

Laboratory **Vison Labs, 16-11-23/37A, Flat No. 205, 2<sup>nd</sup> Floor, Musarambagh, Malakpet, Hyderabad, Telangana**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-5064**

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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**BIOLOGICAL TESTING**

I.	WATER			
1.	Drinking Water, Packaged Drinking Water, Packaged Natural Mineral Water, Ground Water/ Surface Water, Processed Water, Industrial Water, R.O. Water, Water For Processed Food Industry,	Aerobic Colony Count at 22°C for 72 hours	IS: 5402:2012/ ISO 4833:1991	≥ 1 cfu/mL
		Aerobic Colony Count at 37°C for 24 hours	IS: 5402:2012/ ISO 4833:1991	≥ 1 cfu/mL
		Escherichia Coli	IS 15185 : 2016, ISO 9308-1: 2000 (RA 2018)	Present/Absent/ 250mL
		Coli form Bacteria	IS 15185 : 2016, ISO 9308-1: 2000 (RA 2018)	≥ 1 CFU /100mL
		Yeast & Mould	IS 5403:1999 (RA 2018)	≥ 1 cfu/mL Present/Absent/ 250mL
		Pseudomonas aeruginosa	IS 13428:2005 Annex D (RA -2009)	Present/Absent/ 250mL
		Staphylococcus aureus	IS 5887 (Part 2) 1976 (RA 2009)	Present/Absent/ 250mL
		Shigella sp	IS 5887 (Part 7):1999 (RA 2009)	Present/Absent / 250 mL
		Salmonella sp	IS: 15187:2002 (RA 2009)	Present/Absent/ 250 mL
		Vibrio Parahaemolyticus	IS 5887 (Part 5):1976 (RA 2005)	Present/Absent/250m L
		Faecal Streptococci	IS 5887 (Part 2) 1976 (RA 2005)	Present/Absent/250m L
		Sulfur Reducing Bacteria Proteolytic and Lipolytic Organisms	IS 13428:2005, Annexure C IS 4251 – 1967 (RA 2009)	Present/Absent/ 50mL ≥ 1 cfu/mL
		Cooling Tower Water'	Legionella sp	APHA 23 <sup>rd</sup> ed 9260 J. Legionella,

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	<b>II. ICE</b>	E.Coli	IS 15185 : 2016, ISO 9308-1: 2000 (RA 2009)	Present/Absent/100mL
	<b>Dialysis Water</b>	Endo toxin	Test kit Method based on USP VL/SOP/Micro/22 Issue No. 2/Issue Date: 18.06.2018	Negative/Positive /mL
<b>II.</b>	<b>ENVIRONMENT &amp; POLLUTION</b>			
<b>1.</b>	<b>Effluents/ Waste Water, Sewage.</b>	Aerobic Plate Count	IS: 5402:2012 APHA 23 <sup>rd</sup> Ed 2017 9215 A	≥ 1 cfu/mL/10 cfu/g
		Yeast & Mould	IS: 5403:1999 (RA - 2009)	≥ 1 cfu/mL/10 cfu/g
		Coli forms	APHA 23 <sup>rd</sup> Ed 2017 9221 B	2-1600 MPN/100ml
		Fecal Coli forms	APHA 23 <sup>rd</sup> Ed 2017 9221 B	2-1600 MPN/100mL
		E.Coli	APHA 23 <sup>rd</sup> Ed 2017 9221 B	2-1600 MPN/100mL
		Salmonella	APHA 23 <sup>rd</sup> Ed 2017 9260 B	2-1600 MPN/g
<b>Air</b>	Total Plate count	APHA 5th edn chapter -3, Section - 3.9	≥1 cfu/ plate/15 mins	
	Yeast & Mould	APHA 5th edn chapter -3, Section - 3.9	≥1 cfu/ plate/15 mins	
	Coliforms	APHA 5th edn chapter -3, Section - 3.9	≥1 cfu/ plate/15 mins	
	Escherichia Coli	APHA 5th edn chapter -3, Section - 3.9	(Present/Absent)/ 15 mins	
	Pseudomonas aeruginosa	APHA 5th edn chapter -3, Section - 3.9	(Present/Absent)/ 15 mins	
	Staphylococcus Aureus	APHA 5th edn chapter -3, Section - 3.9	(Present/Absent)/ 15 mins	
<b>Swabs from Workers</b>	Total plate count	APHA 5th edn chapter -3, Section - 3.3	≥1 cfu/ swab/cm <sup>2</sup>	

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	<b>Hand, Uniform, Equipment &amp; Food Container Surface</b>	Yeast and mould	APHA 5th edn chapter -3, Section - 3.3	≥1 cfu/ swab/cm <sup>2</sup>
		Coliforms	APHA 5th edn chapter -3, Section - 3.3	≥1 cfu/ swab/cm <sup>2</sup>
		Escherichia Coli	APHA 5th edn chapter -3, Section - 3.3	(Present/ Absent)/ cm <sup>2</sup>
		Pseudomonas aeruginosa	APHA 5th edn chapter -3, Section - 3.3	(Present/ Absent)/ cm <sup>2</sup>
		Staphylococcus Aureus	APHA 5th edn chapter -3, Section - 3.3	(Present/ Absent)/ cm <sup>2</sup>
<b>III.</b>	<b>FOOD &amp; AGRICULTURAL PRODUCTS</b>			
<b>1.</b>	<b>Bakery &amp; Confectionery Products –Bread, egg products, Biscuits&amp; Cakes, Jams, Juices, Sauces &amp; Concentrates – Fruit Juices, Raw fruits, Pickles&amp; Sauces, Milk &amp; Dairy Products – Milk(Raw &amp; Pasteurized),choc obar, sweets, Curd&amp; Ice Cream, Other Specific foods – Raw food &amp; Cooked food items , Sea Foods and</b>	E.Coli	IS 5887(Part 1) 1976 (RA 2005)	≥ 10 cfu /g
		Staphylococcus aureus	IS 5887 (Part 2):1976 (RA 2009)	≥ 10 cfu /g
		Clostridium perfringens	IS 5887 (Part 2) 1999 (RA 2009)	≥ 10 cfu /g
		Bacillus cereus	IS 5887 (Part 6) 2012	≥ 10 cfu /g
		Yeast & Mould Count	IS 5403: 1999 (RA 2005,2009)	≥ 1 CFU/mL ≥ 10 CFU/gm
		Colony Count Technique at 30 <sup>o</sup> C	IS 5402: 2012, ISO 4833:2003	≥ 1 CFU/mL ≥ 10 CFU/gm
		Salmonella	IS 5887 (Part 3): 1999, (RA 2013)	Present/Absent per 25 mL/25g
		Coli forms Colony Count Technique	IS 5401 (Part1): 2002, ISO 4832:1991	≥ 1 CFU/mL ≥ 10 CFU/gm
		Listeria Monocytogenes	ISO 11290 (Part 2) :1998	Present/Absent per 25gm
Vibrio parahaemolyticus	IS 5887 (Part 5):1976 (R-2005)	Present/Absent per 25gm		

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	Meat & Products, (Frozen, raw and cooked ) Snacks & Instant Mixes Alloobhujia, Peanuts, Moong dal, Boondi, Samosa, Petties, Burger , instant mixes, snacks and fast foods, Tea and Tea products Coffee in powder form or as raw material vegetable & vegetable products (Soup powder, Desiccated coconut powder, all cooked vegetables and food)			
IV.	ANIMAL FOOD & FEEDS			
1.	Pet Foods	E.Coli	IS 5887(Part 1) 1976 (RA 2005)	≥ 10 cfu /g Present or Absent/g
		Staphylococcus aureus	IS 5887 (Part 2):1976 (RA 2009)	≥ 10 cfu /g
		Clostridium perfringens	IS 5887 (Part 4) 1999 (RA 2009)	≥ 10 cfu /g
		Bacillus cereus	IS 5887 (Part 6) 2012	≥ 10 cfu /g

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		Yeast & Mould Count	IS 5403: 1999 (RA 2005,2009)	≥ 1 CFU/mL ≥ 10 CFU/gm
		Colony Count Technique at 30 <sup>o</sup> C	IS 5402: 2012, ISO 4833:2003	≥ 1 CFU/mL ≥ 10 CFU/gm
		Salmonella	IS 5887 (Part 3): 1999, (RA 2009)	Detection/25mL or 25gm
		Coli forms Colony Count Technique	IS 5401 (Part1): 2002, ISO 4832:1991	≥ 1 CFU/mL ≥ 10 CFU/gm
		Listeria Monocytogenes	ISO 11290 (Part 2) :1998	Present/Absent per 25gm
		Vibrio parahaemolyticus	IS 5887 (Part 5):1976 (RA-2005)	Present/Absent per 25gm

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**Ashok Kumar**  
Convenor

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**Pankaj Johri**  
Program Manager

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<b><u>CHEMICAL TESTING</u></b>				
<b>I.</b>	<b>POLLUTION &amp; ENVIRONMENT</b>			
<b>1.</b>	<b>Waste Water Raw Effluents &amp; Raw Sewage Water</b>	Color	IS:3025 (Part 4)-1983 (RA 2017) (Visual Comparison method) APHA 23 <sup>rd</sup> Edn:2017-2120 B	2 to 500 Hazen
		pH at 25 °C	IS:3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1to14
		Total Dissolved Solids (Inorganic)	IS:3025 (Part 16): 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 C	2 to 40,000 mg/L
		Conductivity at 25 °C (µs/cm)	IS:3025 (Part 14) – 1984 (RA 2013) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70,000µs/cm
		Temperature °C	IS 3025 (Part 9) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2550 B	1 to 100°C
		Acidity as CaCO <sub>3</sub> , mg/L	IS 3025 (Part 22) – 1986 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-2310 B	2 to 10,000 mg/L
		Phenolphthalein Alkalinity as CaCO <sub>3</sub> or Carbonate Alkalinity as CO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Methyl orange Alkalinity as CaCO <sub>3</sub> or Bicarbonate	IS 3025 (Part 23) – 1986 (RA 2014)	2 to 10000 mg/L

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		Alkalinity as HCO <sub>3</sub>	(Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	
		Turbidity	IS 3025 (Part 10) – 1984 (RA 2017) (Nephelometric Method) APHA 23 <sup>rd</sup> Edn:2017-2130 B	1 to 1000 NTU
		Total Hardness as CaCO <sub>3</sub>	IS 3025 (Part 21): 2009 (RA 2014) (EDTA Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Calcium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	2 to 10000 mg/L
		Magnesium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 46) :1994(RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	2 to 10000 mg/L
		Calcium as Ca	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	1 to 5000 mg/L
		Magnesium as Mg	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	1 to 2000 mg/L
		Total Solids	IS 3025 (Part 15) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 40000 mg/L

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		Fixed Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L
		Volatile Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Total Suspended Solids	IS 3025 (Part 17)-1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Oil & Grease	IS 3025 (Part 39) – 1991 (RA 2014) Partition Gravimetric Method APHA 23 <sup>rd</sup> Edn:2017-5520 O&G B,	2 to 1000 mg/L
		Residual Free Chlorine	IS 3025 (Part 26) – 1986 (RA 2014) (Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 CI B	0.5 to 100 mg/L
		Ammonical Nitrogen as NH <sub>3</sub> .N	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method)	0.1 to 100 mg/L
		Total Kjeldahl Nitrogen	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 N– B, C	0.1 to 1000 mg/L
		COD (Open reflux method)	IS 3025 (Part 58) 2006 (Titrimetric method) (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-5220 B	4 to 100000 mg/L



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		Dissolved Oxygen	IS 3025 (Part 38) -1989 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 O-C	0.2 to 9 mg/L
		BOD @ 27°C for 3days	IS 3025 (Part 44) : 1993 (RA 2014)	2 to 10000 mg/L
		BOD @ 20°C for 5days	APHA 23 <sup>rd</sup> Edn:2017-5210 B	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (RA 2014) (Argentometric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	1 to 10000 mg/L
		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24)-1986 (RA 2014) (turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Iron as Fe	IS 3025 (Part 53) : 2014 phenanthroline method APHA 23 <sup>rd</sup> Edn:2017-3500 Fe-B	0.05 to 100 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Chromotrophic Method)	0.1 to 100 mg/L
		Nitrite as NO <sub>2</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Spectrophotometer Method)	0.01 to 10 mg/L
		Fluoride as F	IS 3025 (Part 60): 2008 (RA 2013) (Spands Method) APHA 23 <sup>rd</sup> Edn:2017-4500F,B,D	0.02 to 10 mg/L
		Phosphorus as P	IS 3025 (Part 31) – 1988 (RA 2014)	0.1 to 100 mg/L

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			(Stannous Chloride Method) APHA 23 <sup>rd</sup> Edn:2017-4500 P B,D	
		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 Na-B	1.0 to 1000 mg/L
		Potassium as K	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	0.1 to 1000 mg/L
		Total Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Reactive Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Mixed Liquid suspended Solids (MLSS)	APHA 23 <sup>rd</sup> Edn:2017 : 2540D (Gravimetric Method)	10 to 50000 mg/L
		Mixed Liquid volatile suspended solids (MLVSS)	APHA 23 <sup>rd</sup> Edn:2017 : 2540E (Gravimetric Method)	10 to 10000 mg/L
		Mixed Liquid Fixed Suspended Solids (MLFSS), mg/L	APHA 23 <sup>rd</sup> Edn:2017 : 2540E (Gravimetric Method)	10 to 50000 mg/L

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		Cadmium as Cd	IS 3025 (Part 41)-1992 (RA 2014) (AAS), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.01 to 5 mg/L
		Chromium as Cr	IS 3025 (Part 52)-2003 (RA 2014) (AAS), 3111-B - APHA 23 <sup>rd</sup> Edn:2017	0.01 to 10 mg/L
		Copper as Cu	IS 3025 (Part 42)-1992 (RA 2014) (AAS), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 10 mg/L
		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) (AAS), 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 2 mg/L
		Nickel as Ni	IS 3025 (Part 54)-2003 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.1 to 10 mg/L
		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.02 to 5 mg/L
		Manganese as Mn	APHA 23 <sup>rd</sup> Edn:2017, 3111-B (AAS)	0.01 to 2 mg/L
		Silver(as Ag)	Annex J of IS 13428-2005, IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Aluminum (as Al)	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic (as As)	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Boron as B	IS 3025:(Part-57):2005 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50mg/l

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		Barium (as Ba)	Annex F of IS 13428-2005, IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Beryllium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 10 mg/l
		Bismath	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 0.2 mg/l
		Cobalt	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Mercury (as Hg)	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.001 to 0.5 mg/l
		Lithium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Molybdenum	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Sulfur	IS 3025 (Part 2) :2004 (RA 2014)	0.01 to 2.0 mg/l
		Selenium (as Se)	IS 3025 (Part-56):2003 IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Tin	IS 3025 (Part 2) :2004, (RA 2014)	0.002 to 2 mg/L
		Thallium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.002 to 2 mg/L
		Vanadium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 10 mg/l
		Titanium	IS 3025 (Part 2) :2004, (RA 2014)	0.005 to 2 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l

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2.	<b>Waste Water Treated Effluents &amp; Treated Sewage Water</b>	Color	IS 3025 (Part 17)-1983 (RA 2003) (Visual Comparison method) APHA 23 <sup>rd</sup> Edn:2017-2120 B	2 to 500 Hazen
		pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1-14
		Total Dissolved Solids (Inorganic)	IS 3025 (Part 16): 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 C	2 to 40000 mg/L
		Conductivity at 25 °C (µs/cm)	IS 3025 (Part 14) – 1984 (RA 2013) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70000µs/cm
		Temperature °C	IS 3025 (Part 9) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2550 B	1 to 100°C
		Acidity as CaCO <sub>3</sub> , mg/L	IS 3025 (Part 22) – 1986 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-2310 B	2 to 10000 mg/L
		Phenolphthalein Alkalinity as CaCO <sub>3</sub> or Carbonate Alkalinity as CO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Methyl orange Alkalinity as CaCO <sub>3</sub> or Bicarbonate Alkalinity as HCO <sub>3</sub>	IS 3025 (Part 23) –1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 2000 mg/L
		Turbidity	IS 3025 (Part 10) – 1984 (RA 2017) (Nephelometric Method)	1 to 1000 NTU

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		Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn:2017-2130 B IS 3025 (Part 21): 2009 (RA 2014) (EDTA Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Calcium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	2 to 10000 mg/L
		Magnesium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	2 to 10000 mg/L
		Calcium as Ca	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	1 to 5000 mg/L
		Magnesium as Mg	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	1 to 2000 mg/L
		Total Solids	IS 3025 (Part 15) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 40000 mg/L
		Fixed Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L

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		Volatile Solids	IS 3025 (Part 18)-1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Total Suspended Solids	IS 3025 (Part 17) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Oil & Grease	IS 3025 (Part 39) – 1991 (RA 2014) Partition Gravimetric Method APHA 23 <sup>rd</sup> Edn:2017-5520 O&G B,	2 to 1000 mg/L
		Residual Free Chlorine	IS 3025 (Part 26) – 1986 (RA 2014) (Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl B	0.5 to 100 mg/L
		Ammonical Nitrogen as NH <sub>3</sub> N	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method)	0.1 to 100 mg/L
		Total Kjeldahl Nitrogen	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 N– B, C	0.1 to 1000 mg/L
		COD (Open reflux method)	IS 3025 (Part 58) 2006 (RA 2017) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-5220 B	4 to 100000 mg/L
		Dissolved Oxygen	IS 3025 (Part 38) -1989 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 O-C	0.2 to 9 mg/L

**Ashok Kumar**  
Convenor

**Pankaj Johri**  
Program Manager

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		BOD@27°C for 3days	IS 3025 (Part 44) : 1993 (RA 2014)	2 to 10000 mg/L
		BOD@20°C for 5days	APHA 23 <sup>rd</sup> Edn:2017-5210 B	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (RA 2014) (Argentometric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	1 to 10000 mg/L
		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24)-1986 (RA 2014) (turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Iron as Fe	IS 3025 (Part 53) : 2003 (RA 2014) phenanthroline method APHA 23 <sup>rd</sup> Edn:2017-3500 Fe-B	0.05 to 100 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Chromotrophic Method)	0.1 to 100 mg/L
		Nitrite as NO <sub>2</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Spectrophotometer Method)	0.01 to 10 mg/L
		Fluoride as F	IS 3025 (Part 60): 2008 (RA 2013) (Spands Method) APHA 23 <sup>rd</sup> Edn:2017-4500F B, D	0.02 to 10 mg/L
		Phosphorus as P	IS 3025 (Part 31) – 1988 (RA 2014) (Stannous Chloride Method) APHA 23 <sup>rd</sup> Edn:2017-4500 P B,D	0.1 to 100 mg/L
		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014)	1 to 1000 mg/L



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			(Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 Na-B	
		Potassium as K	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	0.1 to 1000 mg/L
		Total Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Reactive Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Cadmium as Cd	IS 3025 (Part 41)-1992 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.01 to 5 mg/L
		Chromium as Cr	IS 3025 (Part 52)-2003 (RA 2014) (AAS) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 10 mg/L
		Copper as Cu	IS 3025 (Part 42)-1992 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 10 mg/L

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		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) (AAS) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 2 mg/L
		Nickel as Ni	IS 3025 (Part 54)-2003 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.1 to 10 mg/L
		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.02 to 5 mg/L
		Manganese as Mn	APHA 23 <sup>rd</sup> Edn:2017, 3111-B (AAS)	0.01 to 2 mg/L
		Silver(as Ag)	Annex J of IS 13428-2005, IS 3025 ( Part 2) :2004 (RA 2014), APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Aluminum (as Al)	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic (as As)	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Boron as B	IS 3025:(Part-57):2005 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50mg/l
		Barium (as Ba)	Annex F of IS 13428-2005, IS 3025 (Part 2) :2004 (RA 2014), APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Beryllium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 10 mg/l

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		Bismath	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 0.2 mg/l
		Cobalt	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Mercury (as Hg)	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.001 to 0.5 mg/l
		Lithium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Molybdenum	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Sulfur	IS 3025 (Part 2) :2004 (RA 2014)	0.01 to 2.0 mg/l
		Selenium (as Se)	IS 3025 (Part-56):2003 IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Tin	IS 3025 (Part 2) :2004 (RA 2014)	0.002 to 2 mg/L
		Thallium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.002 to 2 mg/L
		Vanadium	APHA 23 <sup>rd</sup> Edn:2017 3125	0.005 to 10 mg/l
		Titanium	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 2 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
3.	Sea water	Color	IS 3025 (Part 4)-1983 (RA 2017) (Visual Comparison method) APHA 23 <sup>rd</sup> Edn:2017-2120 B	2 to 500 Hazen
		pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1-14

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		Total Dissolved Solids (Inorganic)	IS 3025 (Part 16): 1984 (RA 2006) APHA 23 <sup>rd</sup> Edn:2017-2540 C	2 to 40000 mg/L
		Conductivity at 25 °C (µs/cm)	IS 3025 (Part 14) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70000µs/cm
		Temperature °C	IS 3025 (Part 9) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2550 B	1 to 100°C
		Phenolphthalein Alkalinity as CaCO <sub>3</sub> /Carbonate Alkalinity as CO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Methyl orange Alkalinity as CaCO <sub>3</sub> / Bicarbonate Alkalinity as HCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Turbidity	IS 3025 (Part 10) – 1984 (RA 2017) (Nephelometric Method) APHA 23 <sup>rd</sup> Edn:2017-2130 B	1 to 1000 NTU
		Total Hardness as CaCO <sub>3</sub>	IS 3025 (Part 21): 2009 (RA 2014) (EDTA Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Calcium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	2 to 10000 mg/L
		Magnesium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 46) :1994 (RA 2014)	2 to 10000 mg/L

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			(EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	
		Calcium as Ca	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	1 to 5000 mg/L
		Magnesium as Mg	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	1 to 2000 mg/L
		Total Solids	IS 3025 (Part 15) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 40000 mg/L
		Fixed Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L
		Volatile Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Total Suspended Solids	IS 3025 (Part 17) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Residual free Chlorine	IS 3025 (Part 26) – 1986 (RA 2014) (Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl B	0.5 to 100 mg/L

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ammonical Nitrogen as NH <sub>3</sub> N	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method)	0.1 to 100 mg/L
		COD (Open reflux method)	IS 3025 (Part 58) 2006 (RA 2017) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-5220 B	4 to 100000 mg/L
		Dissolved Oxygen	IS 3025 (Part 38) -1989 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 O-C	0.2 to 9 mg/L
		BOD@27°C for 3days	IS 3025 (Part 44) : 1993 (RA 2014)	2 to 10000 mg/L
		BOD@20°C for 5days	APHA 23 <sup>rd</sup> Edn:2017-5210 B	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (RA 2014) (Argentometric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	1 to 10000 mg/L
		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24)-1986 (RA 2014) (turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Chromotrophic Method)	0.1 to 100 mg/L
		Nitrite as NO <sub>2</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Spectrophotometer Method)	0.01 to 10 mg/L
		Fluoride as F	IS 3025 (Part 60): 2008 (RA 2013) (Spands Method) APHA 23 <sup>rd</sup> Edn:2017-4500F B, D	0.02 to 10 mg/L

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		Phosphorus as P	IS 3025 (Part 31) – 1988 (RA 2014) (Stannous Chloride Method) APHA 23 <sup>rd</sup> Edn:2017-4500 P B,D	0.1 to 100 mg/L
		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 Na-B	1 to 10000 mg/L
3.	Sea water	Potassium as K	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	0.1 to 1000 mg/L
		Total Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Reactive Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Cadmium as Cd	IS 3025 (Part 41)-1992 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.01 to 5 mg/L
		Chromium as Cr	IS 3025 (Part 52)-2003 (RA 2014) (AAS) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 10 mg/L

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		Copper as Cu	IS 3025 (Part 42)-1992 (RA 2014) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 10 mg/L
		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 2 mg/L
		Nickel as Ni	IS 3025 (Part 54)-2003 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.1 to 10 mg/L
		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014) (AAS), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.02 to 5 mg/L
		Manganese as Mn	APHA 23 <sup>rd</sup> Edn:2017-3111-B (AAS)	0.01 to 2 mg/L
		Silver(as Ag)	Annex J of IS 13428-2005, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Aluminum (as Al)	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic (as As)	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Boron as B	IS 3025:(Part-57):2005 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50mg/l
		Barium (as Ba)	Annex F of IS 13428-2005 IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l



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		Beryllium	IS 3025 (Part 2) :2004, (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 10 mg/l
		Bismath	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 0.2 mg/l
		Cobalt	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Mercury (as Hg)	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.001 to 0.5 mg/l
		Lithium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Molybdenum	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Sulfur	IS 3025 (Part 2) :2004 (RA 2014)	0.01 to 2.0 mg/l
		Selenium (as Se)	IS 3025 (Part-56):2003 IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 - to 50 mg/l
		Tin	IS 3025 (Part 2) :2004 (RA 2014)	0.002 to 2 mg/L
		Thallium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.002 to 2 mg/L
		Vanadium	APHA 23 <sup>rd</sup> Edn:2017 3125	0.005 to 10 mg/l
		Titanium	APHA 23 <sup>rd</sup> Edn:2017 3125	0.005 to 2 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
<b>II.</b>	<b>WATER</b>			
<b>1.</b>	<b>1. Industrial Water / Cooling tower water / Feed water,</b>	Color	IS 3025 (Part 4)-1983 (RA 2017) (Visual Comparison method) APHA 23 <sup>rd</sup> Edn:2017-2120 B	2 to 500 Hazen

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	<b>Boiler water, Irrigation water, Swimming pool water.</b>	pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1 to 14
		Conductivity at 25 °C (µmhos/cm)	IS 3025 (Part 14) – 1984 (RA 2013) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70000 µmhos/cm
		Turbidity as NTU	IS 3025 (Part 10) – 1984 (Reaffirmed – 2017) (Nephelometric Method) APHA 23 <sup>rd</sup> Edn:2017-2130 B	0.1 to 1000 NTU
		Total Dissolved Solids (Inorganic)	IS 3025 Part 16 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 C	2 to 40000 mg/L
		Total Suspended Solids	IS 3025 (Part 17) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Acidity as CaCO <sub>3</sub> , mg/L	IS 3025 (Part 22) – 1986 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-2310 B	2 to 10000 mg/L
		Total Hardness as CaCO <sub>3</sub>	IS 3025 (Part 21): 2009 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Calcium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	2 to 10000 mg/L
		Magnesium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method)	2 to 10000 mg/L

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	
		Total solids	IS 3025 (Part 15) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 40000 mg/L
		Volatile Solids	IS 3025 (Part 18) – 1984 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Fixed Solids	IS 3025 (Part 18) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L
		Oil & Grease	IS 3025 (Part 39) – 1991 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-5520 O&G B,	2 to 1000 mg/L
		Dissolved Oxygen	IS 3025 Part 38 (RA 2014) (Winkler Method) APHA 23 <sup>rd</sup> Edn:2017-4500 O-C	0.2 to 9 mg/L
		Iron as Fe	IS 3025 (Part 53) : 2003 (RA 2014) (AAS) APHA 23 <sup>rd</sup> Edn:2017-3500 Fe-B	0.05 to 100 mg/L
		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24) – 1986 (Turbidity Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (Argentometric Method)	1 to 10000 mg/L

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			(RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	
		Residual Free Chlorine	IS 3025 (Part 26) – 1986 (Gravimetric Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl B	1 to 100 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (Indicator Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Phenolphthalein Alkalinity as CaCO <sub>3</sub> /Carbonate Alkalinity as CO <sub>3</sub>	IS 3025 (Part 23) – 1986 (Indicator Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Methyl orange Alkalinity as CaCO <sub>3</sub> /Bicarbonate Alkalinity as HCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (Indicator Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Calcium as Ca	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) (RA 2009) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	1 to 5000 mg/L
		Magnesium as Mg	IS 3025 (Part 40): 1991 (RA 2014) (Volumetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	1 to 2000 mg/L
		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method)	1 to 1000 mg/L

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			APHA 23 <sup>rd</sup> Edn:2017-3500 Na-B	
		Potassium as K	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	0.1 to 1000 mg/L
		Nitrite as NO <sub>2</sub>	IS 3025 Part 34 (Reaffirmed – 2014) (Spectrophotometer Method) APHA 23 <sup>rd</sup> Edn:2017-4500 NO <sub>2</sub> B	0.01 to 10 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (Chromatographic Acid) (RA 2014)	0.1 to 100 mg/L
		Fluoride as F	IS 3025 (Part 60): 2008 (RA 2013) (Spands Method) APHA 23 <sup>rd</sup> Edn:2017-4500F B, D	0.02 to 10 mg/L
		Ammonical Nitrogen as NH <sub>3</sub> N	IS 3025 Part 34-1988 (Titrimetric method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 NH <sub>3</sub> B,C	0.1 to 100 mg/L
		Total Kjeldahl Nitrogen	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 N– B, C	0.1 to 1000 mg/L
		COD (Open reflux method)	IS 3025 (Part 58) 2006 (RA 2017) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-5220 B	4 to 100000 mg/L

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		Total Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (Molybdo Silicate Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Reactive Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (Molybdo Silicate Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Phosphorus as P	IS 3025 (Part 31) – 1988 (Stannous Chloride Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 P B,D	0.1 to 100 mg/L
		Cadmium as Cd	IS 3025 (Part 41)-1992 (RA 2014) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.01 to 5 mg/L
		Chromium as Cr	IS 3025 (Part 52)-2003 (RA 2014) (AAS) 3111-B - APHA 23 <sup>rd</sup> Edn:2017	0.01 to 10 mg/L
		Copper as Cu	IS 3025 (Part 42)-1992 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 10 mg/L
		Nickel as Ni	IS 3025 (Part 54)-2003 (RA 2014)(AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017 Annexure L of IS 13428:2012	0.02 to 3.0 mg/L
		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) (AAS) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 4.0 mg/L
		Manganese as Mn	3111-B-APHA 23 <sup>rd</sup> Edn:2017 (AAS)	0.01 to 10 mg/L

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		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014) (AAS), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.02 to 5 mg/L
		Silver(as Ag)	Annex J of IS 13428-2005, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001-50 mg/l
		Aluminum (as Al)	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic (as As)	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Boron as B	IS 3025:(Part-57):2005 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50mg/l
		Barium (as Ba)	Annex F of IS 13428-2005, IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Beryllium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 10 mg/l
		Bismath	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 0.2 mg/l
		Cobalt	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Mercury (as Hg)	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.001 to 0.5 mg/l
		Lithium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l

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		Molybdenum	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Sulfur	IS 3025 (Part 2) :2004 (RA 2014)	0.01 to 2.0 mg/l
		Selenium (as Se)	IS 3025 (Part-56):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Tin	IS 3025 (Part 2) :2004 (RA 2014)	0.002 to 2 mg/L
		Thallium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.002 to 2 mg/L
		Vanadium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 10 mg/l
		Titanium	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 2 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017-3120 B	0.001 to 50 mg/l
2.	<b>Water for Construction Purpose</b>	pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1 to 14
		To neutralize 100ml of sample water using phenolphthalein as an indicator using 0.02N NaOH	APHA 23 <sup>rd</sup> Edn:2017-b2310 B IS 3025 (Part 22) RA 2009 (RA 2014)	0.1 to 50 ml
		Organic Solids	IS 3025 (Part 18) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Inorganic Solids	IS 3025 (Part 18) – 1984 (Gravimetric Method) (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L



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		To neutralize 100ml of sample water using Mixed indicator using 0.02 N H <sub>2</sub> SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn:2017-2320 B IS 3025 (Part 23) RA 2009	0.1 to 100 ml
		Total Suspended Solids	IS 3025 (Part 17) – 1984 (Gravimetric Method) (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24) – 1986 (Turbidity Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (Argentometric Method) (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	1 to 10000 mg/L
3.	<b>Storage Batteries Water (IS: 1069:1993)</b>	Conductivity at 25 °C (µmhos/cm)	IS 3025 (Part 14) – 1984 (RA 2013) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70000 µmhos/cm
		pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1 to 14
		Total Hardness as CaCO <sub>3</sub>	IS 3025 (Part 21): 2009 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (RA 2014) (Turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 Cl-B	1 to 10000 mg/L

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	<b>4. Packaged Drinking Water /Packaged Natural Mineral Water/ Drinking water &amp; Food Processing Water/ WHO standard / Surface Water/ Raw and Treated water</b>	Color	IS 3025 (Part 4)-1983 (RA 2012) (Visual Comparison method) APHA 23 <sup>rd</sup> Edn:2017-2120 B	2 to 500 Hazen
		pH at 25 °C	IS 3025 (Part 11):1983 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-4500 H <sup>+</sup> B	1 to 14
		Total Dissolved Solids (Inorganic)	IS 3025 (Part 16): 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2540 C	2 to 40000 mg/L
		Conductivity at 25 °C (µs/cm)	IS 3025 (Part 14) – 1984 (RA 2013) APHA 23 <sup>rd</sup> Edn:2017-2510 B	1 to 70000µs/cm
		Temperature °C	IS 3025 (Part 9) – 1984 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017-2550 B	1 to 100°C
		Acidity as CaCO <sub>3</sub> , mg/L	IS 3025 (Part 22) – 1986 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-2310 B	2 to 10000 mg/L
		Phenolphthalein Alkalinity as CaCO <sub>3</sub> /Carbonate Alkalinity as CO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Total Alkalinity as CaCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Methyl orange Alkalinity as CaCO <sub>3</sub> /Bicarbonate Alkalinity as HCO <sub>3</sub>	IS 3025 (Part 23) – 1986 (RA 2014) (Indicator Method) APHA 23 <sup>rd</sup> Edn:2017-2320 B	2 to 10000 mg/L
		Turbidity	IS 3025 (Part 10) – 1984 (RA 2014) (Nephelometric Method)	1 to 1000 NTU

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		Total Hardness as CaCO <sub>3</sub>	APHA 23 <sup>rd</sup> Edn:2017-2130 B IS 3025 (Part 21): 2009 (RA 2014) (EDTA Method) APHA 23 <sup>rd</sup> Edn:2017-2340 C	2 to 10000 mg/L
		Calcium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	2 to 10000 mg/L
		Magnesium Hardness as CaCO <sub>3</sub>	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	2 to 10000 mg/L
		Calcium as Ca	IS 3025 (Part 40): 1991 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Ca B	1 to 5000 mg/L
		Magnesium as Mg	IS 3025 (Part 46) :1994 (RA 2014) (EDTA Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-3500 Mg B	1 to 2000 mg/L
		Total Solids	IS 3025 (Part 15) – 1984 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 40000 mg/L
		Fixed Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 40000 mg/L

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		Volatile Solids	IS 3025 (Part 18) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 E	2 to 10000 mg/L
		Total Suspended Solids	IS 3025 (Part 17) – 1984 (RA 2017) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-2540 B	2 to 10000 mg/L
		Residual Chlorine as Cl <sub>2</sub>	IS 3025 (Part 26) – 1986 (RA 2014) (Titrimetric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 CI B	0.5 to 100 mg/L
		Ammonical Nitrogen as NH <sub>3</sub> .N	IS 3025 Part 34-1988 (RA 2014) (Titrimetric method)	0.1 to 100 mg/L
		COD (Open reflux method)	IS 3025 (Part 58) 2006 (RA 2017) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-5220 B	4 to 100000 mg/L
		Dissolved Oxygen	IS 3025 (Part 38) -1989 (RA 2014) (Titrimetric method) APHA 23 <sup>rd</sup> Edn:2017-4500 O-C	0.2 to 3.5 mg/L
		BOD@27°C for 3days	IS 3025 (Part 44) : 1993 (RA 2014)	2 to 10000 mg/L
		BOD@20°C for 5days	APHA 23 <sup>rd</sup> Edn:2017-5210 B	2 to 10000 mg/L
		Chloride as Cl	IS 3025 (Part 32) :1984 (RA 2014) (Argentometric Method) APHA 23 <sup>rd</sup> Edn:2017-4500 CI-B	1 to 10000 mg/L

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		Sulphate as SO <sub>4</sub>	IS 3025 (Part 24)-1986 (RA 2014) (turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L
		Iron as Fe	IS 3025 (Part 53) : 2003 (RA 2014) phenanthroline method APHA 23 <sup>rd</sup> Edn:2017-3500 Fe-B	0.05 to 100 mg/L
		Fluoride as F	IS 3025 (Part 60): 2008 (RA 2013) (Spands Method) APHA 23 <sup>rd</sup> Edn:2017-4500F B, D	0.1 to 10 mg/L
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Chromotrophic Method)	0.1 to 100 mg/L
		Nitrite as NO <sub>2</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Spectrophotometer Method)	0.01 to 10 mg/L
		Phosphorus as P	IS 3025 (Part 31) – 1988 (RA 2014) (Stannous Chloride Method) APHA 23 <sup>rd</sup> Edn:2017-4500 P B,D	0.1 to 100 mg/L
		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 Na-B	1 to 1000 mg/L
		Potassium as K	IS 3025(Part 45):1993 (RA 2014)	0.1 to 1000 mg/L

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			(Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	
		Total Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Reactive Silica as SiO <sub>2</sub>	IS 3025 (Part 35) – 1988 (RA 2014) (Molybdo Silicate Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SiO <sub>2</sub> C, D	0.2 to 100 mg/L
		Copper as Cu	IS 3025 (Part 42)-1992 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 10 mg/L
		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) (AAS) 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.01 to 2 mg/L
		Nickel as Ni	IS 3025 (Part 54)-2003 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.1 to 10 mg/L
		Manganese as Mn	APHA 22 <sup>rd</sup> Ed.2017, 3111-B (AAS)	0.01 to 2 mg/L
		Chromium as Cr	IS 3025 (Part 52)-2003 (RA 2014) (AAS), 3111-B -APHA 23 <sup>rd</sup> Edn:2017	0.05 to 3.0 mg/L
		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014)(AAS), 3111-B-APHA 23 <sup>rd</sup> Edn:2017	0.05 to 20 mg/L

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		Cadmium as Cd	IS 3025 (Part 41)-1992 (RA 2014), 111-B-APHA 23 <sup>rd</sup> Edn:2017	0.01 to 4.0 mg/L
		Oil & Grease	IS 3025 (Part 39) – 1991 (RA 2014) (Gravimetric Method) APHA 23 <sup>rd</sup> Edn:2017-5520 O&G B,	2 to 1000 mg/L
		To neutralize 100ml of sample water using phenolphthalein as an indicator using 0.02N NaOH	APHA 23 <sup>rd</sup> Edn:2017-2310 B IS 3025 (Part 22) (RA 2014)	0.1 to 50 ml
		To neutralize 100ml of sample water using Mixed indicator using 0.02 N H <sub>2</sub> SO <sub>4</sub>	APHA 23 <sup>rd</sup> Edn:2017-2320 B IS 3025 (Part 23) (RA 2014)	0.1 to 100 ml
		Silver(as Ag)	Annex J of IS 13428-2005, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001-50 mg/l
		Aluminum (as Al)	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic (as As)	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Boron as B	IS 3025:(Part-57):2005 (RA 2017) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50mg/l
		Barium (as Ba)	Annex F of IS 13428-2005 IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l

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		Beryllium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 10 mg/l
		Bismath	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 0.2 mg/l
		Cobalt	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Silt Density Index	ASTM Standard Test Method D 4189-82 (2011)	0 to 6
		Mercury (as Hg)	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.0005 to 0.5 mg/l
		Lithium	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Molybdenum	IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2.0 mg/l
		Sulfur	IS 3025 (Part 2) :2004 (RA 2014)	0.01 to 2.0 mg/l
		Selenium (as Se)	IS 3025 (Part-56):2003 IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Tin	IS 3025 (Part 2) :2004 (RA 2014)	0.002 to 2 mg/L
		Thallium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.002 to 2 mg/L
		Vanadium	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 10 mg/l
		Titanium	IS 3025 (Part 2) :2004 (RA 2014)	0.005 to 2 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l



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5.	R.O. Water for Dialysis use	Beryllium	IS 3025 (Part 2) :2004 (RA 2014), APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.0003 to 10 mg/l
		Cadmium as Cd	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.0003 to 50 mg/l
		Chromium as Cr	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Calcium as Ca	IS 3025(Part-40):1991 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 1000 mg/L
		Chloramines	APHA 23 <sup>rd</sup> Edn:2017 4500 Cl – F,G	0.01 to 50 mg/L
		Free Chlorine	APHA 23 <sup>rd</sup> Edn:2017 4500 Cl – F,G	0.01 to 50 mg/L
		Copper as Cu	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Fluoride	APHA 23 <sup>rd</sup> Edn:2017 4500 F <sup>-</sup>	0.02 to 10mg/l
		Magnesium as Mg	IS 3025(Part-46):1994 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 1000 mg/L
		Mercury as Hg	IS 3025(Part-48):1994 (RA 2014) 3125B APHA 23 <sup>rd</sup> Edn:2017	0.0002 to 0.5 mg/l
		Nitrate as NO <sub>3</sub>	IS 3025 (Part 34)-1988 (RA 2014) (Chromotrophic Method) 4500 – NO3-B APHA 23 <sup>rd</sup> Edn:2017	0.1 to 100 mg/l
		Potassium as K	APHA 23 <sup>rd</sup> Edn:2017 3120 B APHA 23 <sup>rd</sup> Edn:2017-3500 K-B	0.001 to 1000 mg/l
		Selenium as Se	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001-100 mg/l
Silver as Ag	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2 mg/L		
Sulphate as SO <sub>4</sub>	IS 3025 (Part 24)-1986 (RA 2014) (turbidity Method) APHA 23 <sup>rd</sup> Edn:2017-4500 SO <sub>4</sub> E	2 to 10000 mg/L		

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		Sodium as Na	IS 3025 (Part 45) :1993 (RA 2014) (Flame Emission Photometric method) APHA 23 <sup>rd</sup> Edn:2017-3500 Na-on 3120 B	1 to 1000mg/l
		Lead as Pb	IS 3025 (Part 47)-1994 (RA 2014) (AAS), 3111-B - APHA 23 <sup>rd</sup> Edn:2017 APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2 mg/L
		Thallium as Th	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 2 mg/L
		Zinc as Zn	IS 3025 (Part 49)-1994 (RA 2014) (AAS) 3111-B-APHA 23 <sup>rd</sup> Edn:2017 APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/L
		Aluminum as Al	IS 3025(Part-55):2003, IS 3025 ( Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Arsenic as As	IS 3025 (Part-37):1988 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.005 to 50 mg/l
		Antimony	APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
		Barium as Ba	Annex F of IS 13428-2005 IS 3025 (Part 2) :2004 (RA 2014) APHA 23 <sup>rd</sup> Edn:2017 3120 B	0.001 to 50 mg/l
6.	Reagent Grade Water	Total solids at 105 °C	APHA 23 <sup>rd</sup> Edn:2017 2540-B: 2012 IS 3025 (Part 15) (RA 2014)	1 mg/L to 100 mg/l
		Silica as SiO <sub>2</sub>	APHA 23 <sup>rd</sup> Edn:2017 4500 SiO <sub>2</sub> D: 2012 IS 3025 (Part 35) (RA 2014)	0.2 mg/L to 10 mg/l

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		Color Retention of $KmnO_4$ at 27 °C	IS 1070: 2003 Annexure A (RA 2013)	10 to 60 minuets
		Specific Conductance at 25 °C	APHA 23 <sup>rd</sup> Edn:2017 2510: 2012 IS 3025 (Part 14): (RA 2013)	1 $\mu$ S/cm to 500 $\mu$ S/cm
		pH value @ 25 °C	APHA 23 <sup>rd</sup> Edn:2017 4500 H+ B 2012/ IS 3025 (Part 11): (RA 2017)	1 to 14
<b>III.</b>	<b>SOIL &amp; ROCK</b>			
<b>1.</b>	<b>Soil/Sediments</b>	Moisture	SOP NO. VL/SOP/24 Issue No.00, Issue Date:19.11.2016 FAO Method (Page.No-23) (Air oven method): 2007	0.1 to to 50 %
		pH at 25 °C	IS 2729(Part 26):1987 (RA 2011)	1 to 14
		Conductivity at 25 °C	IS 14767:2000(RA 2016)	1 to 1000 $\mu$ S/cm
		Chloride	SOP NO. VL/SOP/25 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-48) 2007 (Titrimetric method)	1 mg/kg to 5000 mg/kg
		Soluble Calcium	SOP NO. VL/SOP/26 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-44) 2007 (Titrimetric method)	2 mg/kg to 5000 mg/kg

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Soluble Magnesium	SOP NO. VL/SOP/27 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-44) 2007 (Titrimetric method)	2 mg/kg to 5000 mg/kg
		Total Organic Carbon	SOP NO. VL/SOP/28 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-61) 2007 (Walkley – Black wet combustion method)	0.1 to 10%
		Total Organic Matter	SOP NO. VL/SOP/29 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-61) 2007 (Walkley – Black wet combustion method)	0.1 to 10%
		Total Kjeldahl Nitrogen	IS 14684: 1999 (RA 2014)	10 to 1000 mg/kg
		Sodium absorption ratio	IS 11624 – 1986 (RA 2009)	1 to 30
		Available Phosphorus	SOP NO. VL/SOP/30 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-75) 2007 (Olsen's method)	1 to 5000 mg/kg
		Soluble Sodium	SOP NO. VL/SOP/31 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-44) 2007	1 to 1000 mg/kg

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		Available Potassium	SOP NO. VL/SOP/32 Issue No.00, Issue Date: 19.11.2016 Methods of Analysis of Soil FAO-2007,Page 77	1 to1000 mg/kg
		Cadmium as Cd	EPA 3050B – 1996 (Rev-2)	2 to 5000 mg/kg
		Total Organic Matter	SOP NO. VL/SOP/29 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-61) 2007 (Walkley – Black wet combustion method)	0.1 to 10%
		Total Kjeldahl Nitrogen	IS 14684: 1999 (RA 2014)	10 to 1000 mg/kg
		Sodium absorption ratio	IS 11624 – 1986 (RA 2009)	1 to 30
		Available Phosphorus	SOP NO. VL/SOP/30 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-75) 2007 (Olsen's method)	1 to 5000 mg/kg
		Soluble Sodium	SOP NO. VL/SOP/31 Issue No.00, Issue Date: 19.11.2016 FAO Method (Page.No-44) 2007	1 to1000 mg/kg
		Available Potassium	SOP NO. VL/SOP/32 Issue No.00, Issue Date: 19.11.2016 Methods of Analysis of Soil FAO-2007,Page 77	1 to1000 mg/kg
		Cadmium as Cd	EPA 3050B – 1996 (Rev-2)	2 to 5000 mg/kg
		Chromium as Cr	EPA 3050B – 1996 (Rev -2)	2 to 5000 mg/kg

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Iron as Fe	EPA 3050B – 1996 (Rev -2)	2 to 5000 mg/kg
		Lead as Pb	EPA 3050B – 1996 (Rev -2)	2 to 5000 mg/kg
		Manganese as Mn	EPA 3050B – 1996 (Rev -2)/ EPA 7460 – 1986	2 to 5000 mg/kg
		Nickel as Ni	EPA 3050B – 1996 (Rev -2)	2 to 5000 mg/kg
		Zinc as Zn	EPA 3050B – 1996 (Rev -2)	2 to 5000 mg/kg
		Silver(as Ag)	USEPA 6010 B Dec.1996 (Rev -2)	1-5000 mg/kg
		Aluminum (as Al)	USEPA 6010 B Dec.1996 (Rev -2)	1-5000 mg/kg
		Arsenic (as As)	USEPA 6010 B Dec.1996 (Rev -2)	1-5000 mg/kg
		Boron as B	USEPA 6010 B Dec.1996 (Rev -2)	1-5000 mg/kg
		Barium (as Ba)	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Beryllium	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Bismath	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Cobalt	EPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Mercury	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Lithium	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Molybdenum	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Sulfur	ASTM E-775-87(2008) e1	5-1000 mg/kg
		Selenium (as Se)	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Tin	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg

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		Thallium	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Vanadium	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Titanium	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
		Antimony	USEPA 6010 B Dec.1996 (Rev-2)	1-5000 mg/kg
<b>VI.</b>	<b>FOOD &amp; AGRICULTURAL PRODUCTS</b>			
<b>1.</b>	<b>Milk &amp; Dairy Products:  Milk, Milk based products, Infant milk substitutes, Complementary foods, Milk powder, Skimmed milk powder and Partly Skimmed milk powders</b>	Moisture	IS 16072: 2012	0.12% to 25 %
		Ash	IS 14433: 2007 Annexure B IS 1165: 2002 (RA 2009 Annexure A	0.1 % to 10 %
		Total Solids	IS 1165: 2002 (RA 2009) Annexure A	0.5 % to 95 %
		Acid insoluble Ash	IS 14433: 2007 Annexure C	0.1 % to 2.0 %
		Total Protein	IS 7219: 1973 (RA 2010)	0.5 % to 50 %
		Fat	IS 11721: 2013, IS 1656: 2007 (RA 2005) Annexure B	0.5 % to 85 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1-75 mg/100g
		Crude fiber	IS 10226 (Part 1): 1982 (RA 2015)	0.5 % to 30 %
		Insolubility Index	IS 12759 :1989 (RA 2014)	0.1 % to 98 %
		Titratable Acidity	IS 1165: 2002 (RA 2009)Annexure B IS 11766: 1986 (RA 2012)	0.1 % to 5 %
		Ascorbic Acid (Vitamin C)	IS 5838: 1978 (RA 2013)	2.0 to 100 mg/100g

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		pH	IS:1479 (P-II):1961 (RA. 2013)	2 to 12
		Chloride	IS:1479 (P-II):1961 (RA 2013)	0.01-200mg/100g
		Iron	AOAC 20 <sup>th</sup> Edition 2016: 999.11	0.5-500 mg/100g
		Tin	AOAC 20 <sup>th</sup> Edition 2016:999.11	1 -500 mg/kg
		Cadmium	AOAC 20 <sup>th</sup> Edition 2016:999.11	0.05-10 mg/kg
		Lead	AOAC 20 <sup>th</sup> Edition 2016-972.23	0.5-500 mg/kg
		Arsenic	AOAC 20 <sup>th</sup> Edition 2016-986.15	0.05-500 mg/kg
		Zinc	AOAC 20 <sup>th</sup> Edition 2016-999.11	0.2-100 mg/kg
		Copper	AOAC 20 <sup>th</sup> Edition 2016-999.10 /985.35	0.1 to 100 mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition 2016-2015.01	0.01 to 0.05 mg/kg
		Aluminium	AOAC 20 <sup>th</sup> Edition 2016-2011.14	0.50 to 100 mg/kg
		Manganese	AOAC 20 <sup>th</sup> Edition 2016-2011.14/ AOAC 20 <sup>th</sup> Edition 2016-985.35	0.2 to 100 mg/kg
		Sodium	AOAC 20 <sup>th</sup> Edition 2016-985.35	1-1500 mg/100 g
		Potassium	AOAC 20 <sup>th</sup> Edition 2016-985.35	1-8000 mg/100 g
		Phosphorus	IS:12756:1989 (RA 2014)	2-500 mg/100g
		Magnesium	AOAC 20 <sup>th</sup> Edition 2016-985.35	1-500 mg/100 g
		Calcium	AOAC 20 <sup>th</sup> Edition 2016-991.25	5 -500 mg/100 g

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		Selenium	AOAC 20 <sup>th</sup> Edition 2016-2011.19	0.01 to 100 mg/kg
		Molybdenum	AOAC 20 <sup>th</sup> Edition 2016-2011.19	0.01 to 100 mg/kg
		Chromium	AOAC 20 <sup>th</sup> Edition 2016-2011.19	0.01 to 100 mg/kg
2.	<b>Cereals, Pulses and Cereals Products: Wheat Atta, Maize, Jawar, Rice, Masur , Urad , moong, channa -whole, and macaroni products</b>	Moisture	IS 4333 (Part 2): 2002 (RA 2012)	0.1 % to 20 %
		Total Ash	AOAC (20 <sup>th</sup> Edition) 930.22: 2016	0.1 % to 10 %
		Acid in Soluble Ash	IS 1155: 1968 (RA 2015) Appendix C	0.1 % to 10 %
		Total Protein	AOAC (20 <sup>th</sup> Edition) 920.87: 2016	0.1 % to 80 %
		Alcoholic Acidity	IS 1155: 1968 (RA 2015) Appendix F	0.1 % to 5 %
		Fat	AOAC (20 <sup>th</sup> Edition) 922.06: 2016	0.5 % to 85 %
		Crude fiber	IS 1155: 1968 (RA 2015) Appendix E	0.5 % to 30 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1-75 mg/100g
		Ascorbic Acid (Vitamin C)	IS 5838: 1978 (RA 2013)	2.0 to 100 mg/100g
		Gluten Content	IS 1155: 1968 (RA 2015) Appendix D	0.5 % to 15 %
		Starch	IS:1806: 1975 (Reaff. 2011)	Qualitative
		Magnesium	AOAC 20 <sup>th</sup> Edition:2016-985.35, / 2011.14	1 to 10000 mg/kg
		Manganese	AOAC 20 <sup>th</sup> Edition:2016-985.35/2011.14	0.1 to100 mg/kg
		Sodium	AOAC 20 <sup>th</sup> Edition:2016-985.35	1-1500 mg/100g

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		Iron	AOAC 20 <sup>th</sup> Edition:2016-999.11	1-500 mg/100 g
		Calcium	AOAC 20 <sup>th</sup> Edition:2016-944.03	2-5000 mg/100 g
		Lead	AOAC 20 <sup>th</sup> Edition:2016-999.10	0.5-500 mg/kg
		Copper	AOAC 20 <sup>th</sup> Edition:2016-999.10	1-500 mg/kg
		Arsenic	AOAC 20 <sup>th</sup> Edition:2016-986.15	0.05-500 mg/kg
		Zinc	AOAC 20 <sup>th</sup> Edition:2016-999.11	0.2-100mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition:2016-971.21	0.05-100mg/kg
		Tin	AOAC 20 <sup>th</sup> Edition:2016-980.19	5-500 mg/kg
		Cadmium	AOAC 20 <sup>th</sup> Edition:2016-999.11	0.1-100 mg/kg
		Potassium	AOAC 20 <sup>th</sup> Edition:2016-985.35	1-8000 mg/100 g
3.	<b>Bakery and Confectionary Products Biscuits &amp; Bread, stick bake, white bread, rusk, bun, wheat bread, pastries, pizza base, toffees, milk toffee hard boiled candies, sweets, cookies, cakes, pastries, rolls</b>	Moisture	IS 1011: 2002 (RA 2009) Annexure B	0.1 % to 10 %
		Ash	IS 1011: 2002 (RA 2009) Annexure B	0.1 % to 10 %
		Protein	IS 7219: 1973 (RA 2010)	0.1 % to 30 %
		Fat	AOAC (20 <sup>th</sup> Edition) 935.39: 2012	0.5 % to 85 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1-75 mg/100g
		Acid in Soluble Ash	IS 1011: 2002 (RA 2009) Annexure C	0.05 % to 10 %
		Acidity of Extracted fat (as oleic Acid)	IS 1011: 2002 (RA 2009) Annexure D	0.1 to 5.0%

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		Crude Fiber	IS:12711:1989 (RA 2010)	0.2 to 10g/100g
		Total solids	IS:12711 : 1989 (RA 2010)	0.5 to 80 g/100g
		Energy (By Calculation)	IS:9487: 1980 (RA 2010)	15 to 900 K.cal/100 g
		Salt as NaCl	IS: 1797:1985(RA 2013)	0.2 to 80 g/100g
		Vitamin C	IS:5838 : 1970 (RA 2013)	0.25 to 100mg / 100g
		Dietary fiber	IS:11062:1984 (RA 2010)	0.5to 25 g/100g
		Lead	AOAC 20 <sup>th</sup> Edition 999.10: 2016	0.5-500 mg/kg
		Copper	AOAC 20 <sup>th</sup> Edition 999.10: 2016	1-500 mg/kg
		Arsenic	AOAC 20 <sup>th</sup> Edition 986.15: 2016	0.05-500 mg/kg
		Iron	AOAC 20 <sup>th</sup> Edition 999.10: 2016	0.5-500 mg/100g
		Calcium	AOAC 20 <sup>th</sup> Edition 975.03: 2016	2-900 mg/100g
		Zinc	AOAC 20 <sup>th</sup> Edition :999.11: 2016	0.2-100mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition :971.21: 2016	0.05-100mg/kg
		Tin	AOAC 20 <sup>th</sup> Edition :980.19: 2016	5-500 mg/kg
		Cadmium	AOAC 20 <sup>th</sup> Edition :999.11: 2016	0.1-10mg/kg
		Potassium	AOAC 20 <sup>th</sup> Edition :985.35: 2016	1-8000mg/100 g
		Sodium	AOAC 20 <sup>th</sup> Edition 990.23: 2016	1 to 9000mg/100 g
4.	Tea & Tea Products	Moisture	IS 13853: 1994 (RA 2009)	0.1 % to 10 %
		Ash	IS 13854: 1994 (RA 2009)	0.1 % to 12 %
		Water Soluble Ash	IS 13855: 1993 (RA 2009)	0.1 % to 75 % of total Ash

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		Alkalinity of water Soluble Ash (as K <sub>2</sub> O)	IS 13856: 1993 (RA 2009))	1.0 % to 5 %
		Acid insoluble Ash	IS 13857: 1993 (RA 2009)	0.1 % to 10 %
		Water Extract	IS 13862: 1999 (RA 2009)	1% to 98 %
		Crude fiber	IS 10226 (Part 1): 1982 (RA 2015)	0.1 to 30 %
		Fat	AOAC (20 <sup>th</sup> Edition) 925.18: 2016	0.1 to 50 %
		Protein	AOAC (20 <sup>th</sup> Edition) 920.103: 2016	0.1 % to 30 %
		Carbohydrate	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1 to 90 mg/100g
		Sugar	IS 1163:1992 (RA 2009)	1-100 g/100g
		Total Solids	AOAC (20 <sup>th</sup> Edition) 973.21: 2016	1-100 g / 100 g
		Chloride	AOAC (20 <sup>th</sup> Edition) 925.14: 2016	0.1-100 g/100g
		Energy (By Calculation)	IS 9487:1980 (Reaff. 2010)	15 to 900 Kcal/100gm
		Lead	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	0.5-500 mg/kg
		Copper	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	1-500 mg/kg
		Arsenic	AOAC (20 <sup>th</sup> Edition) 986.15: 2016	0.05-500 mg/kg
		Iron	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	0.5-500 mg/100g
		Calcium	AOAC (20 <sup>th</sup> Edition) 975.03: 2016	2-900 mg/100 g
		Zinc	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.2-100 mg/kg
		Mercury	AOAC (20 <sup>th</sup> Edition) 971.21: 2016	0.05-100 mg/kg

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		Tin	AOAC (20 <sup>th</sup> Edition) 980.19: 2016	5-500 mg/kg
		Cadmium	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.1-10 mg/kg
		Potassium	AOAC (20 <sup>th</sup> Edition) 985.35: 2016	1-8000mg/100 g
		Sodium	AOAC (20 <sup>th</sup> Edition) 990.23: 2016	1-9000mg/100 g
5.	Coffee	Moisture	IS 2791: 1992 (RA 2009)	0.1 % to 10 %
		Ash	IS 2791: 1992 (RA 2009)	0.1 % to 10 %
		Water Soluble Ash	IS:13855-1993 (RA 2009)	10 % to 80 % of total Ash
		Acid in Soluble Ash	IS:13857-1993 (RA 2009)	0.1 % to 10 %
		Alkalinity of Water Soluble Ash	IS: 13856–1993 (RA 2009)	0.1 % to 5.0 %
		Crude Fiber	IS 16041: 2012	0.1 to 30 %
		Water Extract	IS 13862: 1999 (RA 2009)	1% to 98 %
		Sugar	IS 1163:1992 (RA 2009)	1-100 g/100g
		Total Solids	AOAC (20 <sup>th</sup> Edition) 973.21: 2016	1-100 g / 100 g
		Chloride	AOAC (20 <sup>th</sup> Edition) 925.14: 2016	0.1-100 g/100g
		Energy (By Calculation)	IS 9487:1980 (Reaff. 2010)	15 to 900 Kcal/100gm
		Protein	IS :7219: 1973(Reaff– 2010)	0.1 % to 30 %
		Fat	IS 4684 : 1975 (Reaff 2015)	0.5 to 60 g/100g
		Lead	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	0.5-500 mg/kg
		Copper	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	1-500 mg/kg
Arsenic	AOAC (20 <sup>th</sup> Edition) 986.15: 2016	0.05-500 mg/kg		
Iron	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	0.5-500 mg/100g		

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		Calcium	AOAC (20 <sup>th</sup> Edition) 975.03: 2016	2-900 mg/100 g
		Zinc	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.2-100 mg/kg
		Mercury	AOAC (20 <sup>th</sup> Edition) 971.21: 2016	0.05-100 mg/kg
		Tin	AOAC (20 <sup>th</sup> Edition) 980.19: 2016	5-500 mg/kg
		Cadmium	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.1-10 mg/kg
		Potassium	AOAC (20 <sup>th</sup> Edition) 985.35: 2016	1-8000mg/100 g
		Sodium	AOAC (20 <sup>th</sup> Edition) 990.23: 2016	1-9000mg/100 g
6.	<b>Fruits and Vegetables with High Water Content</b>	Moisture	IS 5466-1969 (RA 2013)	0.1 % to 90 %
		Acidity as (Malic Acid/Oxalic Acid/Citric Acid monohydrate/ Tartaric Acid/Lactic Acid/Acetic Acid/Oleic Acid)	AOAC 20 <sup>th</sup> Edition 2016, Method No.942.15	0.1 to 5.0%
		Total Sugars	AOAC 20 <sup>th</sup> Edition 2016, Method No.925.36	1 % to 20 %
		Total Ash	AOAC 20 <sup>th</sup> Edition 2016, Method No.940.26(A)	0.1 % to 10 %
		Acid in Soluble Ash	AOAC 20 <sup>th</sup> Edition 2016, Method No.940.26(B)	0.1 % to 10 %
		pH	IS: 2860:1964, RA 2008	2 to 12
		Sodium chloride	IS: 2860:1964 RA 2008	0.001 % to 10 %
		Nitrogen content	AOAC 20 <sup>th</sup> Edition 2016, Method No.920.152	0.1 % to 20 %
		Phosphorous	AOAC 20 <sup>th</sup> Edition 2016, Method No.935.45, 942.14	0.1 to 1000 mg /kg
		Peroxidase Test	IS 4624:1968 (RA 2013)	Qualitative

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		Dietary fiber	IS 11062: 1984 (RA 2010)	1-50 g/100g
		Protein	IS:7219:1973 (RA 2010)	0.1 % to 30 %
		Fat	IS 11721: 2013	1-50 g/100g
		Carbohydrate	IS: 1656:2007 (RA 2007)	1-75 mg/100g
		Energy (By Calculation)	IS 9487:1994(RA 2010)	50-900kcal/100g
		Soluble Solids	IS 13815 : 2010	1-100 %
		Lead	AOAC 20 <sup>th</sup> Edition-999.11: 2016	0.5-500mg/kg
		Arsenic	AOAC 20 <sup>th</sup> Edition-986.15: 2016	0.05-500mg/kg
		Zinc	AOAC 20 <sup>th</sup> Edition-999.11: 2016	0.2-500 mg/kg
		Copper	AOAC 20 <sup>th</sup> Edition-999.11: 2016	1-500 mg/kg
		Iron	AOAC 20 <sup>th</sup> Edition-999.11: 2016	0.5-500 mg/100 g
		Cadmium	AOAC 20 <sup>th</sup> Edition-999.11: 2016	0.1-50 mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition-971.21: 2016	0.05-100 mg/kg
		Calcium	AOAC 20 <sup>th</sup> Edition-975.03: 2016	2-900 mg/100 g
		Potassium	AOAC 20 <sup>th</sup> Edition-985.35: 2016	1-8000mg/100 g
		Sodium	AOAC 20 <sup>th</sup> Edition-990.23: 2016	1 to 9000mg/100 g
		Vitamin C	IS:5838:1970 ( Reaff 2010)	0.25 to 100mg / 100g
		Tin	AOAC 20 <sup>th</sup> Edition-980.19: 2016	1-500 mg/kg
		Crude Fiber	IS 10226:1990 (RA 2014)	0.1 to 30 %
7.	Nuts And Nut Products	Moisture	AOAC (20 <sup>th</sup> Edition) 925.40: 2016	0.1 % to 10 %

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		Ash	AOAC (20 <sup>th</sup> Edition) 950.49: 2016	0.1 % to 10 %
		Protein	AOAC (20 <sup>th</sup> Edition) 950.48: 2016	0.1 % to 40 %
		Fat	AOAC (20 <sup>th</sup> Edition) 948.22: 2016	0.1 to 50 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1-75 mg/100g
		Acidity of Extracted Fat (as Oleic Acid)	IS 1011, Annexure D	0.1 to 5.0 %
		Crude fiber	AOAC (20 <sup>th</sup> Edition) 935.53: 2016	0.1 to 30 %
		Ascorbic Acid (Vitamin C)	IS 5838: 1978 (RA 2013)	2.0 to 100 mg/100g
		Gluten Content	IS 1155: 1968 (RA 2010) Appendix D	0.5 % to 15 %
		Starch	IS:1806: 1975 (RA 2011)	Qualitative
		Sugar	IS 2650 :1975 (RA 2010)	1-60g/100g
		Sodium	AOAC (20 <sup>th</sup> Edition) 985.35: 2016	1-1500 mg/100g
		Iron	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	1-500 mg/100 g
		Calcium	AOAC (20 <sup>th</sup> Edition) 944.03: 2016	2-5000 mg/100 g
		Lead	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	0.5-500 mg/kg
		Copper	AOAC (20 <sup>th</sup> Edition) 999.10: 2016	1-500 mg/kg
		Arsenic	AOAC (20 <sup>th</sup> Edition)986.15: 2016	0.05-500 mg/kg
		Zinc	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.2-100mg/kg

**Ashok Kumar**  
Convenor

**Pankaj Johri**  
Program Manager



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		Mercury	AOAC (20 <sup>th</sup> Edition) 971.21: 2016	0.05-100mg/kg
		Tin	AOAC (20 <sup>th</sup> Edition) 980.19 : 2016	5-500 mg/kg
		Cadmium	AOAC (20 <sup>th</sup> Edition) 999.11 : 2016	0.1-100 mg/kg
		Potassium	AOAC (20 <sup>th</sup> Edition) 985.35: 2016	1-8000 mg/100 g
8.	<b>Cereal based, Milk based, Ready to Eat Food, Cooked food</b>	Moisture	AOAC (20 <sup>th</sup> Edition) 925.09: 2016 IS 4333(Part 2)	0.1 to 5.0 %
		Total Ash	AOAC (20 <sup>th</sup> Edition) 923.03 ; 2016	0.1 to 15 %
		Acid Insoluble Ash	IS 1155 Appendix C	0.1 to 10 %
		Total Protein	IS 7219: 1973 (RA 2010)	0.1 % to 80 %
		Fat	AOAC (20 <sup>th</sup> Edition) 922.06: 2016	0.1 to 50 %
		Crude fiber	IS 1155: 1968 (RA 2010) Appendix E	0.1 to 30 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1 to 85 mg/100g
		Ascorbic Acid (Vitamin C)	IS 5838: 1978 (RA 2013)	2.0 to 100 mg/100g
		Chloride	IS 11763 :2010	0.001 % to 10 %
		Phosphorus	AOAC (20 <sup>th</sup> Edition) 995.11: 2016 IS 12756:1989 (RA.2010)	1 to 2000 mg/kg
		Energy (By Calculation)	IS 9487:1980(RA. 2010)	15-900 kcal/kg
		Sugar	IS 2650 :1975 (RA 2010)	1-5 0 g/100g

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		Lead	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.1-500 mg/kg
		Arsenic	AOAC (20 <sup>th</sup> Edition) 986.15: 2016	0.02-500 mg/kg
		Tin	AOAC (20 <sup>th</sup> Edition) 980.19: 2016	2to 500 mg/kg
		Mercury	AOAC (20 <sup>th</sup> Edition) 971.21: 2016	0.05-100 mg/kg
		Potassium	AOAC (20 <sup>th</sup> Edition) 985.35: 2016	1-8000 mg/100 g
		Sodium	AOAC (20 <sup>th</sup> Edition) 990.23: 2016	1 to 9000 mg/100 g
		Nickel	AOAC (20 <sup>th</sup> Edition) 990.05: 2016	1-10 mg/kg
		Cadmium	AOAC (20 <sup>th</sup> Edition) 999.11 : 2016	0.05-500 mg/kg
		Selenium	AOAC (20 <sup>th</sup> Edition) 996.17:2016	0.1-5 mg/kg
		Manganese	AOAC (20 <sup>th</sup> Edition) 985.35:2016	0.1-10 mg/kg
		Magnesium	AOAC (20 <sup>th</sup> Edition) 985.35:2016	1-500 mg/100 g
		Calcium	AOAC (20 <sup>th</sup> Edition) 944.03: 2016	2-5000 mg/100 g
		Zinc	AOAC (20 <sup>th</sup> Edition) 985.35:2016	0.2-100 mg/kg
		Copper	AOAC (20 <sup>th</sup> Edition) 985.35:2016	1-50 mg/kg
		Iron	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	1-100 mg/kg
9.	Spices, Condiments and Related Products	Moisture	IS 1797: 1985 RA 2013	0.1 % to 30 %
		Total ash	IS 1797: 1985 RA 2013	0.10 % to 15 %
		Ash insoluble in diluted	IS 1797: 1985 RA 2013	0.1 % to 30 %

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	<b>(Caraway, Cardamom, Chillies and Capsicum, Cinnamon, Cassia, Cloves, Coriander, Cumin, Fennel, Fenugreek, Ginger, Mustard, Nutmeg, Pepper Black, Poppy, Saffron, Turmeric, Curry Powder, Mixed Masala, Aniseed, Ajowan, Dried Mango Slices, Dried Mango Powder, Pepper White, Garlic, elery Dehydrated Onion, Asafoetida)</b>	HCl		
		Volatile oil content	IS 1797: 1985 RA 2013	0.1 % to 20 %
		Insect damage matter	IS 2322: 2010	0.1 % to 10 %
		Empty and Malformed capsules by count (Cardamon)	IS 1907:1994 RA 2009 IS 13446: 2009	0.1 % to 2 %
		Broken fruits, seed & fragments (Cardamon/ Cinnamon)	IS 2322: 2010	0.1 % to 1 %
		Crude fiber	IS 1797: 1985 RA 2013	1.0 % to 50 %
		Split Fruits (Coriander)	IS 13446: 2009	0.1 % to 1 %
		Damaged/ Discolored fruits (Cardamon/ Cinnamon)	IS 13446: 2009	0.1 % to 1 %
		Non volatile ether extract	IS 1797: 1985 RA 2013	0.1 % to 30 %
		Defective seeds (Fennel)	IS 13446: 2009	0.1 % to 1 %
		Edible seeds (Fennel)	IS 13446: 2009	0.1 % to 1 %
		Cold water soluble extract	IS 1797: 1985 RA 2013	0.1 % to 25 %
		Water Insoluble ash	IS 1797: 1985 RA 2013	0.10 % to 20 %
		Light Berries in pepper	IS 1797: 1985 RA 2013	0.1 % to 1 %
		Pinheads / broken berries in Pepper	IS 1797: 1985 RA 2013	0.1 % to 1 %
		Bulk Density	IS 4333 (Part 3): 2002 IS 1797:1985 RA 2013	0.8 % to 3 %
		Total Nitrogen on dry basis	IS 7219: 1973 RA 2013	0.1 % to 30 %
		Defective Rhizomes (Turmeric Powder/Ginger)	IS 3576: 2010	Qualitative
		Test for Lead Chromate (Turmeric Powder)	IS 3576: 2010	Qualitative
		Acidity as anhydrous tartaric acid	IS 13844: 2003 RA 2008	0.1 % to 5 %

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		Salt as NaCl	IS 7874 (Part 2): 1975 RA 2009	0.1 % to 15 %
		Ascorbic Acid (Vitamin C)	IS 5838: 1978 (RA 2013)	2.0 to 100 mg/100g
		Arsenic	AOAC (20 <sup>th</sup> Edition) 986.15 :2016	0.05 -10 mg/kg
		Cadmium	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.1-50 mg/kg
		Mercury	AOAC (20 <sup>th</sup> Edition) 971.21: 2016	0.05-100 mg/kg
		Calcium	AOAC (20 <sup>th</sup> Edition) 975.03: 2016	2to 900 mg/100 g
		Lead	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.5to 20 mg/kg
		Potassium	AOAC (20 <sup>th</sup> Edition) :985.35: 2016	1-8000mg/100 g
		Sodium	AOAC (20 <sup>th</sup> Edition) 990.23: 2016	1 to 9000mg/100 g
		Fat	IS 1797:1985 (RA 2013)	0.5-30 g/100g
		Carbohydrate	IS 1656: 2007 (RA 2012)	2-95 g/100g
		Energy (By Calculation)	IS 9487: 1980 ( RA 2010)	15 to 900 KCal/gm
		Protein	IS 7219:1973 (RA 2010)	0.5-50g/100g
		Magnesium	IS:7224:2006 (RA 2010)	0.1-500 mg/100 g
		Sulphate	IS:7224:2006 (RA 2010)	0.05-1g/100g
		Iron	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.5-100 mg/100 g
		Copper	AOAC (20 <sup>th</sup> Edition) 999.11: 2016	0.5-500 mg/kg
10.	Edible Common Salts	Moisture	IS : 7224-2006	0.1 % to 30 %
		Salt as NaCl	IS : 7224-2006	0.1 % to 99 %
11.	Sugar Boiled confectionary and Toffee	Acidity of Extracted fat ( as Oleic Acid)	IS 1011 Annexure D	0.1 to 5 %
		Moisture	IS 6287 – 1985 RA 2010	0.1 to 10 %
		Ash	IS 6287 – 1985 RA 2010	0.1 to 10 %
		Acid Insoluble Ash	IS 6287 – 1985 RA 2010	0.1 to 10 %

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Sulphur Dioxide	IS 6287 – 1985 RA 2010	10 to 1000mg/kg
		Protein	IS 6287 – 1985 RA 2010	0.1 to 20 %
		Fat	IS 6287 – 1985 RA 2010	0.1 to 10 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date 10.03.2017	1 to 85 mg/100g
		Reducing Sugar	IS 6287 – 1985 RA 2010	0.1 to 10 %
		Sucrose	IS 6287 – 1985 RA 2010/IS12711	0.5 to 25 %
		Water soluble ash	IS 1797: 1985 RA 2013	0.10 % to 20 %
		Total Nitrogen on dry basis	IS 7219: 1973 RA 2013	0.1 % to 30 %
		Salt as NaCl	IS : 7224-2006	0.1 % to 99 %
<b>VII.</b>	<b>ANIMAL FEED AND POULTRY FEED</b>			
<b>1.</b>	<b>Animal Feed And Poultry Feed</b>	Moisture	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 20 %
		Total Ash	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 10 %
		Acid in Soluble Ash	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 10 %
		Protein	AOAC (20 <sup>th</sup> Edition) 954.01: 2016	0.1 % to 30 %
		Fat	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 50 %
		Crude Fibre	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 30 %
		Carbohydrates	VL/SOP/INS/32 Issue No.00, Issue Date: 10.03.2017	1-85 mg/100g
		Acidity of Extracted Fat	IS 7874 (Part 1): 1975 (RA 2014)	0.1 % to 15 %
		Phosphorus	AOAC 20 <sup>th</sup> Edition 995.11- 2016	0.004 to 10 %

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		Lead	AOAC 20 <sup>th</sup> Edition 999.10: 2016	0.5-500 mg/kg
		Copper	AOAC 20 <sup>th</sup> Edition 999.10: 2016	1-500 mg/kg
		Arsenic	AOAC 20 <sup>th</sup> Edition 986.15: 2016	0.05-500 mg/kg
		Iron	AOAC 20 <sup>th</sup> Edition 999.10: 2016	0.5-500 mg/100g
		Calcium	AOAC 20 <sup>th</sup> Edition 975.03: 2016	2-900 mg/100g
		Zinc	AOAC 20 <sup>th</sup> Edition 999.11: 2016	0.2-100mg/kg
		Mercury	AOAC 20 <sup>th</sup> Edition 971.21: 2016	0.05-100mg/kg
		Tin	AOAC 20 <sup>th</sup> Edition 980.19: 2016	5-500 mg/kg
		Cadmium	AOAC 20 <sup>th</sup> Edition 999.11: 2016	0.1-10mg/kg
		Potassium	AOAC 20 <sup>th</sup> Edition 985.35: 2016	1-8000mg/100 g
		Sodium	AOAC 20 <sup>th</sup> Edition 990.23: 2016	1 to 9000mg/100 g
		Magnesium	AOAC 20 <sup>th</sup> Edition 985.35 / 2011.14: 2016	10 to 10000 mg/kg
		Manganese	AOAC 20 <sup>th</sup> Edition 985.35 / 2011.14: 2016	0.1 to 5000 mg/kg
		Molybdenum	AOAC 20 <sup>th</sup> Edition 2011.19 :2016	0.01 to 100 mg/100g
		Chromium	AOAC 20 <sup>th</sup> Edition 2011.19: 2016	0.1 to 100 mg/kg
		Selenium	AOAC 20 <sup>th</sup> Edition 2011.19: 2016	0.01 to 100 mg/100g

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<b>VIII.</b>	<b>FERTILIZERS</b>			
<b>1.</b>	<b>NPK Fertilizers</b>	Moisture	The Fertilizer (Control) Order-1985 (Oven Dry Method)	0.1% to 6.%
		Total Nitrogen as N	The Fertilizer (Control) Order-1985 (Kjeldahl Method)	12% to 21%
		Ammoniacal Nitrogen as N	The Fertilizer (Control) Order-1985 (Magnesium Oxide Method)	3% to 14%
		Nitrate Nitrogen as N	The Fertilizer (Control) Order-1985	3% to 12%
		Total Phosphate as P <sub>2</sub> O <sub>5</sub>	The Fertilizer (Control) Order-1985 (Gravimetric Quinoline Molybdate Method)	6% to 24%
		Water Soluble Phosphate P <sub>2</sub> O <sub>5</sub>	The Fertilizer (Control) Order-1985 (Gravimetric Quinoline Molybdate Method)	3% to 14%
			AOAC 20 <sup>th</sup> Edition 970.01: 2016	3% to 14%
		Potassium as K <sub>2</sub> O	The Fertilizer (Control) Order-1985 (Sodium Tetra phenyl Boron Method)	1% to 21%
			AOAC 20 <sup>th</sup> Edition 983.02: 2018	1% to 21%
<b>2.</b>	<b>Non Edible De-oiled Fertilizer Cake</b>	Moisture	IS:7874 (Part 1) 1975 RA 2009	1 to 60 %
		Water Insoluble Organic Nitrogen (On moisture-free Basis)	IS: 8558-1977 Appendix-3-RA 2009	0.10 % to 20 %

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		Total Ash	IS:7874 (Part 1) 1975 RA 2009	0.1 to 15 %
		Acid Insoluble Ash, (on moisture-free basis)	IS:7874 (Part 1) 1975 RA 2009	0.1 % to 30 %
3.	City Compost, Vermicompost	Color	The Fertilizer (Control) Order-1985	Qualitative
		Odor	The Fertilizer (Control) Order 1985	Qualitative
		Particle size (Material Passing Through 4mm Sieve)	The Fertilizer (Control) Order 1985	10% to 100%
		C:N Ratio	The Fertilizer (Control) Order 1985	1-50
4.	City Compost, Vermicompost	pH at 25 °C	The Fertilizer (Control) Order 1985	2 to 12
		Conductivity at 25 °C	The Fertilizer (Control) Order 1985	1 to 10 dsm-1
		Bulk density	The Fertilizer (Control) Order 1985	0.5 to 1.5 g/cc
		Moisture	The Fertilizer (Control) Order 1985	0.1 to to 50 %
		Total Organic Carbon	The Fertilizer (Control) Order 1985	0.1 to 10%
		Total Nitrogen as N	The Fertilizer (Control) Order 1985 (Kjeldahl Method)	0.1 to 20 %
		Total Phosphates as P <sub>2</sub> O <sub>5</sub>	The Fertilizer (Control) Order-1985 (Gravimetric Quinoline Molybdate Method)	0.1 to 5 %
		Total Potash as K <sub>2</sub> O	The Fertilizer (Control) Order-1985 (Sodium Tetra phenyl Boron Method)	0.1 to 5 %



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5.	<b>City Compost, Vermicompost</b>	Arsenic as AS <sub>2</sub> O <sub>3</sub>	SOP. No. VL/SOP/39/2018, Issue Date 30.08.2018, Issue No.01	1-5000 mg/kg
		Cadmium as Cd		2 to 5000 mg/kg
		Chromium as Cr		2 to 5000 mg/kg
		Copper as Cu		1-5000 mg/kg
		Mercury as Hg		1-5000 mg/kg
		Nickel as Ni		2 to 5000 mg/kg
		Lead as Pb		2 to 5000 mg/kg
	Zinc as Zn	2 to 5000 mg/kg		
<b>IX.</b>	<b>ATMOSPHERIC POLLUTION</b>			
1.	<b>Ambient Air Monitoring &amp; Analysis</b>	Suspended particulate matter	IS 5182 (Part 4) :1999 (RA 2014)	5-5000 µg/m <sup>3</sup>
		Particulate Matter (Size less than 10PM (as PM <sub>10</sub> ))	IS 5182 (Part 23) :2006 (RA 2017)	5 to 1000 µg/ m <sup>3</sup>
		Particulate Matter (Size less than 2.5PM (as PM <sub>2.5</sub> )	SOP. No. VL/SOP/01/2014, Issue Date 13.10.2014, Issue No.01, based on CPCB guidelines for the measurement of Ambient Air Pollutants, Vol. I	5 to 500 µg/ m <sup>3</sup>
		Nitrogen Dioxide (NO <sub>2</sub> )	IS 5182 (Part 6): 2006 (RA 2017)	4 to 300 µg/ m <sup>3</sup>
		Sulphur dioxide As SO <sub>2</sub>	IS: 5182(Part 2):2001 (RA 2017)	4 to 500 µg/ m <sup>3</sup>
		Carbon Monoxide as CO	NIOSH 6604: 15 <sup>th</sup> May 1996	0-229 mg/ m <sup>3</sup>
		Ammonia as NH <sub>3</sub>	CPCB guidelines for the measurement of Ambient Air Pollutants, Vol. I May 2011, VL/SOP/INS/11, Issue No.01, Issue Date: 24.02.2016	5 to 500 µg/ m <sup>3</sup>
		Ozone (O <sub>3</sub> )	IS 5182 (Part 9) 1974 (RA 2014)	5 to 200µg/ m <sup>3</sup>

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		Lead as pb	IS 5182 (Part-22) 2004 (RA 2014)	0.1 to 2 µg/ m <sup>3</sup>
		Nickle as Ni	VL/SOP/INS/38, Issue No.01, Issue date:22.08.2018 Annexure-A (Ni)	0.01 to 10 µg/ m <sup>3</sup>
		Arsenic as As	VL/SOP/INS/38, Issue No.01, Issue date:22.08.2018 Annexure-B (As)	0.01 to 10 µg/ m <sup>3</sup>
		Chromium as Cr	VL/SOP/INS/38, Issue No.01, Issue date:22.08.2018 Annexure-C (Cr)	0.01 to 10 µg/ m <sup>3</sup>
2.	<b>Stack Emission Monitoring</b>	Hydrocarbons	VL/SOP/INS/08 Issue No.01, Issue Date: 20.10.2015	8.62 to 8620 mg/Nm <sup>3</sup>
		Temperature	IS 11255 (Part 3): 2008	Ambient to 600 °C
		Flue gas velocity	IS 11255 (Part 3): 2008	3 m/sec to 60m/sec
		Particulate Matter (SPM)	IS :11255(Part 1) :1985 (RA 2014)	5-1000 mg/Nm <sup>3</sup>
		Sulphur dioxide as SO <sub>2</sub>	IS:11255(Part2):1985 (RA 2014)	5 to 1000 mg/Nm <sup>3</sup>
		Carbon Monoxide as CO	USEPA Method 10-2017	0.8 to 8000 mg/Nm <sup>3</sup>
		Carbon dioxide as CO <sub>2</sub>	USEPA Method 3A-1997	1 to 20 %
		Oxides of Nitrogen	USEPA Method 7E-1997	2 to 500 mg/Nm <sup>3</sup>
3.	<b>Indoor Air Monitoring</b>	Sulphur Dioxide as SO <sub>2</sub>	VL/SOP/INS/05 Issue No.01, Issue Date: 20.10.2015	3 to 500µg/m <sup>3</sup>
		Nitrogen Dioxide as NO <sub>2</sub>	NIOSH 6014: 15 <sup>th</sup> Aug 1994	3 to 500µg/m <sup>3</sup>
		Hydrogen Sulphide (H <sub>2</sub> S)	VL/SOP/INS/02, Issue No.01 Issue Date:20.10.2015.	0 ppm to 100 ppm
		Oxygen as O <sub>2</sub>	NIOSH 6601: 15 <sup>th</sup> Aug 1994	1 to 30 %

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		Nitrogen as N <sub>2</sub>	VL/SOP/INS/04 Issue No.01, Issue Date: 20.10.2015	20 to 90 % (Calculation)
		Carbon Dioxide as CO <sub>2</sub>	VL/SOP/INS/03 Issue No.01, Issue Date: 20.10.2015	0 to 5000 ml/m <sup>3</sup>
		Carbon Monoxide as CO	NIOSH 6604: 15 <sup>th</sup> May 1996	0 to 500ml/m <sup>3</sup>
		Temperature	VL/SOP/INS/06 Issue No.01, Issue Date: 20.10.2015	10 to 50°C
		Relative Humidity as RH	VL/SOP/INS/07 Issue No.01, Issue Date: 20.10.2015	10 to 100%
		Volatile Organic Compounds	VL/SOP/INS/09 Issue No.01, Issue Date: 20.10.2015	0 to 1000 ml/m <sup>3</sup>
4.	<b>Ambient Noise Level</b>	Noise Levels Leq dB(A)	IS 9876: 1981 (RA 2001)	30 to 130 leq dB(A)
		Noise Levels Source	IS 4758: 1968 (RA 2002)	30 to 130 dB (A)
X.	<b>GASES</b>			
1.	<b>Compressed Gases/Dry air</b>	Oxygen as O <sub>2</sub>	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	18 % to 23 %
		Carbon Monoxide as CO	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 500ml/m <sup>3</sup>
		Lower Explosive Level (LEL)	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 100%
		Volatile organic compound	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 1000 ml/m <sup>3</sup>
		Carbon Di Oxide as CO <sub>2</sub>	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 5000ml/m <sup>3</sup>

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		Moisture/ Water Content	IS/ISO 8573-3 Edn 1999 Annexure C By Dew point Comparison	0.74 mg/m <sup>3</sup> to 7362 mg/m <sup>3</sup>
		Dew Point	IS/ISO 8573 – 3, Edn1999 Annexure C	(-)70°C to (+)30°C
		Particulate Matter	IS/ISO: 8573-8Edn 1999 Annexure C	0.1 mg/m <sup>3</sup> to 10 mg/m <sup>3</sup>
		Oil Mist	IS/ISO: 8573-8 Edn 1999(Sampling) + VL/SOP/37, Issue No.01 Issue Date: 20.08.2018 (Analysis)	0.01 mg/m <sup>3</sup> to 5.0 mg/m <sup>3</sup>
		Nitrogen dioxide (NO <sub>2</sub> )	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 20 ml/m <sup>3</sup>
		Sulphur dioxide (SO <sub>2</sub> )	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 20ml/m <sup>3</sup>
		Hydrogen Sulfide (H <sub>2</sub> S)	IS/ISO 8573-6 Edn 2003 Annexure C by Gas Analyzer	0 to 100 ml/m <sup>3</sup>