part 3) 1987	0.1% to 3.0%
		Co	ASTM E 1024- 97	0.1% to 5.0%
		Cu	IS 228 (Part 15) 1992	0.05% to 5.0%
			ASTM E 1024- 97 IS 1493 (Part 3) 1990	0.05% to 2.0%
		Ti	ASTM E 1024- 97 IS 1493 (Part 3) 1987	0.05% to 0.30%
		B	ASTM E 1024- 97	0.0010% to 0.0030%
		Al	ASTM E 1024- 97	0.010% to 2.0%
		W	IS 228 (Part 16) 1992	0.10% to 10.0%
<b>2.</b>		<b>Cast Iron</b>	C	IS 12308 (Part 11) 1991
		Cr	IS 12308 (Part 8) 1997	0.1% to 28.00%
			ASTM E 1024- 97 IS 1493 (Part 3) 1987	0.01% to 2.0%

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	<b>Cast Iron</b>	Ni	IS 12308 (Part 7) 1991	0.5% to 36.0%
			ASTM E 1024- 97 IS 12122- 1987	0.1% to 3.0%
		Mo	IS 12308 (Part 9) 1993	0.01% to 1.0%
			ASTM E 1024- 97 IS 12042- 1987	0.01% to 1.0%
		Mn	IS 12308 (Part 10) 1991	0.1% to 7.0%
			ASTM E 1024- 97	0.01% to 1.5%
		Si	IS 12308 (Part 6) 1991	0.1% to 6.0%
		S	IS 12308 (Part 2) 1987	0.005% to 0.25%
		P	IS 12308 (Part 5) 1991	0.01% to 0.5%
		Cu	ASTM E 1024- 97 IS 12308 (Part 12) 1992	0.01% to 2%
		Mg	ASTM E 1024- 97 IS 12308 (Part 13) 1992	0.01% to 0.5%

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<b>3.</b>	<b>Copper Base Alloy (Non-Ferrous Base)</b>	Bi	ASTM E 1024-97	0.0005% to 0.5%
		Ag	ASTM E 1024- 97	0.01% to 0.5%
		Sn	IS 3685-1966 IS 4027 (Part 5) 1987 IS 440-1964	0.1% to 20%
			ASTM E 1024- 97	0.1% to 10.0%
		Pb	IS 3685- 1966 IS 4027 (Part 11) 2000	0.5% to 20.0%
			ASTM E 1024- 97 IS 12074- 1987	0.5% to 5.0%
		Zn	IS 3685- 1966 IS 4027 (Part 6) 1987	0.1% to 50.0%
			ASTM E 1024- 97 IS 9958- 1981	0.5% to 36%
		Mn	IS 4027 (Part 2) 1987	0.1% to 2.0%
			ASTM E 1024- 97	0.1% to 2.0%
	Cr	ASTM E 1024- 97	0.05% to 0.5%	
	Si	IS 3685- 1966 IS 4027 (Part 10) 2000	0.1% to 0.5%	

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	<b>Copper Base Alloy (Non-Ferrous Base)</b>	Fe	IS 3685- 1966 IS 4027 (Part 8) 1991 IS 440- 1964	0.5% to 7.0%
			ASTM E 1024- 97	0.05% to 0.3%
		Ni	IS 3685- 1966 IS 4027 (Part 4) 1987 IS 440- 1964	0.1% to 20.0%
			ASTM E 1024- 97 IS 12122- 1987	0.1% to 0.3%
		Al	IS 3685- 1966 IS 4027 (Part 9) 1991	0.5% to 10.0%
			ASTM E 1024- 97	0.1% to 13.5%
		P	IS 3685- 1966 IS 4027 (Part 3) 1987 IS 440- 1964	0.1% to 2.0%
		Cu	IS 3685- 1966	50% to 96%
			IS 4027 (Part 1) 1987	50% to 96%
			IS 440- 1964, RA 2006	98% to 99.98%

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4.	Aluminum Base Alloy (Non-Ferrous Base)	Fe	IS 504 (Part 2) 2002	0.5% to 10.0%
			ASTM E 1024- 97	0.1% to 2.0%
		Si	IS 504 (Part 1) 2002	0.1% to 15.0%
		Ni	IS 504 (Part 7) 2002	0.1% to 4.0%
			ASTM E 1024- 97 IS 12122- 1987	0.01% to 0.80%
		Mg	IS 504 (Part 6) 2002	0.01% to 12.0%
			ASTM E 1024- 97	0.01% to 2.0%
		Cu	IS 504 (Part 3) 2002	0.1% to 7.5%
			ASTM E 1024- 97	0.01% to 7.0%
		Sn	IS 504 (Part 9) 2002	0.1% to 1.0%
			ASTM E 1024- 97	0.1% to 0.5%
		Pb	IS 504 (Part 1) 2002	0.1% to 1.0%
	ASTM E 1024- 97 IS 12074- 1987	0.01% to 0.5%		

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	<b>Aluminum Base Alloy (Non-Ferrous Base)</b>	Zn	IS 504 (Part 4) 2002	0.1% to 4%
			ASTM E 1024- 97 IS 9958- 1981	0.1% to 0.4%
		Mn	ASTM E 1024- 97	0.1% to 2.0%
		Ti	IS 504 (Part 11) 2002	0.01% to 2.0%
		Cr	ASTM E 1024- 97	0.001% to 0.3%
			IS 504 (Part 8) 2002	0.1% to 0.5%
			ASTM E 1024- 97	0.01% to 0.15%
				IS 504 (Part 8) 2002
<b>5.</b>	<b>Zinc Base Alloy (Non- Ferrous Base)</b>	Fe	IS 406- 1964	0.1% to 1%
			ASTM E 1024- 97 IS 2600 (Part 2) 1988	0.1% to 0.50%
		Ni	ASTM E 1024- 97	0.1% to 0.50%
		Mg	ASTM E 1024- 97	0.01% to 0.7%
		Cu	ASTM E 1024- 97 IS 2600 (Part 2) 1988	0.05% to 0.5%
		Pb	ASTM E 1024- 97 IS 2600 (Part 2) 1988	0.01% to 0.1%
		Al	ASTM E 1024- 97	0.05% to 5.0%
		Mn	ASTM E 1024- 97	0.05% to 0.5%

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6.	<b>Corrosion on Metals</b>	Neutral Salt Spray Test (5% NaCl Solution )	ASTM B 117:2011	2 h to 1000 h on Electroplated, Anodized Al Coatings, Paint, Powder Coatings, Phosphatings
7.	<b>Local Thickness of Electroplated Coatings</b>	Electroplated Coatings of Copper, Brass, Ni, Ni- Cr, Hard- Cr, Pb, Zn, Cd, Ag, Au & Sn	IS 3203- 1982	Zn: 1 to 30 micron Sn: 1 to 30 micron Cu: 1 to 50 micron Ag: 1 to 30 micron Cr: 1 to 100 micron Ni: 1 to 100 micron
8.	<b>Low, Medium &amp; High Carbon Alloy Steel (Ferrous Base)</b>	C	<b>By OES</b> IS 8811-1998	0.0088% to 1.65%
		Cr	IS 8811-1998	0.005% to 1.8%
		Ni	IS 8811-1998	0.01% to 3.5%
		Mo	IS 8811-1998	0.0088% to 0.5%
		Mn	IS 8811-1998	0.1% to 1.65%
		Si	IS 8811-1998	0.007% to 1.70%
		S	IS 8811-1998	0.005% to 0.4%
		P	IS 8811-1998	0.006% to 0.1%
		Pb	IS 8811-1998	0.0008% to 0.4%



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	<b>Low, Medium &amp; High Carbon Alloy Steel (Ferrous Base)</b>	V	IS 8811-1998	0.0016 to 0.40%
		Co	IS 8811-1998	0.0036% to 0.20%
		Cu	IS 8811-1998	0.004% to 0.5%
		Ti	IS 8811-1998	0.0008% to 0.1%
		B	IS 8811-1998	0.0005% to 0.0070%
		Al	IS 8811-1998	0.0016% to 0.12%
		W	IS 8811-1998	0.0016% to 0.16%
		Nb	IS 8811-1998	0.0008% to 0.1%
		Sn	IS 8811-1998	0.0080% to 0.030%
		As	IS 8811-1998	0.0030% to 0.040%
	N		IS 228 (Part 23)- 2003	0.002% to 0.010%
<b>9.</b>	<b>Tool Steel (Ferrous Base)</b>		<b>By OES</b> SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.47% to 2.50%
		Cr	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.18% to 14.4%
		Ni	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.072% to 0.40%

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	<b>Tool Steel (Ferrous Base)</b>	Mo	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.086% to 5.8%
		Mn	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.2% to 0.95%
		Si	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.05% to 2.35%
		S	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.001% to 0.030%
		P	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.012% to 0.030%
		V	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.005% to 2.50%
		Co	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.014% to 6.0%
		Cu	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.05% to 0.1%
		W	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.012% to 7.5%

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<b>10.</b>	<b>Stainless Steel (Ferrous Base)</b>	C	<b>By OES</b> IS 9879- 1998	0.005% to 0.15%
		Cr	IS 9879- 1998	9.0% to 26.0%
		Ni	IS 9879- 1998	0.20% to 24.2%
		Mo	IS 9879- 1998	0.012% to 3.0%
		Mn	IS 9879- 1998	0.020% to 8.0%
		Si	IS 9879- 1998	0.01% to 2.44%
		S	IS 9879- 1998	0.003% to 0.35%
		P	IS 9879- 1998	0.005% to 0.05%
		V	IS 9879- 1998	0.01% to 0.40%
		Co	IS 9879- 1998	0.02% to 0.21%
		Cu	IS 9879- 1988	0.1% to 2.68%
		Ti	IS 9879- 1998	0.00040% to 1.33%
		B	IS 9879- 1998	0.0004% to 0.0050%
Al	IS 98791- 1998	0.0020% to 0.15%		

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	<b>Stainless Steel (Ferrous Base)</b>	W	IS 9879- 1998	0.01% to 0.06%
		Nb	IS 9879- 1998	0.00245 to 0.30%
		Sn	IS 9879- 1998	0.0040% to 0.015%
		N	IS 9879- 1998	0.002% to 0.32%
<b>11.</b>	<b>Cast Iron (Ferrous Base)</b>	C	<b>By OES</b> SL/TP/19, Issue Date 16-8-09 Rev. No.0	1.5% to 4.2%
		Cr	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 1.5%
		Ni	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 1.9%
		Mo	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 0.3%
		Mn	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 1.2%
		Si	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.8% to 2.5%
		S	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.01% to 0.15%

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	<b>Cast Iron (Ferrous Base)</b>	P	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 1.0%
		Pb	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0072% to 0.1%
		V	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 0.40%
		Co	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.085% to 0.15%
		Cu	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.1% to 0.4%
		Ti	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.040% to 0.1%
		B	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.007% to 0.010%
		Al	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.00078% to 0.15%
		W	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.01% to 0.1%

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<b>12.</b>	<b>Copper Base Alloy (Non-Ferrous Base)</b>	Sn	By OES SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0040% to 13.2%
		Pb	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0040% to 12.70%
		Zn	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0008% to 41.63%
		Mn	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0002% to 3.45%
		Si	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0004% to 1.65%
		Fe	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0007% to 4.76%
		Ni	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0084% to 4.16%
		Al	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0002% to 13.5%
P	SL/TP/19, Issue Date 16-8-09 Rev. No.0	0.0009% to 1.0%		

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<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
<b>13.</b>	<b>Aluminum Base Alloy (Non-Ferrous Base)</b>	Fe	<b>By OES</b> IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 1.12%
		Si	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.02% to 12.5%
		Ni	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 1.1%
		Mg	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.019% to 16.76%
		Cu	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 4.5%
		Sn	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 0.4%
		Pb	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.016% to 0.65%

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<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Aluminum Base Alloy (Non-Ferrous Base)</b>	Zn	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 0.4%
		Mn	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.025% to 13.5%
		Ti	IS 7658- 1975 IS 11035- 1984 ASTM E 1251- 07	0.01% to 0.5%
<b>II. WATER</b>				
<b>1.</b>	<b>Ground Water, Surface Water &amp; Potable Water</b>	Turbidity	APHA 22 <sup>nd</sup> Edition- 2012, Nephelometric Method, 2130 (B) IS 3025(Part 10) 1984	1 NTU to 200 NTU
		Total Dissolved Solid	APHA 22 <sup>nd</sup> Edition- 2012, Gravimetric Method 2540 C IS 3025(Part 16) 1984, RA 2006	1.0 mg/L to 1500 mg/L
		Total Suspended Solid	APHA 22 <sup>nd</sup> Edition- 2012, Gravimetric Method 2540 D IS 3025(Part 17) 1984, RA 2006	1.0 mg/L to 200 mg/L
		pH	APHA 22 <sup>nd</sup> Edition- 2012, Electrometric Method 4500- H <sup>+</sup> B IS 3025(Part 11) 1983, RA 2006	3 to 11



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<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Ground Water, Surface Water &amp; Potable Water</b>	Electrical Conductivity	APHA 22 <sup>nd</sup> Edition- 2012, by Conductivity meter, 2510 B IS 3025(Part 14) 1983, RA 2006	1 µS/cm to 100mS/cm
		Total Hardness as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, EDTA Titrimetric Method, 2340 C IS 3025 (Part 21): 2009	1 mg/L to 1000 mg/L
		Iron as Fe	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Fe B IS 3025 (Part 53): 2003	2 mg/L to 50 mg/L
		Calcium as Ca	APHA 22 <sup>nd</sup> Edition- 2012, EDTA Titrimetric Method, 3500 Ca B IS 3025 (Part 40): 1991	1 mg/L to 100 mg/L 100 mg/L to 800 mg/L
		Magnesium as Mg	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Mg B IS 3025 (Part 46): 1994	1 mg/L to 200 mg/L
		Ammonical Nitrogen as NH <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Titrimetric Method 4500- NH <sub>3</sub> - B, C IS 3025 (Part- 34), RA 2009	0.1 mg/L to 10 mg/L

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<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Ground Water, Surface Water &amp; Potable Water</b>	Total Kjeldha Nitrogen as N	APHA 22 <sup>nd</sup> Edition- 2012, Macro Kjeldhal Method, 4500- N- org- A,B IS 3025 (Part- 34), Kjeldhal Method, 2003 Titrimetric Method	1 mg/L to 20 mg/L
		Chloride Cl	APHA 22 <sup>nd</sup> Edition- 2012, Argentometric Method 4500- Cl <sup>-</sup> B IS 3025 (Part 32), RA 2009	1 mg/L to 100 mg/L 100 mg/L to 600 mg/L
		Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Turbidimetric Method, 4500E SO <sub>4</sub> <sup>2-</sup> IS 3025 (Part 24), RA 2009	1 mg/L to 200 mg/L 200 mg/L to 1000 mg/L
		Residual Chlorine as Cl <sub>2</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Iodometric Method, 4500 Cl <sup>-</sup> B IS 3025 (Part 26), RA 2009	0.1 mg/L to 5.0 mg/L
		Dissolved Phosphate as PO <sub>4</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Ascorbic Acid 4500PE IS 3025 (Part 31), RA 2009	0.02 mg/L to 25 mg/L 1.0 mg/L to 50 mg/L
		Alkalinity CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Titrimetric Method, 2320 B IS 3025 (Part 23), RA 2009	2 mg/L to 1000 mg/L

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<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Ground Water, Surface Water &amp; Potable Water</b>	Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Titrimetric Method, 2310- B IS 3025 (Part 22), RA 2009	2 mg/L to 500 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34) 2003	0.1 mg/L to 50 mg/L
		Boron as B,	APHA 22 <sup>nd</sup> Edition- 2012, Curcumin Method, 4500- B- B IS 3025 (Part 57), RA 2010	0.5 mg/L to 10 mg/L
		Dissolved Oxygen	APHA 22 <sup>nd</sup> Edition- 2012, Azide Modification, 4500- B- C IS 3025 (Part 38) 2009	1.0 mg/L to 10.0 mg/L
		Sodium as Na	APHA 22 <sup>nd</sup> Edition- 2012, Method, 3500 Na B IS 3025 (Part 45) 2009	1 mg/L to 500 mg/L
		Potassium as K	APHA 22 <sup>nd</sup> Edition- 2012, 3500 K B IS 3025 (Part 45) 2009	1 mg/L to 100 mg/L
		Hexa Chromium as Cr <sup>6+</sup>	APHA 22 <sup>nd</sup> Edition- 2012, Colorimetric Method 3500 Cr B IS 3025 (Part 52) 2003	0.1 mg/L to 20 mg/L
		Copper as Cu	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Cu B IS 3025 (Part 42) 1992	1 mg/L to 100 mg/L

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<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Ground Water, Surface Water &amp; Potable Water</b>	Zinc as Zn	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Zn B IS 3025 (Part 49) 1994	0.2 mg/L to 100 mg/L
		Lead as Pb	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer , 3500 Pb B IS 3025 (Part 47) 1994	2 mg/L to 100 mg/L
		Cadmium as Cd	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer 3120 Cd B IS 3025 (Part 41) 1992	0.5 mg/L to 10 mg/L
		Aluminum as Al	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Al B IS 3025 (Part 55) 2003	30 mg/L to 100 mg/L
		Nickel as Ni	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Ni B IS 3025 (Part 54) 2003	2 mg/L to 100 mg/L
		Manganese as Mn	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Mn B IS 3025 (Part 59) 2006	1 mg/L to 100 mg/L

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<b>Discipline</b>	<b>Chemical Testing</b>	<b>Issue Date</b>	<b>11.03.2014</b>
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
2.	<b>Waste Water/ Effluent, Sewage, Raw Water &amp; Process Treated Water</b>	Turbidity	APHA 22 <sup>nd</sup> Edition- 2012, Nephelometric Method, 2130 (B) IS 3025 (Part 10) 1984	50 NTU to 1000 NTU 1001 NTU to 4000 NTU
		Total Dissolved Solid	APHA 22 <sup>nd</sup> Edition- 2012, Gravimetric Method 2540 C IS 3025 (Part 16) 1984, RA 2006	50 mg/L to 1000 mg/L 1001 mg/L to 10000 mg/L
		Total Suspended Solid	APHA 22 <sup>nd</sup> Edition- 2012, Gravimetric Method 2540 D IS 3025 (Part 17) 1984, RA 2006	5.0 mg/L to 100 mg/L 101 mg/L to 1000 mg/L
		pH	APHA 22 <sup>nd</sup> Edition- 2012, Electrometric Method 4500- H <sup>+</sup> B IS 3025 (Part 11) 1983, RA 2006	1 to 14
		Electrical Conductivity	APHA 22 <sup>nd</sup> Edition- 2012, by Conductivity Meter, 2510 B IS 3025(Part 14) 1983, RA 2006	10 µS/cm to 200 mS/cm
		Total Hardness as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, EDTA Titrimetric Method, 2340 C IS 3025(Part 21) 2009	50 mg/L to 2000 mg/L
		Iron as Fe	APHA 22 <sup>nd</sup> Edition- 2012, Flame- Sp. photometer, 3500 Fe B IS 3025 (Part 53) 2003	2 mg/L to 100 mg/L 101 mg/L to 1000 mg/L

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<b>Accreditation Standard</b>	<b>ISO/IEC 17025: 2005</b>		
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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Waste Water/ Effluent, Sewage, Raw Water &amp; Process Treated Water</b>	Calcium as Ca	APHA 22 <sup>nd</sup> Edition- 2012, EDTA Titrimetric Method, 3500 CaB IS 3025 (Part 40) 1991	10 mg/L to 500 mg/L 501 mg/L to 5000 mg/L
		Magnesium as Mg	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Mg B IS 3025 (Part 46) 1994	1 mg/L to 200 mg/L
		Ammonical Nitrogen as NH <sub>3</sub>	IS 3025 (Part- 34), Titrimetric Method, 2003	1 mg/L to 100 mg/L
		Total Kjeldha Nitrogen as N	APHA 22 <sup>nd</sup> Edition- 2012, Macro Kjeldhal Method, 4500- N- org- A, B IS 3025 (Part- 34), Kjeldhal Method, 2003 Titrimetric Method	1 mg/L to 500 mg/L
		Chloride Cl	APHA 22 <sup>nd</sup> Edition- 2012, Argentometric Method 4500- Cl B IS 3025 (Part 32) 1988	10 mg/L to 100 mg/L 101 mg/L to 1000 mg/L
		Sulphate as SO <sub>4</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Turbidimetric Method, 4500E SO <sub>4</sub> <sup>2-</sup> IS 3025 (Part 24) 1986	10 mg/L to 1000 mg/L 1001 mg/L to 5000 mg/L

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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Waste Water/ Effluent, Sewage, Raw Water &amp; Process Treated Water</b>	Residual Chlorine as Cl <sub>2</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Iodometric Method, 4500 Cl <sup>-</sup> B IS 3025 (Part 26) 1986	1.0 mg/L to 5.0 mg/L
		Phosphate as PO <sub>4</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Ascorbic Acid 4500PE	1.0 mg/L to 100 mg/L
		Alkalinity CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Titrimetric Method, 2320 B IS 3025(Part 23) 1986	2 mg/L to 2000 mg/L
		Acidity as CaCO <sub>3</sub>	APHA 22 <sup>nd</sup> Edition- 2012, Titrimetric Method, 2310 B	2 mg/L to 1000 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34) 2003	0.1 mg/L to 100 mg/L
		Boron as B	APHA 22 <sup>nd</sup> Edition- 2012, Carmine Method, 4500 B B IS 3025 (Part 57) 2005	0.5 mg/L to 20 mg/L
		Dissolved Oxygen	APHA 22 <sup>nd</sup> Edition- 2012, Azide Modification, 4500 O B	1.0 mg/L to 10.0 mg/L
		Sodium as Na	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Na B	5 mg/L to 5000 mg/L

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<b>S.No.</b>	<b>Product / Material of Test</b>	<b>Specific Test Performed</b>	<b>Test Method Specification against which tests are performed</b>	<b>Range of Testing / Limits of Detection</b>
	<b>Waste Water/ Effluent, Sewage, Raw Water &amp; Process Treated Water</b>	Potassium as K	APHA 22 <sup>nd</sup> Edition- 2012, 3500 K B	1 mg/L to 500 mg/L
		Hexa Chromium as Cr <sup>6+</sup>	APHA 22 <sup>nd</sup> Edition- 2012- 3500 Cr B, IS 3025 (Part 52) 2003	0.1 mg/L to 100 mg/L
		Copper as Cu	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Cu B IS 3025 (Part 42) 1992	1 mg/L to 1000 mg/L
		Zinc as Zn	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Zn B IS 3025 (Part 49) 1994	0.2 mg/L to 1000 mg/L
		Lead as Pb	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Pb B IS 3025 (Part 47) 1994	2 mg/L to 1000 mg/L
		Cadmium as Cd	APHA 22 <sup>nd</sup> Edition- 2012, 3120 Cd B IS 3025 (Part 41) 1992	0.5 mg/L to 500 mg/L
		Aluminum as Al	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Al B IS 3025 (Part 55) 2003	30 mg/L to 100 mg/L
		Nickel as Ni	APHA 22 <sup>nd</sup> Edition- 2012, 3500 Ni B IS 3025 (Part 54) 2003	2 mg/L to 1000 mg/L



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	<b>Waste Water/ Effluent, Sewage, Raw Water &amp; Process Treated Water</b>	Manganese as Mn	APHA 22 <sup>nd</sup> Edition-2012, 3500 Mn B IS 3025 (Part 59) 2006	1 mg/L to 1000 mg/L
		Phenols	IS 3025 (Part 43) 1992	0.01 mg/L to 100 mg/L
		BOD	IS 3025 (Part- 44) 3 Day BOD Test, 5210 B, 1993 IS 3025 (Part 44) 1993	1 mg/L to 100,000 mg/L
		COD	APHA 22 <sup>nd</sup> Edition- 2012, Open Reflux Method, 5220 B IS 3025 (Part 58) 2006	5 mg/L to 100,000 mg/L
		Oil & grease	APHA 22 <sup>nd</sup> Edition- 2012, Gravimetric method , 5520B IS 3025 (Part 39) 1991	2 mg/L to 1000 mg/L

### **III. COAL, COKE & OTHER SOLID FUEL**

<b>1. Coal &amp; Coke</b>	Moisture	IS 1350 (Part 1) 1984, RA 2001	1% to 20%
	Volatile Matter	IS 1350 (Part 1) 1984, RA 2001	1% to 60%
	Ash	IS 1350 (Part 1) 1984, RA 2001	0.5% to 65%
	Fixed Carbon (by Calculation)	IS 1350 (Part 1) 1984, RA 2001	10% to 90%
	Calorific Value	IS 1350 (Part 2) 1970, RA 2000	500 to 10000 Kcal/kg
	Sulphur	IS 1350 (Part 3) 2005, RA 2000	0.1% to 5%