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SI.	Product /	Specific Test	Test Method Specification	Range of Testing /
	Material of Test	Performed	against which tests are	Limits of Detection
			performed	

BIOLOGICAL TESTING

I.	WATER			
1.	Potable & Domestic Water/Surface	Total coliform	IS 5401(Part 2) IS 1622	Qualitative Present/Absent <0.3 to 1600 MPN/100 ml
	Water	E coli	IS 5887(Part 1)	Qualitative Present/Absent <0.3 to 1600 MPN/100 ml
		Bioassay Test	Lab SOP TTH-CI	Qualitative
II.	POLLUTION AND E	ENVIRONMENT		
1.	Waste Water/Effluents	Total coliform	IS 5401(Part 2) IS 1622	Qualitative Present/Absent <0.3 to 1600 MPN/100 ml
		E coli	IS 5887(Part 1)	Qualitative Present/Absent <0.3 to 1600 MPN/100 ml
		Bioassay Test	Lab SOP TTH-CI	Qualitative
III.	FOOD & AGRICULT	TURAL PRODUCTS		
1.	Bakery & confectionery Products	Total Bacterial count	IS 5402 ISO 4833 IS 4079	≥10 CFU/g
	(Biscuits, Bread)	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g 0.3 to 110 MPN/g
		Yeast & Mould Count	IS 5403	≥10 CFU/g
1.	confectionery Products	Coliform Count	ISO 4833 IS 4079 IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g 0.3 to 110 MPN/g

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		E coli	IS 5887 (Part 1)	Qualitative (Present/Absent per g)
		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative (Present/Absent/25 g)
			IS 5887 (Part 8)	Qualitative (Present/Absent/25 g)
		Faecal streptococci/Enterococci	IS 5887 (Part 2)	Qualitative (Present/Absent/25 g)
		Salmonella spp.	IS 5887 (Part 3) ISO 6579	Qualitative (Present/Absent/25 g)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative (Present/Absent/25 g)
		Vibrio cholerae	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g)
		Bacillus cereus	IS 5887 (Part 6) ISO 7932	Qualitative (Present/Absent/25 g)
		Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/25 g)
		Listeria monocytogenes	IS 14988 (Part 1) ISO 11290-1 IS 14988 (Part 2) ISO 11290-2	Qualitative (Present/Absent/25 g)
		Pseudomonas sp.	IS 14842 ISO 13720 IS 13428	Qualitative (Present/Absent/25 g)
2.	Herbs, Spices & Condiments	Total Bacterial count	IS 5402 ISO 4833	≥10 CFU/g
	(Cardamom, Chillies, Capsicum, Cinnamon, Cassia, Cassia, Cloves,	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g
	Coriander, Cumin, Fennel, Fenugreek,	Yeast & Mould Count	IS 5403	≥10 CFU/g

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Ginger Mace,	E coli	IS 5887 (Part 1)	Qualitative
	Mustard, Pepper,			(Present/Absent/25 g)
	Black, Turmeric,	Staphylococcus aureus	IS 5887 (Part 2)	Qualitative
	Curry Powder,			(Present/Absent/25 g)
	Mixed Masala,)		IS 5887 (Part 8)	Qualitative
				(Present/Absent/25 g)
		Faecal streptococci/	IS 5887 (Part 2)	Qualitative
ļ		Enterococci		(Present/Absent/25 g)
		Salmonella spp.	IS 5887 (Part 3)	Qualitative
			ISO 6579	(Present/Absent/25 g)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative
ļ				(Present/Absent/25 g)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative
				(Present/Absent/25 g)
		Bacillus cereus	IS 5887(Part 6)	Qualitative
ļ		<u> </u>	ISO 7932	(Present/Absent/25 g)
		Shigella spp.	IS 5887 (Part 7)	Qualitative
}		D	10.40.400	(Present/Absent/25 g)
		Pseudomonas sp.	IS 13428	Qualitative
3.	Fruit and Fruit	Danidanana Ca	IS 13428	(Present/Absent/25 g) Qualitative
3.	Products	Pseudomonas Sp.	15 13428	(Present/Absent/g/ml)
	(Cocktail, Curried,	Total Bacterial count	IS 5402	≥10 CFU/g or ≥1 CFU/ml
	Juices, Nectars,	Total Bacterial Count	ISO 4833	210 CF0/g 01 21 CF0/IIII
	Fruit Drink,	Coliform Count	IS 5401 (Part 1)	≥10 CFU/g or ≥1 CFU/mI
	Concentrates/	Comonn Count	ISO 4832	210 Or 0/g or 21 Or 0/illi
	Crushes, Fruit		IS 5401 (Part 2)	
	Syrups)		ISO 4831	
	1	Yeast & Mould Count	IS 5403	≥10 CFU/g or ≥1 CFU/mI
		E.coli	IS 5887 (Part 1)	Qualitative
				(Present/Absent/25 g)
		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative
			, ,	(Present/Absent/g/ml)
			IS 5887 (Part 8)	Qualitative
			, , ,	(Present/Absent/g/ml)

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[Faecal streptococci/	IS 5887 (Part 2)	Qualitative
		Enterococci	, ,	(Present/Absent/g/ml)
		Salmonella spp.	IS 5887 (Part 3)	Qualitative
			ISO 6579	(Present/Absent/25 g/ml)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative
ļ				(Present/Absent/25 g/ml)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative
 				(Present/Absent/25 g/ml)
		Bacillus cereus	IS 5887 (Part 6) ISO 7932	≥10 CFU/g or ≥1 CFU/ml
		Shigella spp.	IS 5887 (Part 7)	Qualitative
				(Present/Absent/25 g/ml)
		Listeria monocytogenes	IS 14988 (Part 1)	Qualitative
			ISO 11290-1	(Present/Absent/25 g/ml)
			IS 14988 (Part 2)	
ļ <u>.</u>			ISO11290-2	
4.	Vegetable &	Pseudomonas Sp.	IS 13428	Qualitative
i	Vegetable	<u> </u>	10.5100	(Present/Absent/25 g/ml)
	products (Puree, Soup Powder,	Total Bacterial Count	IS 5402 ISO 4833	≥10 CFU/g
	Ketchup and	Coliform Count	IS 5401 (Part 1)	≥10 CFU/g
	Sauces)		ISO 4832:	Qualitative
			IS 5401 (Part 2) ISO 4831	(Present/Absent/g or ml)
		Yeast & Mould Count	IS 5403	≥10 CFU/g
		E coli	IS 5887 (Part 1)	Qualitative
				(Present/Absent/25g)
		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative
				(Present/Absent/25g)
			IS 5887 (Part 8)	Qualitative
				(Present/Absent/25g)
		Faecal streptococci/	IS 5887 (Part 2)	Qualitative
ļ		Enterococci	<u> </u>	(Present/Absent/25g)
		Salmonella	IS 5887 (Part 3)	Qualitative
<u> </u>			ISO 6579	(Present/Absent/25g)

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		Clostridium perfringens	IS 5887 (Part 4)	Qualitative (Present/Absent/25g)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25g)
		Bacillus cereus	IS 5887 (Part 6) ISO7932	Qualitative (Present/Absent/25g)
		Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/25g)
		Listeria monocytogenes	IS 14988 (Part 1) (RA 2012)/ ISO 11290-1 IS 14988 (Part 2) (RA 2012)/ ISO 11290-2	Qualitative (Present/Absent/25 g/ml)
5.	Honey & Honey Products	Total Bacterial Count	IS 5402 ISO 4833	≥10 CFU/g
		Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO4831	≥10 CFU/g Qualitative (Present/Absent/g) 0.31 to 110 MPN/g
		Yeast & Mould	IS 5403	≥10 CFU/g
6.	Milk & Dairy Products	Total Bacterial count	IS 5402 ISO 4833	≥10 CFU/g or ≥1 CFU/ml
	(Pasteurized/Boile d Milk/ Flavoured Milk, Pasteurized Cream, Sterilized	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g or ≥1 CFU/ml Qualitative (Present/Absent/g)
	Milk/UHT	Yeast & Mould Count	IS 5403	≥10 CFU/g or ≥1 CFU/ml
	Milk/Evaporated Milk Sterilized/	E coli	IS 5887 (Part 1) ISO 16649 (Part 2)	Qualitative (Present/Absent/25 g/ml)
	UHT cream, Sweetened Condensed Milk. Pasteurized	Staphylococcus aureus	IS 5887 (Part 2) IS 5887 (Part 8) ISO 6888 (Part 2)	Qualitative (Present/Absent/25 g/ml)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Butter, Milk Powder, SMP,	Faecal streptococci/Enterococci	IS 5887 (Part 2)	Qualitative (Present/Absent/g or ml)
	Partly SMP, Dairy Whitener, Cream	Salmonella spp.	IS 5887 (Part 3) ISO 6579	Qualitative (Present/Absent/25 g/ml)
	Powder, Ice-cream Butter Milk	Clostridium perfringens	IS 5887 (Part 4):1999 (RA 2009)	Qualitative (Present/Absent/25 g/ml)
	Powder, Casein Powder; Infant	Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g/ml)
	Milk Food	Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/25 g/ml)
		Listeria monocytogenes	IS 14988 (Part 1) ISO 11290-1 IS 14988 (Part 2) ISO 11290-2	Qualitative (Present/Absent/25 g/ml)
		Bacillus cereus	IS 5887 (Part 6) ISO 7932	Qualitative (Present/Absent/25 g/ml)
		Pseudomonas sp.	IS 13428	Qualitative (Present/Absent/25 g/ml)
7.	Coffee & Cocoa Products	Total Bacterial count	IS 5402 ISO 4833	≥10 CFU/g or ≥1 CFU/mI
	(Coffee Beans, Coffee powder)	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g or ≥1 CFU/ml ≥10 CFU/g or ≥1 CFU/ml
		Yeast & Mould Count	IS 5403	≥10 CFU/g
		E coli	IS 5887 (Part 1) ISO 16649 (Part 2)	Qualitative (Present/Absent/g/ml)
		Staphylococcus aureus	IS 5887(Part 2)	Qualitative (Present/Absent/25 g)
			IS 5887 (Part 8): ISO 6888 (Part 2)	≥10 CFU/g
		Salmonella spp.	IS 5887(Part 3) ISO 6579	Qualitative (Present/Absent/25 g)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative (Present/Absent/25 g)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g)
		Bacillus Cereus	IS 5887 (Part 6)	Qualitative (Present/Absent/25 g)
		Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/25 g)
		Listeria monocytogenes	IS 14988 (Part 1) ISO 11290-1 IS 14988 (Part 2) ISO 11290-2	Qualitative (Present/Absent/25 g)
		Pseudomonas Sp.	IS 13428	Qualitative (Present/Absent/25 g)
8.	Beverages (Alcoholic and	Total Bacterial count	IS 5402 ISO 4833	≥1 CFU/ml
	Non-Alcoholic)	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥1 CFU/ml Qualitative (Present/Absent/g/ml) 0.31 to 110 MPN/g or ml
		Yeast & Mould Count	IS 5403	≥1 CFU/ml
		E coli	IS 5887(Part 1)	Qualitative (Present/Absent/ml)
 		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative (Present/Absent/ml)
			IS 5887 (Part 8) ISO 6888 (Part 2)	Qualitative (Present/Absent/ml)
		Salmonella spp.	IS 5887 (Part 3) ISO 6579	Qualitative (Present/Absent/ml)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative (Present/Absent/ml)
		Vibrio cholerae	IS 5887 (Part 5)	Qualitative (Present/Absent/ml)
		Bacillus Cereus	IS 5887 (Part 6)	Qualitative (Present/Absent/ml)
		Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/ml)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
9.	Cereals and	Pseudomonas sp.	IS 13428	Qualitative
	Cereal Products			(Present/Absent/ml)
	(Atta, Maida, Semolina/Suji, Besan, Cornflour, Poha)	Total Bacterial count	IS 5402 ISO 4833	≥10 CFU/g
		Coliform Count	IS 5401 (Part 1) ISO 4832	≥10 CFU/g
			IS 5401 (Part 2) ISO 4831	Qualitative (Present/Absent/ml)
 		Yeast & Mould Count	IS 5403	≥10 CFU/g
		E coli	IS 5887(Part 1) ISO16649 (Part 2)	Qualitative (Present/Absent/25 g)
		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative (Present/Absent/25 g)
			IS 5887 (Part 8) ISO 6888 (Part 2)	Qualitative (Present/Absent/25 g)
		Faecal streptococci/ Enterococci	IS 5887 (Part 2)	Qualitative (Present/Absent/25 g)
		Salmonella spp.	IS 5887 (Part 3) ISO 6579	Qualitative (Present/Absent/25 g)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative (Present/Absent/25 g)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g/ml)
		Bacillus Cereus	IS 5887 (Part 6)	Qualitative (Present/Absent/25 g/ml)
		Shigella spp.	IS 5887 (Part 7)	Qualitative (Present/Absent/25 g/ml)
10.	Jams, Juices, Sauces &	Total plate count	IS 5402 ISO 4833	≥10 CFU/g or ≥1 CFU/ml
	Concent-Rates (Crush, Squash, Syrups)	Coliform Count	IS 5401 (Part 1) ISO 4832 IS 5401 (Part 2) ISO 4831	≥10 CFU/g or ≥1 CFU/ml Qualitative (Present/Absent/g ml) 0.31 to 110 MPN/g or ml

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		Yeast & Mould Count	IS 5403	≥10 CFU/g or ≥1 CFU/ml
		E.coli	IS 5887 (Part 2)	Qualitative
			, ,	(Present/Absent/25 g)
		Staphylococcus aureus	IS 5887 (Part 2)	Qualitative
			, , ,	(Present/Absent/25 g)
		Salmonella spp.	IS 5887 (Part 3)	Qualitative
			ISO 6579	(Present/Absent/25 g/ml)
		Clostridium perfringens	IS 5887 (Part 4)	Qualitative
		Vibrio cholerae	IS 5887 (Part 5)	(Present/Absent/25 g/ml)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative
				(Present/Absent/25 g/ml)
		Bacillus Cereus	IS 5887 (Part 6)	≥10 CFU/g or ≥1 CFU/ml
		Shigella spp.	IS 5887 (Part 7)	Qualitative
			, , ,	(Present/Absent/25 g/ml)
		Listeria monocytogenes	IS 14988 (Part 1)	Qualitative
		, ,	ISO 11290-1	(Present/Absent/25 g/ml)
			IS 14988 (Part 2)	Qualitative
			ISO 11290-2	(Present/Absent/25 g/ml)
[Pseudomonas Sp.	IS 13428	Qualitative
				(Present/Absent/25 g/ml)
11.	Sugar & Sugar Products	Total plate count	IS 5402 ISO 4833	≥10 CFU/g
		Coliform Count	IS 5401 (Part1)	≥10 CFU/g
			ISO 4832	
			IS 5401 (Part 2)	Qualitative
ļ			ISO 4831	(Present/Absent/g)
ļ		Yeast & Mould Count	IS 5403	≥10 CFU/g
		E coli	IS 5887 (Part 2)	Qualitative
ļ		<u> </u>		(Present/Absent/g)
		Salmonella spp.	IS5887(Part 3)	Qualitative
ļ		<u> </u>	ISO 6579	(Present/Absent/25 g/ml)
		Shigella spp.	IS 5887 (Part 7)	Qualitative
				(Present/Absent/25 g/ml)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Pseudomonas Sp.	IS 13428	Qualitative (Present/Absent/25 g/ml)
		Staphylococcus aureus	IS 5887	Qualitative (Present/Absent/25 g)
		Sulphite Reducing Anaerobes (Clostridium)	IS 15188 IS 13428 (Annex C)	Qualitative (Present/Absent/25 g)
		Pseudomonas aeruginosa	IS 13428 (Annex D)	Qualitative (Present/Absent/25 g)
		Yeast & Mould	IS 5403	Qualitative (Present/Absent/25 g)
		Vibrio parahaemolyticus	IS 5887 (Part 5)	Qualitative (Present/Absent/25 g/ml)

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	Material of Test	Performed	against which tests are	Limits of Detection
			performed	

CHEMICAL TESTING

I.	WATER			
1.	Surface & Ground Water/Potable/Do mestic water	Color	2120-B, APHA23rd Edition IS 3025 (Part 4) Pt. Cobalts method (sec.3.2d)	1 Hazen to 50 Hazen
		Odor	IS 3025 (Part 5)	Qualitative (Agreeable/Disagreeable)
		Taste	IS 3025 (Part 7) IS 3025 (Part 8)	Qualitative (Agreeable/Disagreeable)
		Turbidity	2130-B, APHA23rd Edition IS 3025 (Part 10) Nephelometric method	0.5 to 100 NTU
		pH value	4500-H+B, APHA23rd Edition IS 3025 (Part 11) Electrometric method (Sec.2.3)	1 to 12
		Total Hardness as CaCO₃	2340-C, APHA23rd Edition IS 3025 (Part 21) Volumetric Method with EDTA	10 mg/l to 1500 mg/l
		Iron as Fe	3113-B, APHA23rd Edition IS 3025 (Part 53) Atomic Absorption Method (Sec.7)	0.01 mg/l to 0.1 mg/l 1.0 mg/l to 5.0 mg/l
		Chloride as Cl	4500-Cl-B, APHA23rd Edition IS 3025 (Part 32) Argentometric Method	5 mg/l to 1500 mg/l

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Team Test House (A Unit of Team Institute of Science & Technology Pvt. Ltd.), G1-584, Sitapura Industrial Area, Jaipur, Rajasthan Laboratory

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		Total Dissolved Solids	2540-C, APHA23rd Edition IS 3025 (Part 16) Gravimetric Method	10 mg/l to 5000 mg/l
		Phosphate	4500-P D, APHA23rd Edition IS 3025 (Part 31) Stannous Chloride Method (Sec.4).	0.5 mg/l to 5 mg/l
		Calcium as Ca	3500-Ca-B, APHA23rd Edition IS 3025 (Part 40) EDTA Titrimetric method (Sec.5)	4 mg/l to 500 mg/l
		Magnesium as Mg	3500-Mg-B, APHA23rd Edition IS 3025 (Part 46) EDTA Titrimetric method	4 mg/l to 500 mg/l
		Copper as Cu	3113-B, APHA23rd Edition IS 3025 (Part 42) AAS Method	0.01 mg/l to 1 mg/l 1 mg/l to 20 mg/l
		Manganese as Mn	3113-B, APHA23rd Edition IS 3025 (Part 59) Formaldoxine photometric methods	0.01 mg/l to 2 mg/l
		Sulphate as SO4	4500-SO42-E, APHA23rd Edition IS 3025 (Part 24) Turbidity Method (Sec.4)	2 mg/l to 400 mg/l
		Nitrate as NO3	4500-NO3-B, UV Screening method APHA23rd Edition	0.5 mg/l to 100 mg/l
		Fluoride as F-	4500-F-C, APHA23rd Edition IS 3025 (Part 60) Electrochemical Method	0.1 mg/l to 10 mg/l
		Cadmium as Cd	3113-B, APHA23rd Edition IS 3025 (Part 41) AAS Method	0.001 mg/l to 2.5 mg/l

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		Arsenic as As	3500-As-B, APHA23rd Edition IS 3025 (Part 37) Silver Diethyl DithioCarbamate Method (Sec.3)	0.001 mg/l to 5.0 mg/l
		Lead as Pb	3113-B, APHA23rd Edition IS 3025 (Part 47) AAS Method	0.01 mg/l to 6 mg/l
		Zinc as Zn	3113-B APHA23rd Edition IS 3025 (Part 49) AAS Method	0.01 mg/l to 10 mg/l
		Chromium	3113-B, APHA23rd Edition IS 13428 (Annexure J)	0.05 mg/l to 5 mg/l
		Total Alkalinity	2320-B, APHA23rd Edition IS 3025 (Part 23) Potentiometric Method(Sec.8.2)	10 mg/l to 1000 mg/l
}		Aluminum as Al	3113 B, APHA23rd Edition	0.01 mg/l to 10 mg/l
		Boron	4500-B C Carmine method APHA23rd Edition IS 13428 (Annexure H)	0.1 mg/l to 5 mg/l
		Nitrite	4500-NO2-B, APHA23rd Edition IS 3025 (Part 34) NEDA method	0.02 mg/l to 10 mg/l
		Sulfide	4500-S2-F, APHA23rd Edition IS 3025 (Part 29) Iodometric Method	0.1 mg/l to 50 mg/l
		Barium	IS 13428 (Annexure F) Titrimetric method	0.5 mg/l to 5 mg/l
		Silver	3113-B, APHA23rd Edition	0.01 mg/l to 5 mg/l
		Selenium	3500-Se C/3114 C APHA23rd Edition IS 3025 (Part 56) Diamino Napthalene Method	0.01 mg/l to 2 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Sodium	3500-Na-B, APHA23rd Edition IS 3025 (Part 45) Flame photometric method	1.0 mg/l to 1000 mg/l
		Potassium	3500-K-B, APHA23rd Edition IS 3025 (Part 45) Flame Photometric Method	1.0 mg/l to 1000 mg/l
		Free Residual chlorine	IS 3025 (Part-26) Ortho-Toludine Method	0.1 mg/l to 10 mg/l
		Phenolic compound	5530-D, APHA23rd Edition IS 3025 (Part 43) 4 Amino antipyrine with chloroform Method	0.001 mg/l to 0.1 mg/l
		Oil and Grease	IS 3025 (Part 39) Partition Gravimetric Method	5 mg/l to 100 mg/l
 		Anionic Surface Active agents as MBA's	5540-C, APHA23rd Edition IS-13428 (Annexure K)	0.1 mg/l to 1 mg/l
		Antimony as Sb	IS 13428 (Annexure G) UV-Visible method	0.1 mg/l to 5.0 mg/l
		Mercury	3112-B, APHA23rd Edition IS-3025 (Part-48) Cold Vapour Mercury analyzer Method	0.001 mg/l to 1 mg/l
		Cyanide	4500-CN-D, APHA23rd Edition IS-3025 (Part-27) Colorimetric Method	0.04 mg/l to 2.0 mg/l
		Nickel	3111-B, APHA23rd Edition- IS 13428 (Annexure L) IS 3025 (Part 54) AAS Method	0.01 mg/l to 5 mg/l
		Biochemical Oxygen Demand	5210-B, APHA23rd Edition IS-3025 (Part 44) Oxygen Depletion Method	1 mg/l to 500 mg/l
		Chemical Oxygen Demand	5220-C, APHA23rd Edition	5 mg/l to 1000 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Dissolved oxygen	4500-O C, APHA23rd Edition	1 mg/l to 12 mg/l
		Total Suspended Solids	2540-D, APHA23rd Edition IS 3025 (Part 17)	10 mg/l to 1000 mg/l
		Conductivity	2510 B, APHA23rd Edition IS 3025(Part 14)	2 to 1000µS/cm 1 mS to 10mS/cm
		Ammonia	4500-NH3 C, APHA23rd Edition IS 3025 (Part 34)	0.14 mg/l to 14 mg/l
		Molybdenum	3113 B, APHA23rd Edition	0.01 mg/l to 5.0 mg/l
		Acidity	2310-B, APHA23rd Edition IS 3025 (Part 22)	1.0 mg/l to 100 mg/l
		Organic matter	2540 E, APHA23rd Edition IS 3025(Part 18)	10 mg/l to 500 mg/l
		Inorganic matter	2540 E, APHA 23rd Edition IS 3025(Part 18)	10 mg/l to 5000 mg/l
		Chloramines	4500 CL-G, APHA23rd Edition IS 3025 (Part 26)	0.1 mg/l to 4 mg/l
II.	POLLUTION & EN	VIRONMENT		
1.	Liquid Effluents	Suspended Solids	2540-D, APHA23rd Edition IS 3025 (Part 17)	10 mg/l to 10000 mg/l
		pH value	4500-H+B, APHA23rd Edition IS 3025 (Part 11)	1 to 12
		Oil & Grease	5520-B, APHA23rd Edition IS 3025 (Part 39)	5 mg/l to 100 mg/l
		Total Residual Chlorine	4500-CI B, APHA23rd Edition IS 3025 (Part 26)	0.1 mg/l to 5 mg/l
		Ammonical Nitrogen as N	4500-NH ₃ , APHA23rd Edition IS 3025 (Part 34)	1 mg/l to 100 mg/l
		Total Kjeldahl Nitrogen as N	4500-Norg, APHA23rd Edition IS 3025 (Part 34)	1 mg/l to 200 mg/l
		Biochemical Oxygen Demand	5210-B, APHA23rd Edition IS-3025 (Part 44)	5 mg/l to 50000 mg/l

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		Chemical Oxygen Demand	5220C, APHA23rd Edition	5 mg/l to 100000 mg/l
		Arsenic as As	3500-As-B, APHA23rd Edition IS 3025 (Part 37)	0.01 mg/l to 5 mg/l
		Lead as Pb	3111-B, APHA23rd Edition IS 3025 (Part 47)	0.01 mg/l to 15 mg/l
		Cadmium as Cd	3111-B, APHA23rd Edition IS 3025 (Part 41)	0.01 mg/l to 10 mg/l
		Hexavalent Chromium as Cr ⁺⁶	3500-Cr-B, APHA23rd Edition IS 3025 (Part 52)	0.1 mg/l to 5 mg/l
		Total Chromium as Cr	3111-B, APHA23rd Edition IS 3025 (Part 52)	0.01 mg/l to 20 mg/l
		Copper as Cu	3111-B, APHA23rd Edition- IS 3025 (Part 42)	0.05 mg/l to 20 mg/l
		Zinc as Zn	3111-B, APHA23rd Edition- IS 3025 (Part 49)	0.01 mg/l to 20 mg/l
		Nickel as Ni	3111-B, APHA23rd Edition IS 3025 (Part 54)	0.05 mg/l to 10 mg/l
		Fluoride as F	4500-F ⁻ C, APHA23rd Edition IS 3025 (Part 60)	0.1 mg/l to 10 mg/l
		Phosphate	4500-P D, APHA23rd Edition IS 3025 (Part 31)	1 mg/l to 10 mg/l
		Sulfide	4500S2-F, APHA23rd Edition IS 3025 (Part 29)	0.1 mg/l to 50 mg/l
		Manganese	3111-B, APHA23rd Edition IS 3025 (Part 59)	0.05 mg/l to 5 mg/l
		Iron	3111-B, APHA23rd Edition IS 3025 (Part 53)	0.5 mg/l to 15 mg/l
		Nitrate Nitrogen	4500-NO3-B, APHA23rd Edition	1 mg/l to 100 mg/l
		Nitrate as NO3	4500-NO3-B, APHA23rd Edition	4 mg/l to 400 mg/l
		Sodium	3500-Na-B, APHA23rd Edition IS 3025 (Part 45)	1.0 mg/l to 1000 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Potassium	3500-K-B, APHA23rd Edition IS 3025 (Part 45)	1.0 mg/l to 1000 mg/l
		Sulphate as SO4	4500-SO42-E, APHA23rd Edition IS 3025 (Part 24)	1.0 mg/l to 500 mg/l
		Chloride as Cl	4500-CI-B, APHA23rd Edition IS 3025 (Part 32)	10 mg/l to 5000 mg/l
		Total Dissolved Solids	2540-C, APHA23rd Edition IS 3025 (Part 16)	10 mg/l to 30000 mg/l
		Dissolved Oxygen	4500-O C, APHA23rd Edition	1 mg/l to 10 mg/l
		Calcium as Ca	3500-Ca-B, APHA23rd Edition IS 3025 (Part 40)	4 mg/l to 500 mg/l
		Magnesium as Mg	3500-Mg-B, APHA23rd Edition IS 3025 (Part 46)	4 mg/l to 500 mg/l
		Total Hardness as CaCO₃	2340-C, APHA23rd Edition IS 3025 (Part 21) Volumetric Method with EDTA	10 mg/l to 1000 mg/l
		Total Solids	2540 B, APHA23rd Edition IS 3025(Part 15)	10 mg/l to 30000 mg/l
		Total Alkalinity	2320-B, APHA23rd Edition IS 3025 (Part 23) Potentiometric Method(Sec.8.2)	10 mg/l to 1000 mg/l
		Organic matter	2540 E, APHA23rd Edition IS-3025(Part 18)	10 mg/l to 2000 mg/l
		Inorganic matter	2540 E, APHA23rd Edition IS 3025(Part 18)	10 mg/l to 30000 mg/l
		Conductivity	2510 B, APHA23rd Edition IS 3025-(Part 14)	10 to 1000 μS/cm 1 to 10 mS/cm
		Free Ammonia	4500-NH3 C, APHA23rd Edition IS 3025 (Part 34)	0.5 to 10 mg/l
		Phenolic compound	5530-D, APHA23rd Edition IS 3025 (Part 43) 4 Amino antipyrine with chloroform Method	1 mg/l to 10 mg/l 0.1 mg/l to 1 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Vanadium	3111 D, APHA23rd Edition	0.01 mg/l to 10 mg/l
		Mercury	3112-B APHA23rd Edition- IS-3025 (Part 48) Cold Vapour Mercury analyzer Method	0.01 mg/l to 1 mg/l
		Cyanide	4500-CN ⁻ D APHA23rd Edition IS-3025 (Part 27) Colorimetric Method	0.04 mg/l to 5 mg/l
		Selenium	3500-Se C/3114 C APHA23rd Edition IS 3025 (Part 56) Diamino Napthalene Method	0.01 mg/l to 2 mg/l
III.	ATMOSPHERIC PO	LLUTION		
1.	Ambient Air Quality Monitoring/Fugitiv	Particulate Matter (Size less than 10µm)as PM10	IS 5182 (Part 23) (Gravimetric Method)	10 μg/m³ to 1000 μg/m³
	e emission/Work Environment and Indoor Air Quality	Particulate Matter(Size less than 2.5µm) as PM2.5	TTH/AAQM/02 Issue No.1 dated 20/11/2016 (Gravimetric Method)	5 μg/m³ to 500 μg/m³
		Suspended Particulate Matter as SPM	IS 5182 (Part 4) (Gravimetric Method)	10 μg/m³ to 10000 μg/m³
		Sulphur Dioxide as SO ₂	IS 5182 (Part 2) (Improved West and Geake Method)	5 μg/m³ to 1050 μg/m³
		Nitrogen Dioxide as NO ₂	IS 5182 (Part 6) (Jacob & Hocchheiser modified (NaOH-NaAsO ₂) (Method)	5 μg/m³ to 750 μg/m³
		Ozone as O3	TTH/AAQM/06 Issue No.1 dated 20/11/2016	20 µg/m³ to 200 µg/m³

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		Ammonia as NH3	TTH/AAQM/07 Issue No.1 dated 20/11/2016 (Indophenol Blue method)	10 μg/m³ to 200 μg/m³
		Carbon Monoxide as CO	TTH/AAQM/08 Issue No.1 dated 20/11/2016 (Chemical Sensor Method)	100 µg/m³ to 10,000 µg/m³
		Nickel as Ni	TTH/AAQM/09 Issue No.1 dated 20/11/2016 (AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper)	1 ng/m³ to 100 ng/m³
		Lead as Pb	IS 5182(Part 22)(AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper)	0.1 μg/m³ to 50 μg/m³
		Arsenic as As	TTH/AAQM/11 Issue No.1 dated 20/11/2016 (AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper)	2 ng/m³ to 20 ng/m³
2.	Noise	Noise level Leq	TTH/AAQM/12 Based on IS 9989-1981	30d(BA) to 120d(BA)
3.	Stack Emission	Particulate Matter as PM	IS 11255 (Part 1) Gravimetric Method	10 mg/Nm³ to 5000mg/Nm³
		Sulphur Dioxide as SO ₂	IS 11255(Part 2) Titrimetric Method TTH/ST/03 Issue No.1 dated 20/11/2016 (Flue gas analyzer)	5 mg/Nm³ to 5000 mg/Nm³ 5 mg/Nm³ to 5000 mg/m3
		Oxides of Nitrogen	IS 11255(Part 7) Spectrophotometric Method TTH/ST/05 Issue No.1 dated 20/11/2016 (Flue gas analyzer)	5 mg/Nm³ to 2000 mg/Nm³ 100 mg/Nm³ to 6700 mg/m³

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Carbon monoxide as C0	IS 13270 Orsat Analysis Method/TTH/ST/06 Issue No.1 dated 20/11/2016 (Flue gas analyzer)	10 mg/Nm³ to 1000 mg/m³
		Carbon dioxide as CO2	IS 13270 Orsat Analysis Method/TTH/ST/07 Issue No.1 dated 20/11/2016 (Flue gas analyzer)	2 % to 21 %
		Oxygen as O2	IS 13270 Orsat Analysis Method/TTH/ST/08 Issue No.1 dated 20/11/2016 (Flue gas analyzer)	Upto 21 %
IV.	ORES & MINERAL	<u> </u>		
1.	Limestone & Dolomite	Determination of Loss on Ignition	IS1760 (Part 1)	10.0 % to 45.0 %
		Determination of Ferric Oxide	IS1760 (Part 3)	0.1 % to 5.0 %
		Determination of Alumina	IS1760 (Part 3)	0.1 % to 5.0 %
		Determination of Calcium Oxide	IS1760 (Part 3)	10.0 % to 56.0 %
		Determination of Magnesium Oxide	IS1760 (Part 3)	0.10 % to 45.0 %
		Determination of Chloride	IS1760 (Part 5)	0.01 % to 1.0 %
		Determination of Silica	IS1760 (Part 2)	0.2 % to 30 %
2.	Quartz/Silica	Loss on ignition	IS 1917 (Part 1)	0.2 % to 20.0 %
	<u> </u>	Determination of Silica	IS 1917 (Part 3)	50.0 % to 100.0 %
		Determination of Calcium oxide	IS 1917 (Part 6)	0.4 % to 15 %
		Determination of Magnesium oxide	IS 1917 (Part 6)	0.4 % to 15 %

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Determination of Alumina	IS 1917 Part 4)	0.2 % to 30 %
		Determination of Iron oxide	IS 1917 (Part 5)	0.1 % to 5.0 %
		Determination of Potassium oxide	IS 1917 (Part 2)	0.03 % to 5.0 %
		Determination of Sodium oxide	IS 1917 (Part 2)	0.1 % to 10.0 %
3.	Iron Ore	Moisture Contents	IS 1493 (Part 1)	0.5 % to 5.0 %
		Determination of Silica	IS 1493 (Part 1)	5.0 % to 45.0 %
		Determination of Alumina	IS 1493 (Part 1)	0.2 % to 5.0 %
		Determination of Iron	IS 1493 (Part 1)	5.0 % to 68.0 %
4.	Feldspar	Loss on ignition	IS 9749	0.2 % to 20 %
		Determination of Silica	IS 9749	55.0 % to 75.0 %
		Determination of Calcium oxide + Magnesium oxide	IS 9749	0.4 % to 20.0 %
		Determination of Sodium oxide	IS 9749	0.03 % to 10.0 %
		Determination of Potassium oxide	IS 9749	0.4 % to 20.0 %
		Determination of Alumina	IS 9749	1.0 % to 40.0 %
5.	China clay	Loss on ignition	IS 2840	0.5 % to 20.0 %
		Determination of Alumina	IS 2840	0.4 % to 45.0 %
		Determination of Iron oxide	IS 2840	0.4 % to 10.0 %
V.	Solid Fuel	≛		
A.	Coal/Coke/Briquet ted Solid Fuels	Determination of Calorific value	IS 1350 (Part II)	1000 cal/gm to 10000 cal/gm

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Determination of Sulphur	IS 1350 (Part III)	0.1 % to 10.0 %
		Determination of Moisture	IS 1350 (Part I)	0.5 % to 20.0 %
		Determination of Volatile Matter	, ,	1.0 % to 50.0 %
			IS 1350(Part I)	1.0 % to 50.0 %
VI.	FOOD AND AGRICU	JLTURAL PRODUCT		
1.	Milk & Dairy Produc	ets		
A.	Milk (Standardardised,	Acid Insoluble Ash	FSSAI LAb Manual-milk & Milk Products (ME-10.8)	0.02 % to 1.5 %
	Toned, Double-	Total Solid	IS 1479 (Part 2)	0.5 % to 20 %
	Toned, Full Cream)	рН	IS 1479 (Part 2)	2 to 12
		Milk Fat	IS 1479 (Part 2) FSSAI Lab Manual-Milk & Milk Products	0.5 % to 10 %
		Milk Solid Not Fat	IS 1479 (Part 2) FSSAI Lab Manual-Milk & Milk Products	5 % to 15 %
		Titrable Acidity as Lactic Acid	IS1479(Part 1) IS 10484	0.1 % to 5 %
		Test for water in milk	IS 15642 (Part 1)	Qualitative (Present/Absent)
		Test for sodium Chloride in milk	IS 15642 (Part 2)	Qualitative (Present/Absent)
		Test for extraneous urea in milk	IS 15642 (Part 2) IS1479 (Part 1)	Qualitative (Present/Absent)
		Test for the presence of hydrogen peroxide in Milk	IS 1479 (Part 1) FSSAI Lab manual for milk & Milk Products (ME-1.2.18)	Qualitative (Present/Absent)
		Test for the presence of formalin in milk	IS 1479 (Part 1) FSSAI Lab manual-Milk &	Qualitative (Present/Absent)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Milk Products (1.2.17)	
2.	Ghee	Refractive Index in(Ghee)	IS 3508	1.4300 to 1.4559
		Reichert Meissl value in Ghee	IS 3508 IS 548(Part 1)	15 to 30
		Peroxide Value (milli equivalent of oxygen per kg	IS 3508 IS 548(Part 1)	0.01 to 2
3.	Butter	Curd	IS3507	0.1 % to 5 %
		Common Salt	IS3507	0.1 % to 5 %
4.	Cereals, Pulses &	Cereal Products		
Α.	Atta, Maida, Suji	Moisture	IS 1155	0.5 to 25
		Total Ash	IS 1155	0.1 % to 10 %
			IS 1009	0.1 % to 10 %
			IS 1010	0.1 % to 10 %
		Acid Insoluble Ash	IS 1155	0.02 % to 5 %
			IS 1009	0.02 % to 5 %
			IS 1010	0.02 % to 5 %
		Gluten	IS 1155	1 % to 20 %
			IS 1009	1 % to 20 %
			IS 1010	1 % to 20 %
		Alcoholic Acidity as H ₂ SO ₄	IS 1155	0.01 % to 2 %
			IS 1009	0.01 % to 2 %
			IS 1010	0.01 % to 2 %
5.	Food Grains	Other Food Grains	FSSAI Lab Manual-Cereal & Cereal Products	0.02 % to 10 %
		Damaged	FSSAI Lab Manual-Cereal & Cereal products	0.02 % to 10 %
		Discolored	FSSAI Lab Manual-Cereal & Cereal products	0.02 % to 10 %
		Insect Damaged	FSSAI Lab Manual-Cereal & Cereal Products	0.02 % to 10 %
		Insect Fragments	FSSAI Lab Manual-Cereal & Cereal products	0.02 % to 10 %

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Shrivelled or immature	FSSAI Lab Manual-Cereal & Cereal products	0.02 % to 10 %
6.	Edible Oils & Fats			
A.	Edible Oils & Fats	Moisture & Volatile	IS 548 (Part 1)	0.02 % to 2 %
		Peroxide Value	IS 548 (Part 1)	0.5 meq to 20 meq.of oxygen/1000g fat
		Acid value	IS 548 (Part 1)	0.2 % to 10 %
		Free Fatty Acid	IS 548 (Part 1)	0.1 % to 5 %
		Iodine Value	IS 548 (Part 1)	5 to 200
		Moisture	IS 548 (Part 1)	0.02 % to 10 %
		Melting Point	IS 548 (Part 1)	10℃ to 45℃
 		Saponification Value	IS 548 (Part 1)	1 to 500
		Unsaponifiable Matter	IS 548 (Part 1)	0.02 % to 50 %
		Beiller Turbidity	FSSAI Lab manual-oil &	10℃ to 45℃
		Temperature	Fats-2016 (ME-14.0)	
<u> </u>		<u> </u>	IS 548 (Part 2)	
7.	Alcoholic Drinks &	Beverages	<u> </u>	
A.	Rum ,Whisky,	Ethyl Alcohol	IS 3752 Method:3	5 % to 100 %
	Vodka, Gin,	Residue on evaporation	IS 3752	0.01 % to 2 %
	Brandy	Volatile acidity as acetic acid	IS 3752	1g/100L to 200g/100L of Absolute Alcohol
		Esters as ethyl acetate	IS 3752	10g/100L to 250g/100L of Absolute Alcohol
		Higher alcohol as amyl alcohol	IS 3752 Method:2	0.1 g/100L to 400g/100L of Absolute Alcohol
8.	Herbs Spices and c	ondiments		
A.	Herbs Spices and condiments (Whole and	Moisture	IS 1797 FSSAI Lab manual-Spices & condiments (Me 3.0)	1.0 % to 20.0 %
	powder)	Ash	IS 1797 FSSAI Lab Manual-Spices & Condiments (Me 4.0)	0.5 % to 20.0 %

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		Acid Insoluble Ash	IS 1797 FSSAI Lab manual-Spices & Condiments (Me 5.0)	0.1 % to 10 %
		Water insoluble ash	IS 1797	0.1 % to 5.0 %
		Volatile Oil	IS 1797 FSSAI Lab Manual-Spices & Condiments (Me 10.0)	0.5 % to 20 %
		Non Volatile ether extract	IS 1797 FSSAI Lab manual-Spices & Condiments (Me 9.0)	0.1 % to 30 %
		Starch	IS 4706 (Part II) FSSAI Lab Manual-Spices & condiments (Me 16.5)	5 % to 80 %
		Cold Water soluble extract	IS 1797 FSSAI Lab Manual-Spices &Condiments (Me 6.0)	1 % to 80 %

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