Laboratory	**The Research Institute of Material Sciences, Plot No. 22 & 23, Ranaji Enclave, Nangli Sakrawati, New Delhi**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**TC-5603** ***(In lieu of T-2463, T-2464 & T-3368)*** **Page 1 of 85**
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BIOLOGICAL TESTING

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**ANIMAL FOOD & FEED**			
1.	**Animal Food & Feed**	Total Plate Count	IS 5402	≥10 cfu/g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		E. coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥10 cfu/g
II.	**FOOD & AGRICULTURAL PRODUCTS**			
1.	**Vegetable & Vegetable Products**			
a.	**Thermally Processed Vegetables, Tomato Juices, Soup Puree, Paste, Ketchup, Sauce**	Total Plate Count	IS 5402	≥10 cfu/g
		Yeast & Mould	IS 5403	≥10 cfu/g
		Coliform	IS 5401 (Part-I)	≥10 cfu/g
		E. coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥10 cfu/g
2.	**Bakery and Confectionary**			
a.	**Bread, Cakes, Candies, Cookies, Biscuits**	Total Plate Count	IS 5402	≥10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu /g
		Coliform	IS 5401	≥ 10 cfu /g
		E.coli	IS 5887 (Part-I)	Present or absent /g
3.	**Cereals, Pulses & Cereal Products**			
a.	**Atta, Maida, Suzi, Cereal Based Food, Pulses**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu /g
		Coliform	IS 5401 (Part-I)	≥ 10 cfu /g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		E.coli	IS 5887 (Part-I)	Present or absent /g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu /g
4.	**Milk and Milk Products**			
a.	**Flavoured Milk, Milk Powder, Ice Cream, Frozen Dessert, Sweetened Condensed Milk**	Total Plate Count	IS 5402	≥10 cfu /g ≥ 1 cfu/ml
		Yeast & Mould	IS 5403	≥10 cfu/g ≥ 1 cfu/ml
		Coliform	IS 5401 (Part-I)	≥ 10 cfu/g ≥ 1 cfu/ml
		E.coli	IS 5887 (Part-I)	Present or absent/g or ml
		Feacal Streptococci	IS 5887 (Part-II)	≥10 cfu /g ≥ 1 cfu/ml
5.	**Processed food / ready to eat**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401 (Part-I)	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu/g
6.	**Infant food**	Bacterial count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	Present or absent /0.1g/g
		Coliform	IS 5401 (Part-I)	Present or absent /0.1g/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu/g
7.	**Spices & Condiments**			
a.	**Ground, Mixed**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401 (Part-I)	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu/g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
8.	**Beverages**			
a.	**Fruit Beverages, Carbonated Beverages, Fruit Concentrates**	Total Plate Count	IS 5402	≥ 1 cfu/ml
		Yeast & Mould	IS 5403	≥ 1 cfu/ml
		Coliform	IS 5401 (Part-I)	≥ 1 cfu/ml
		E.coli	IS 5887 (Part-I)	Present or absent/ ml
		Feacal Streptococci	IS 5887 (Part-II)	≥ 1 cfu/ml
9.	**Egg Products**			
a.	**Egg Powder**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
10.	**Honey**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
11.	**Fruit & Fruit Products**			
a.	**Jam, jellies, Marmalades, Sauces, Chutney**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401 (Part-I)	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu/g
12.	**Snacks**			
a.	**Namkeen, Chips, Namkeen, Mixes**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401 (Part-I)	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
		Feacal Streptococci	IS 5887 (Part-II)	≥ 10 cfu/g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
13.	**Malt based food**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
14.	**Solvent Extracted Food (Soya Flour, Ground Nut Flour, Coconut Flour)**	Total Plate Count	IS 5402	≥ 10 cfu /g
		Yeast & Mould	IS 5403	≥ 10 cfu/g
		Coliform	IS 5401	≥ 10 cfu/g
		E.coli	IS 5887 (Part-I)	Present or absent/g
III.	**WATER**			
1.	**Waste water**	Standard Plate Count	IS 1622	≥1cfu/ml
		Total Coliform(MPN)	IS 1622	≥ 2 MPN to <1600 MPN/100ml
		Faecal coliform (MPN)	IS 1622	≥ 2 MPN to <1600 MPN/100ml
		E. coli (MPN)	IS 1622	≥ 2 MPN to <1600 MPN/100ml
		Faecal streptococci (MPN)	IS 1622	≥ 2 MPN to <1600 MPN/100ml
2.	**Process water**	Standard Plate Count	IS 1622	≥1cfu/ml
		Coliform Count	IS 1622	≥1cfu/ml
		Thermophilic bacterial count	IS 4251	≥1cfu/ml
		Proteolytic Count	IS 4251	≥1cfu/ml
		Lipolytc Count	IS 4251	≥1cfu/ml
3.	**Drinking water**	Total Plate Count / Standard Plate Count	IS 1622	≥1cfu/ml
		Coliform	IS 1622	≥ 2 MPN/ 100ml Present/Absent/100ml
		E.coli	IS 1622	Present/Absent/100ml

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV.	**BIOBURDEN**			
1.	**Bioburden (air monitoring)**	Bacterial Count	ISO : 8573-7:2003	≥1cfu/m^3 ≥1cfu/Plate
		Fungal Count	ISO : 8573-7:2003	≥1cfu/m^3 ≥1cfu/Plate

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

CHEMICAL TESTING

I.	**FOOD & AGRICULTURAL PRODUCTS**			
1.	**Milk & Dairy Products**			
a.	**Liquid Milk**	Total solids	FSSAI Lab Manual 1(1.3.3)	1-20%
		Milk fat	FSSAI Lab Manual 1(1.3.4)	1-20%
		Cane Sugar	FSSAI Lab Manual 1(1.2.1)	Qualitative
		Starch	FSSAI Lab Manual 1(1.2.2)	Qualitative
		Glucose	FSSAI Lab Manual 1(1.2.7)	Qualitative
		Cane sugar in milk	FSSAI Lab Manual 1(1.2.1)	Qualitative
		Starch in milk	FSSAI Lab Manual 1(1.2.2) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Cellulose in Milk	FSSAI Lab Manual 1(1.2.3)	Qualitative
		Added Urea in milk	IS 1479 (P-1) FSSAI Lab Manual (1.2.4) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Ammonium compounds in milk	FSSAI Lab Manual 1(1.2.5)	Qualitative
		Sulphates in milk	FSSAI Lab Manual 1(1.2.6)	Qualitative
		Added glucose in milk	FSSAI Lab Manual 1(1.2.7) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Sodium chloride in milk	IS 1479 (P-2) FSSAI Lab Manual 1(1.2.8) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Foreign fat in milk	IS 1479 (P-1) FSSAI Lab Manual 1(1.2.9)	Qualitative
		Nitrates (Pond Water) in Milk	FSSAI Lab Manual 1(1.2.10)	Qualitative
		Neutralizers in milk	FSSAI Lab Manual (1.2.11)	Qualitative
		Hypochlorites and chloramines in Milk	IS 1479(P-1) FSSAI Lab Manual (1.2.12)	Qualitative
		Ammonium Compounds in Milk	FSSAI Lab Manual (1.2.13)	Qualitative
		Anionic Detergents in Milk	FSSAI Lab Manual (1.2.14) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Skimmed milk powder in milk	FSSAI Lab Manual (1.2.15) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Gelatin in Milk	FSSAI Lab Manual (1.2.16)	Qualitative
		Formalin in Milk	FSSAI Lab Manual (1.2.17) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Hydrogen Peroxide in Milk	FSSAI Lab Manual (1.2.18)	Qualitative
		Boric acid and Borates in Milk	FSSAI Lab Manual (1.2.19) Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Salicylic Acid in Milk	FSSAI Lab Manual (1.2.20)	Qualitative
		Sodium bi-carbonate/ neutralizer	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Sugar in Milk	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Vanaspati in Milk	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Synthetic Milk	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Glucose/Inverted Sugar/Sugar Syrup	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Blotting paper in Rubdi	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Alkaline Phosphatase Test for checking of Pasteurisation	FSSAI Lab Manual 4(1.3.1)	Qualitative Pass or fail
		Benzoic acid	IS 1479(Part 1)	Qualitative
		Metanil yellow (non-permitted coal tar colour)	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Saccharin	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
b.	**Cream**	Milk fat	FSSAI Lab Manual -1(2.2)	5-70%
		Starch in Cream	FSSAI Lab Manual -1(2.3)	Qualitative
		Gelatin in cream	FSSAI Lab Manual -1(2.3)	Qualitative
		Moisture	FSSAI Lab Manual -1(3.1)	10-90%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Polyunsaturated Fat Trans Fat		(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
c.	**Cream powder**	Milk fat	FSSAI Lab Manual -1(3.2)	5-60%
		Milk Protein in MSNF	FSSAI Lab Manual -1(3.3)	1-50%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
d.	**Curd or dahi**	Milk fat	FSSAI Lab Manual -1(4.2)	1-20%
		Starch	FSSAI Lab Manual -1(4.3)	Qualitative
		Total solids	FSSAI Lab Manual -1(4.4)	1-20%
		Vanaspati in sweet curd	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66, (6^{th} Ed.): 2009	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
e.	**Chhena or Paneer**	Moisture	FSSAI Lab Manual -1 (5.2)	20-80%
		Fat (Acid Dry Method)	FSSAI Lab Manual -1 (5.3)	5-60%
		Starch in Chhena	FSSAI Lab Manual -1 (5.3)	Qualitative
f.	**Cheeze**	Moisture	FSSAI Lab Manual -1 (6.2)	20-85%
		Milk fat	FSSAI Lab Manual -1 (6.3)	10-80%
		Coal Tar Dyes	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
g.	**Ice-cream**	Total solids	FSSAI Lab Manual -1 (7.2)	1-45%
		Milk fat	FSSAI Lab Manual -1 (7.4)	1-20%
		Protein	FSSAI Lab Manual -1 (7.5) IS 7219	0.2-10%
		Starch in Ice Cream	FSSAI Lab Manual -1 (7.6)	Qualitative
		Benzoic acid	IS 1479(Part 1)	Qualitative
		Metanil yellow (non-permitted coal tar	Instruction Manual – Part – II (Method for detection of	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		colour)	adulterants) by FSSAI	
		Saccharin	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
h.	**Dried ice cream mix/ dried frozen dessert/ confection condensed / evaporated (sweetened, unsweetened and skimmed) milk**	Moisture	FSSAI Lab Manual -1 (8.2)	20-70%
		Total Solid	FSSAI Lab Manual -1 (9.2)	10-60 %
		Milk Fat	FSSAI Lab Manual -1 (9.3)	1-20%
		Sucrose	FSSAI Lab Manual -1 (9.4)	1.0-60.0%
		Titratable Acidity	FSSAI Lab Manual -1 (9.5)	0.05-5.0%
		Milk Protein in MSNF	FSSAI Lab Manual -1 (9.6)	0.2-20%
		Coal Tar Dyes	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Benzoic acid	FSSAI Lab Manual -8	Qualitative
		Metanil yellow (non-permitted coal tar colour)	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Saccharin	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
i.	**Milk Powder (Whole, skimmed, partially skimmed) infant food infant milk food,**	Moisture	FSSAI Lab Manual -1	1-8%
		Milk Fat	FSSAI Lab Manual -1	0.2-40%
		Titratable Acidity	FSSAI Lab Manual -1	0.1-5.0%
		Total Carbohydrates	FSSAI Lab Manual -1	1.0-90.0%
		Milk Protein in MSNF	FSSAI Lab Manual -1	0.2-20.0%
		Total Ash	FSSAI Lab Manual -1	0.1-10.0%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	infant formula milk cereal weaning food, processed cereal based weaning food	Ash Insoluble in HCl	FSSAI Lab Manual -1	0.01-1.5%
		Crude Fiber	FSSAI Lab Manual -1	0.5-10.0%
		Solubility Percent	FSSAI Lab Manual -1	0.2-100%
		Benzoic acid	FSSAI Lab Manual -8	Qualitative
		Metanil yellow (non-permitted coal tar colour)	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Saccharin	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
j.	**Khoya**	Moisture	FSSAI Lab Manual 4(11.2)	0.02-80%
		Milk fat	FSSAI Lab Manual 4(11.3)	1-50%
		Starch in khoya	FSSAI Lab Manual 4(11.4)	Qualitative
		Sucrose in khoya	FSSAI Lab Manual 4(11.5)	1.0-60%
		Starch	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Coal Tar Dyes	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
k.	**Table (Creamery), and Deshi Butter**	Moisture	IS 3507 Clause 4 FSSAI Lab Manual 1(12.2)	1-20%
		Milk fat	FSSAI Lab Manual 1(12.3) IS 3507	5-30%
		Milk solids not fat	FSSAI Lab Manual 1(12.3) IS 3507	1-5%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Salt Content	FSSAI Lab Manual 1(12.4) IS 3507	0.1-3%
		Vanaspati	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Mashed potatoes, sweet potatoes and other starch	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
I.	**Ghee/Butter Fat/Butter Oil and Anhydrous Milk Fat /Anhydrous Butter Oil**	Moisture	FSSAI Lab Manual 1(13.2)	0.01-2%
		Butyro-rafractometer reading at 40°C	FSSAI Lab Manual 1(13.3)	0.0 to 100
		Free Fatty Acid	IS 3508	0.2-5%
		Reichert Value and Polanski Value	IS 3508	1-35
		Vanaspati in Ghee	FSSAI Lab Manual 1(13.6)	Qualitative
		Vegetable oil in Ghee	FSSAI Lab Manual 1(13.7)	Qualitative
		Peroxide value	FSSAI Lab Manual 1(13.8)	1 – 50 MEQ/KG
		Saponification value	IS 3508	100-300
		Iodine value	IS 3508	3-150
		Unsaponification value	IS 3508	0.02-5%
		Coal Tar Dyes	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Vanaspati or Margarine	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Mashed potatoes, sweet potatoes and other starch	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Monounsaturated Fat Polyunsaturated Fat Trans Fat		(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
m.	**Chakka and Shrikhand**	Total solids	FSSAI Lab Manual 4	1-20%
		Milk fat	FSSAI Lab Manual 4	1-30%
		Protein	FSSAI Lab Manual 4	1-30%
		Titratable Acidity	FSSAI Lab Manual 4	0.1-2%
		Total ash	FSSAI Lab Manual 4	0.01-15%
		Sucrose	FSSAI Lab Manual 4	1-15%
		Benzoic acid	FSSAI Lab Manual 8	Qualitative
		Metanil yellow (non-permitted coal tar colour)	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Saccharin	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
n.	**Yoghurt**	Total solids	FSSAI Lab Manual 1	1-20%
		Milk fat	FSSAI Lab Manual 1	1-30%
		Protein	FSSAI Lab Manual 1	0.04-90%
		Titratable Acidity	FSSAI Lab Manual 1	0.1-2%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
o.	**Whey Products**	Moisture	FSSAI Lab Manual 1	0.02-10%
		Milk fat	FSSAI Lab Manual 1	0.2-30%
		Protein	FSSAI Lab Manual 1	0.04-90%
		Total ash	FSSAI Lab Manual 1	0.01-15%
		pH	FSSAI Lab Manual 1	1-14

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lactose	FSSAI Lab Manual 1	0.01-15%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
p.	**Edible Casein Products**	Moisture	FSSAI Lab Manual 1	0.02-10%
		Milk fat	FSSAI Lab Manual 1	0.02-30%
		Protein	FSSAI Lab Manual 1	0.2-100%
		Ash Content	FSSAI Lab Manual 1	0.01-15%
		Fixed Ash	FSSAI Lab Manual 1	0.01-15%
		Free Acidity	FSSAI Lab Manual 1	0.1-2%
		pH	FSSAI Lab Manual 1	1-14
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
q.	**Milk based sweets Milk & milk product**	Lactose in Milk Based Sweets	FSSAI Lab Manual 1	1.0-50.0%
		Total Nitrogen/Crude Protein	FSSAI Lab Manual 1	0.2-50%
		Non Protein Nitrogen	FSSAI Lab Manual 1	0.1-20%
		True Protein Nitrogen	FSSAI Lab Manual 1	0.2-20.0%
		Protein Content	FSSAI Lab Manual 1	0.2-20%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
r.	**Milk & Milk Product and Infant Farmulae**	Non Protein Nitrogen	FSSAI Lab Manual 1	0.1-20%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	**Oil Fat & Related Products And Oil Seed & Byproducts**			
	Coconut Oil Cotton Seed Oil Groundnut oil Linseed Oil Mahua oil Rapeseed oil Mustard oil Rapeseed oil or Mustard oil Olive oil Poppy Seed Oil Safflower Seed Oil Imported Safflower Seed Oil Taramira oil Til oil Niger Seed Oil Soya bean Oil Maize (corn) Oil Refined Vegetable Oil Almond Oil Water-melon seed oil Palm oil Palmolein Palm kernel oil Sunflower seed oil Imported Sunflower Seed Oil	Moisture content	FSSAI Lab Manual 2(3.0) IS 548 (P-I)	0.02-15%
		Specific Gravity	FSSAI Lab Manual 2(4.0) IS 548 (P-I)	0.2-0.9
		Butyro Refractometer reading at 40 c	FSSAI Lab Manual 2(5.0) IS 548 (P-I)	0-100
		Flash point	FSSAI Lab Manual 2(6.0) IS 1448(PART- 21)	55-400 C
		Colour	FSSAI Lab Manual 2(7.0)	0.5 -100
		Melting Point	FSSAI Lab Manual 2(8.0) IS 548 (Part-I)	25-51^{o}C
		Saponification value	FSSAI Lab Manual 2(9.0) IS 548(PART 1)	92-250
		Unsaponifiable matter	FSSAI Lab Manual 2(10) IS 548(PART 1)	0.5-6 %
		Acid value	FSSAI Lab Manual 2(11) IS 548(PART 1)	0.1 – 54
		Iodine value	FSSAI Lab Manual 2(12) IS 548(PART 1)	7.5-180
		Reichert Meissl Value	FSSAI Lab Manual 2(13) IS 548(PART 1)	10-35
		Polanski Value	FSSAI Lab Manual 2(13) IS 548(PART 1)	1-15
		Bellier test	FSSAI Lab Manual 2(14) IS 548(PART 1)	12-60^{o}C
		Cloud point of Palmolein	FSSAI Lab Manual 2(17) IS 1448(PART -21)	4-50^{o}C
		Carbohydrate	AOAC 986.25	1.0-10.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
		Phosphorus	AOAC 965.17	10.0-500.0 mg/100g
		Oil content	IS 3579	7-60%
		Acid value for extracted fat	IS 548(PART 2)	0.01-30%
		Total ash	IS 7874(PART 1)	0.1-30%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Rice Bran Oil **Blended edible Vegetable Oil** **Interesterified Vegetable Fat** **Partially Hydrogenated Soyabean Oil** **Partially hydrogenated and winterisedsoyabean oil** **Partially hydrogenated soyabean oil** **Edible Fats** **Cocoa Butter** **Refined Salseed Fat** **Kokum Fat** **Mango Kernel Fat** **Dhupa Fat** **Phulwara Fat** **Margarine And Fat Spreads** **Table Margarine** **Industrial Margarine** **Fat Spread** **Hydrogenated Vegetable Oils** **Vanaspati** **Bakery shortening** **Oil Seed,** **Rice Bran,**	**Adulteration**		
		Sesame Oil (Baudouin test)	FSSAI Lab Manual -2	Qualitative
		Cotton Seed Oil (Halphens Test)	FSSAI Lab Manual -2	Qualitative
		Rice Bran Oil	FSSAI Lab Manual -2	Qualitative
		Linseed Oil (Hexa Bromide Test)	FSSAI LAB.MANUAL- 2	Qualitative
		Polybromide test	FSSAI Lab Manual 2	Qualitative
		Animal body fat in Vegetable fat	FSSAI Lab Manual 2	Qualitative
		Test for argemone oil	FSSAI Lab Manual 2	Qualitative
		Hydrocyanic acid	FSSAI Lab Manual 2	Qualitative
		Mineral oil	FSSAI Lab Manual 2 Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Castor oil	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Rancidity Test (Kries test)	FSSAI Lab Manual 2	Qualitative
		Cotton seed oil in mustard oil	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Prohibited colour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Karanja oil	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Cyanide	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Copra & by Product Oil Seed & Byproducts	Rancidity	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Sorbic acid	IS 1479(Part 1)	Qualitative
		Benzoic acid	IS 1479(Part 1)	Qualitative
		Antioxidants	IS 3508	Qualitative
		Added Coloring Matter	IS 3508	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
3.	**Fruits and Vegetable Products Fruit Juices and Concentrates Nuts and Nut Products**			
a.	**Thermally Processed Fruits (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally Processed Fruit cocktail /tropical fruit cocktail (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally Processed Vegetables (Canned/ Bottled/**	**Quality Parameters**		
		Taste &Flavors	IS 5800	Qualitative
		Absence of Defect	IS 5800	Qualitative
		Moisture	FSSAI Lab Manual 5	0.1-80%
		Total ash	FSSAI Lab Manual 5	0.5-5.0%
		Acid insoluble ash	FSSAI Lab Manual 5	0.05-2.0%
		Head space	IS 2860	0.1–5.0 cm
		Acidity	FSSAI Lab Manual -5	0.1-10.0%
		Specific gravity	IS 2860	0.4-1.50
		Sodium chloride	IS 2860	0.2-25.0%
		pH	IS 2860	2.0-12.0
		Added Nutritive Sweetener (saccharine)	FSSAI Lab Manual -8	1-5000 mg/kg
		Drained weight	IS 2860: Clause 7	10-99%
		Fruit Content	FSSAI Lab Manual -5	1-60%
		TSS (Soluble Solid)	IS 13815 FSSAI Lab Manual -5 (1.6)	1-80%
		Starch	IS 4706 (Part- 2)	1 - 99%
		Reducing sugar	IS 2860	1.0-70 %
		Vitamin C	AOAC 967.21	5.0-500 mg/100g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Flexible packaged/ Aseptically packed) Thermally Processed Curried Vegetables/ Ready-to-eat Vegetables Thermally Processed Vegetable soups (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally Processed Fruit Juices (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally Processed Vegetable Juices (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally Processed Tomato Juice	Fill of the container	FSSAI Lab Manual -5 (1.3)	1-100%
		Fat	FSSAI Lab Manual -4 (A-8)	0.5-99%
		Protein	IS 7219	0.5-90%
		Carbohydrate	AOAC 986.25	1.0-10.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
		Dietary Fibre	AOAC.985.29	0.50-80%
		Rehydration ratio	FSSAI Lab Manual 5	Min 3. 0 – 10
		Adulteration		
		Peroxidase test	FSSAI Lab Manual -5	Qualitative (Positive/Negative)
		Sulphur Di Oxide	AOAC 990.28:2012	10mg/Kg-800mg/Kg
		Benzoic acid	FSSAI Lab Manual 8	1-800 mg/kg
		Mineral impurities	FSSAI Lab Manual 5	0.05-20%
		Unpeeled parts, split grains, empty skins, torn grains, broken pieces	FSSAI Lab Manual 5	Qualitative
		Mineral acid in vinegar	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Test for presence of mineral acid	FSSAI Lab Manual -5	Qualitative
		Synthetic color	FSSAI Lab Manual -5	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Thermally Processed Fruit Nectar (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Thermally processed fruit beverages/ Fruit Drink/ Ready to serve Fruit Beverages (Canned/ Bottled/ Flexible packaged/ Asceptically packed) Thermally Processed Mango Pulp Puree and sweetened Mango pulp/ puree (Canned, Bottle, Flexible Pack And/or Aseptically Packed) Thermally Processed Fruit Pulp Puree and sweetened Fruit pulp /puree other than mango (Canned/ Bottled/ Flexible			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	packaged/ Aseptically packed) Thermally Processed Concentrated Fruit/ Vegetable Juice Pulp Puree(Canned/ Bottled/ Flexible packaged/ Asceptically packed) Thermally Processed Concentrated Fruit / Vegetable Juice Pulp Puree (Canned/ Bottled/ Flexible packaged/ Aseptically packed) Fruit/ Vegetable Juice/ Pulp/ Puree with Preservatives For Industrial Use only Concentrated Fruit / Vegetable Juice /Pulp/Puree with Preservatives For Industrial Use only			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Tamarind Pulp/Puree Concentrate Fruit bar/ Tofee Fruit / Vegetable/Cereal Flakes Squashes, Crushes, Fruit Syrups/fruit Sharbats and Barley Water Ginger Cocktail(Ginger Beer or Ginger Ale) Synthetic Syrup for use in Dispensers for Carbonated Waters Synthetic Syrup or Sharbat Murabba Candied, Crystallised and Glazed Fruit /Vegetable/Rhizome/Fruit peel Tomato Ketchup and Sauce Culinary pastes/Fruit and Vegetables Sauces other than Tomato and Soya			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	sauce Soya sauce Carbonated Fruit Beverages or Fruit Drinks Jam Fruit Jelly Fruit Cheese Marmalade Dehydrated Fruits Dehydrated Vegetables Frozen Fruits/fruit products Frozen Vegetables Frozen Curried Vegetables/ready-to-eat vegetables Fruit Based Beverages Mix/Powdered Fruit Based Beverages Fruits and vegetable chutney Mango chutney Pickles Table Olives Grated Desiccated Coconut Vinegar Brewed Vinegar Synthetic Vinegar Nuts and Raisins			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Groundnut Kernel **Raisins** **Pistachio Nuts** **Dates** **Dry Fruits and Nuts** **Bean**			
4.	**Cereal and Cereal Products, Bakery & Bakery Products**			
a.	**Atta** **Atta or resultant atta** **Fortified atta** **Protein rich (paushtik) atta** **Maida** **Maida** **Fortified maida** **Protein rich (paushtik) maida** **Semolina (suji or rawa)** **Besan** **Pearl barley(jau)** **Pearl barley (jau)** **Whole barley powder or barleyflour or choker yukt jau ka churan** **Food grains** **Wheat** **Maize** **Jawar and bajra**	Moisture	IS 4684	0.2-20.0%
		Moisture	FSSAI Lab Manual -5	0.2-20.0%
		Moisture	IS 4706 (P-II)	0.2-20.0%
		Total ash	FSSAI Lab Manual -5	0.1-10.0%
		Acid insoluble ash	FSSAI Lab Manual -5	0.05-2.0%
		Fat	IS 4684 AOAC 920.85	0.02-30.0%
		Protein	IS 7219	0.05-30.0%
		Carbohydrates	IS 1656	1.0–90.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10.0-500.0Kcal/100g
		Crude fiber	IS 10226 (PART 1)	0.5-20.0%
		Dry Gluten	IS 1155	0.5-20.0%
		Wet Gluten	IS 1155	1-40.0%
		Alcoholic Acidity	IS 1155	0.1-2.0%
		Uric acid	DGHS Manual 3	10-200 mg/kg
		Sedimentation Test/ value	IS 13864	5.0-30.0 ml
		Sulphur Dioxide	AOAC 990.28	10-500 mg/kg
		Kesari Dal	DGHS Manual 3	Qualitative
		Microscopic appearance	IS 1155	Qualitative
		Acidity of extracted Fat	FSSAI Lab manual 3	0.1-2.0%
		Dietary Fibre	AOAC 985.29	0.1-50 g/100g
		Starch	IS 4706 (P-II) Clause 9	Qualitative (Present/ Absent)
		pH of aqueous extract	IS 4706 (P-II) Clause 13	1-14

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Rice **Masur whole** **Urd whole** **Moong whole** **Channa whole** **Split pulse (dal) arhar** **Split pulse (dal) moong** **Split pulse (dal) urad** **Dal chana** **Split pulse masoor** **Any other food grains** **Corn flour (maize starch)** **Corn flour (maize starch)** **Corn flakes** **Corn flakes** **Custard powder** **Custard powder** **Macaroni products** **Pasta products (macaroni, spaghetti, vermicelli)** **Malted and malt based foods** **Malted milk food** **Malted and malt based foods** **Rolled oats**	Test for added color	FSSAI Lab Manual -3; Clause 18.0	Qualitative (Present/ Absent)
		Odour, Color & Rancid taste	RIMS/SOP/FD/07	Qualitative (Present/ Absent)
		Foreign Matter	FSSAI lab Manual 3; Clause 1.1.2.1.	Qualitative (Present/ Absent)
		Granularity	IS 1155 Appendix G	1-100%
		Water activity at 25°C	AOAC 978.18	0.3-0.95
		Nitrogen	IS 1485	0.5-90%
		Adultration		
		Boric acid in maida/rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Excessive sand and dirt in wheat flour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Excessive sand and dirt in wheat flour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Chalk powder in wheat flour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Cheap flour in maida	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Excess bran in wheat flour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Metanil yellow in besan	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Foreign matter	FSSAI Lab Manual 3(1.1.2.1) IS 4333(Part 1)	0.5 – 20%
		Other edible grains	FSSAI Lab Manual 3(1.1.2.2) IS 4333(Part 1)	0.1 – 20%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Rolled oats **Solvent extracted flours** **Solvent extracted soya flour** **Solvent extracted groundnut flour** **Solvent extracted sesame flour** **Solvent extracted coconut flour** **Solvent extracted cotton seed flour** **Starchy foods** **Arrowroot** **Sago** **Bakery products** **Biscuits** **Bread**	Damaged grains	FSSAI Lab Manual 3(1.1.2.2) IS 4333(Part 1)	0.01 -20%
		Weevilled grains	FSSAI Lab Manual 3(1.1.2.2) IS 4333(Part 1)	0.1 -20%
		Husked rice, unhusked rice, waxy rice, chips	ISO 7301 : 1974 (RA 2001)	0.1 -20 %
		Ergot	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Dhathra	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Metanil yellow in sella rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Turmeric in sella rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Urea in parched rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Hidden insects	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Hydrocyanic acid	FSSAI Lab Manual 8	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Salt, Spices, Condiments and Related Products**			
a.	**Spices, Condiments** **Caraway (siahjira) Siahjira whole Caraway black(siahjira) Whole Caraway (siahjira)powder** **Cardamom (elaichi) Cardamom (chhoti elaichi) whole Cardamom (chhoti elaichi) seeds Cardamom (chhoti elaichi) powder Cardamom (badi elaichi) whole Cardamom (badielaichi) seeds Cardamom (badielaichi) powder** **Chillies and capsicum**	Moisture	IS 1797:Clause 9 FSSAI Lab Manual 3(3.0)	0.1–20.0%
		Total ash	IS 1797:Clause 6 FSSAI Lab Manual 3(4.0)	0.1-20.0%
		Acid insoluble ash	IS 1797:Clause 8 FSSAI Lab Manual 3(5.0)	0.05-5.0%
		Cold water extract	IS 1797:Clause 10 FSSAI Lab Manual 3(6.0)	1.0-40.0%
		Alcohol soluble extract	IS 1797:Clause 10 FSSAI Lab Manual 3(7.0)	1.0-20.0%
		Calcium Oxide	IS 1797 FSSAI Lab Manual 3(8.0)	1.0-20.0%
		Non Volatile Ether Extract/fat content	IS 1797:Clause 14 FSSAI Lab Manual 3(9.0)	1.0-30.0%
		Volatile oil contents	IS 1797:Clause15 FSSAI Lab Manual 3(10.0)	0.1–10.0%
		Crude fiber	IS 1797:Clause 11 FSSAI Lab Manual 3(11.0)	0.5–30.0%
		Starch Content	FSSAI Lab Manual 10(15.5) IS 4706(PART 2)	0.5-80%
		Protein	IS 7219 AOAC 920.87	0.2-20.0%
		Carbohydrate	AOAC 986.25	1.0-90.0%
		Energy (calorific value)	RIMS/SOP/FD/06	Qualitative
		Salt (as NaCl)	IS 1797:Clause 16 IS 253	0.2–99.0%
		Curcumin content in Turmeric Oleoresin	IS 10925: Annex B	0.5–5.0%
		Extraneous Matter and other refractions	IS 1797 FSSAI Lab manual-10; Clause 2.0	Qualitative
		Total Nitrogen	IS 7219	0.5-50%
		pH	IS 4706 Part-2	1.0-12

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(lalmirchi)	**Adulteration**		
	Chillies and capsicum (lalmirchi) whole	Boric acid	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
	Chillies and capsicum (lalmirchi) powder	Excessive sand and dirt	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Chalk powder	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
	Cinnamon (dalchini)	Cheap flour	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
	Cinnamon (dalchini) whole	Excess bran	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
	Cinnamon (dalchini) powder	Metanil yellow	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
	Cassia(taj)	Foreign matter	FSSAI Manual 3(1.1.2.1) IS 4333(Part 1)	0.5 – 20%
	Cassia(taj) whole	Other edible grains	FSSAI Manual 3(1.1.2.2) IS 4333(Part 1)	0.1 – 20%
	Cassia (taj) powder	Damaged grains	FSSAI Manual 3(1.1.2.2) IS 4333(Part 1)	0.01 -20%
	Cloves (laung)	Weevilled grains	FSSAI Manual 3(1.1.2.2) IS 4333(Part 1)	0.1 -20%
	Cloves (laung) whole	Husked rice, unhusked rice, waxy rice, chips	ISO 7301	0.1 -20 %
	Cloves (laung) powder	Ergot	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
	Coriander (dhania)	Dhathra	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
	Coriander (dhania) whole	Metanil yellow in sella	Instruction Manual – Part –	Qualitative
	Coriander			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(dhania) powder	rice	II (Method for detection of adulterants) by FSSAI	
	Cumin (zeera, kalonji)	Turmeric in sella rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
	Cumin (safed zeera) whole	Urea in parched rice	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
	Cumin (safed zeera) powder	Hidden insects	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
	Cumin black (kalonji) whole	Hydrocyanic acid	FSSAI Lab Manual 8	Qualitative
	Cumin black (kalonji) powder	Odour& Taste	IS 10925: Appendix A	Qualitative
		Test for lead chromate	IS 3576: Annex A	Qualitative
		Scoville Index	IS 8104	Qualitative
		Coloring Matter	IS 10925: Annex B	Qualitative
		Peroxidase test	IS 4624	Qualitative
	Fennel(saunf)	Defective Rhizome	IS 3576	0.01-20%
	Fennel(saunf) whole	Matter insoluble in water	IS 253	0.01-20%
	Fennel(saunf) powder	Matter soluble in water	IS 253	0.01-20%
	Fenugreek(methi)	ASTA Color	AOAC.971.26.2012	1-500%
	Fenugreek(methi) whole	Solubility on Cold Water	IS 1797	1.0-30%
	Fenugreek (methi) powder	Total Nitrogen	IS 7219	0.2-20.0%
		Crude Fiber	IS 10226 Part-1	1-30%
		Protein	IS 7219	0.2-20.0%
	Ginger (sonth, adrak)	Carbohydrate	AOAC 986.25 Issue no. 02	1.0-90.0%
	Ginger (sonth,adrak) whole	Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
	Ginger (sonth, adrak) powder			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Mace(jaipatri) Mace(jaipatri) whole Mace(jaipatri) powder Mustard (rai, sarson) Mustard (rai, sarson) whole Mustard (rai, sarson) powder Nutmeg (jaiphal) Nutmeg(jaiphal) whole Nutmeg(jaiphal) powder Pepper black (kalimirch) Pepper black (kalimirch) whole Pepper black(kalimirch) powder Light black pepper whole Pinheads Poppy(khaskhas)			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Turmeric(haldi) **Turmeric(haldi) whole** **Turmeric(haldi) powder** **Curry powder** **Mixed masala** **Aniseed(saunf)** **Ajwain (bishops seeds)** **Dried mango slices** **Dried mango powder** **Pepper white** **Pepper white whole** **Pepper white powder** **Garlic(lahsun)** **Celery** **Celery whole** **Dehydrated onion(sukha pyaj)** **Asafoetida**			
b.	**saffron(kesar)** **Saffron(kesar)** **Saffron(kesar powder)**	Identification Test	IS 5453 (Part-2): Clause 5	Passes the Test
		Bitterness (Absorbance of picrocine)	IS 5453 (P-II): Clause 13 ISO 3632-2	20.0-80.0%
		Coloring strength (Absorbance of crocine)	IS 5453 (P-II): Clause 13	50.0–300.0
		Flavor (Absorbance of safranal)	IS 5453 (P-II): Clause 13	20-50 at 330nm

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Safranal Strength Expressed as Direct Reading of absorbance of 330 nm	IS 5453Part-2	1-100%
		Coloring strength Expressed as Direct Reading of absorbance of 440 nm	IS 5453Part-2	1-100%
		Moisture and Volatile Matter	IS 5453 (Part-2): Clause 9	0.1–20.0%
		Ash on ODB	IS:5453 Part -2	0.02-5%
		Acid Insoluble Ash	IS 5453 (Part-2): Clause 11	0.05-5.0%
		Floral waste Content	IS 5453 (Part-2): Clause 6	Passes the Test
		Extraneous matter	IS 5453 (Part-2): Clause 7	1.0-20.0%
c.	**Edible Common Salt (Edible, iodised, iron fortified, potassium iodate) Double fortified salt**	White powder	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Common salt from iodized salt	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Moisture	IS 7224: Annex A	0.01-20%
		Sodium Chloride (Total Chloride)	of IS 253: Clause A-5 IS 7224;Annex D	0.5–2.0%
		Water insoluble matter	IS 253: Clause A-4 IS 7224: Annex C	0.1–5.0%
		Iodine	IS 7224: Annex H	10.0-50.0 mg/kg
		Matter soluble in water (other than NaCl)	IS 253: Clause A-7 IS 7224: Annex E	0.1-2.0%
		Sulphates	IS 7224: Annex G IS 253: Clause A-9	0.1–1.0%
		Alkalinity as Na_2Co_3	IS 7224: Annex J IS 253: Clause A-10	0.01–1.0%
		Adulteration		
		Benzoic acid &it s salts	FSSAI Lab Manual 8	1-1500 mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
6.	**Bakery and Confectionary Product**			
a.	**Bakery Products (Biscuit, Bread, Snacks, Namkeen, Chips)**	Moisture	IS 15271 IS 12569 IS 12711: Clause 5 IS 1011: Annex B	1.0-50.0%
		Ash	IS 15271 IS 12569 IS 12711: Clause 5 IS 1011: Annex B	0.1-10%
		Acid Insoluble Ash	IS 15271 IS 12569 IS 12711: Clause 5 IS 1011: Annex B DGHS Manual 4 (13.3.1)	0.01-2.0%
		Fat	IS 15271 IS 12569 IS 12711: Clause 10 IS 6287: AOAC 920.85	0.2-70.0%
		Protein	IS 7219 DGHS Manual 4 (13.4.1) AOAC 920.87.25	0.2-20.0%
		Carbohydrates	AOAC 986.25	1.0-100.0%
		Energy (Calorific value)	RIMS/SOP/FD/06	10.0-500 kcal/100g
		Crude fiber	IS 1483: Appendix E IS 12711: Clause 13 IS 10226 (P-I)	0.2-5.0%
		Added color	FSSAI Food Analysis Manual-08:2015; Clause 4.2	Qualitative
		Acidity of extracted fat	IS 12711;Clause 11 IS 1011; Annex D	0.05-2.0%
		Sorbic Acid	FSSAI Food Analysis Manual-08; Clause 1.3.2	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Color synthetic	FSSAI Food Analysis Manual-08; Clause 4.2	Qualitative
		Volume mass ratio	IS 12711: Clause 9 IS 1483: Appendix A	0.5-20.0
		Dietary fiber	AOAC 985.29	1.0-50%
		Sucrose	FSSAI lab Manual 4; Clause A10 AOAC 923.09	1.0-60.0%
		Reducing Sugar	FSSAI lab Manual 4; Clause A9 AOAC 923.09	1.0-20.0%
		Sulphur dioxide	AOAC 990.28	10.0-500.00 mg/kg
		Salt	AOAC (19th Edition) 960.29	(0.1 to 10.0) g/100g
		Alcoholic Acidity	IS 12711	0.020%-10%
		pH of Aqueous Extract	IS 12711	2% - 12%
		Fruits in Fruits Bread/Cake	IS 12711	0.20% - 50%
		Peroxide Valve/ Oxidative Stability	IS 12711	0.10 meq/kg – 15 meq/kg
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
		Physical Parameters		
		Appearance	IS 1011	Qualitative
		Taste & Odour	IS 1011	Qualitative
		Flavour	IS 1011	Qualitative
		Baking	IS 1011	Qualitative
		Texture	IS 1011	Qualitative
		Insect Infestation	IS 1011	Qualitative
		Foreign Matter	IS 1011	Qualitative
		Adulteration		
		Benzoic acid &it s salts	FSSAI Lab Manual 8	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
7.	**Sweet and Confectionary**			
a.	**Sugar boiled Confectionery Lozenges Chewing Gum and Bubblegum Chocolate Ice lollies or Edible ices Ice lollies or Edible Ices Ice Candy**	Moisture	IS 6287: Clause 5 IS 6747	0.1-50.0%
		Total Ash	IS 1011 IS 1163 IS 6287	0.1-50.0%
		Acid Insoluble Ash	IS 1011 IS 1163 IS 6287	0.01-2.0%
		Fat	IS 6287: Clause 10	0.2-70.0%
		Protein	IS 7219 IS 6287: Clause 11	0.2-20.0%
		Carbohydrate	AOAC 986.25:2012	1.0-100.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10.0-500.00 kcal/100g
		Sulphated Ash	IS 6287: Clause 6 IS 6747 IS 1008	0.1-20.0%
		Added Color	FSSAI Food Analysis Manual-08; Clause 4.2	Present/ Absent
		Sucrose	IS 6287: Clause 9 AOAC 923.09	1.0-60.0%
		Reducing Sugar	IS 6287: Clause 8 AOAC 923.09	1.0-20.0%
		Gum base content	IS 6747: Appendix B	0.05-30.0%
		Sulphur Dioxide	AOAC 990.28	20.0-500.00 mg/kg
		Lactose	IS 1479 (P-2)	1.0-10.0%
		Organoleptic Test	IS 10642	Qualitative
		Ash	IS 11923	0.01-2.0%
		Alkalinity of total ash	IS 1164 IS 11923	0.5% - 10%
		Milk Fat	IS 1163	0.2%-15%
		Milk solid non fat	IS 1163	0.2%-50%
		Cocoa Butter	IS 1164	0.1%-99%
		Crude fiber	IS 1164 IS 10226:Part-1	0.5 -80 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Dietary Fiber	AOAC.985.29	1.0%-50%
		Particle Size	IS 11923	1%- 100% passing through 150 mesh
		Adulteration		
		Benzoic acid &it s salts	FSSAI Lab Manual 8	Qualitative
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
8.	**Sugar and Sugar Products**			
a.	**Sugar** **Plantation white sugar** **Refined sugar** **Khandasari sugar** **Bura sugar** **Sugar cubes** **Icing sugar** **Misri** **Gur or jaggery** **Dextrose** **Dextrose** **Golden syrup** **Golden syrup** **Dried glucose syrup** **Dried glucose syrup**	Moisture	FSSAI Lab Manual 4(7.2) IS 15279	0.02-20%
		Sucrose	FSSAI Lab Manual 4(7.4) IS 15279	0.1-99%
		Ash insoluble in dilute HCl	FSSAI Lab Manual 4(8.1) IS 12923	0.02-10%
		Sulphated ash	FSSAI Lab Manual 4(10) IS 15279	0.02-10%
		Sieve test	IS 15279	0.02-100%
		Loss on drying	IS 15279: Clause 4 IS 1151	0.02-10.0%
		Grain Size (L,M,S&Ss)	IS 498	1-95% retained by mass (SS to L)
		Grade	IS 498	Physical
		Total Sugar(as Invert Sugar)	IS 15279	1-95%
		Total of Sucrose & Starch	IS 15279	1-95%
		Iron Particles per 100 g	RIMS/SOP/FD/08	0.01-100%
		Safety factor	IS 5975	0.01-100 %
		Crystal Size Material to be retained on 500 Micron sieve	IS 5975	1-95 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Acid insoluble ash	IS 6287	0.05- 3.0 %
		Reducing sugars	IS 15279: Clause 7 IS 1151	1.0–70.0%
		Sulphated ash	IS 15279: Clause 10 IS 6287	0.1–2.0%
		Water insoluble matter	IS 15279: Clause 14	0.01–10.0%
		Polarization	IS 15279	1.0–98.0°
		Sulphur dioxide	AOAC 990.28:2012	20–400 mg/kg
		Adulteration		
		Extraneous matter	FSSAI Lab Manual 4(9.2)	Qualitative
		Chalk powder in sugar	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Urea	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Washing soda	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Yellow colour (non permitted)	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Sodium bicarbonate	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Washing soda	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Chalk powder	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
9.	**Honey & Honey Products**	Taste	IS 4941	Qualitative
		Flavour	IS 4941	Qualitative
		Specific gravity	FSSAI Lab Manual 4(6.3) IS 4941	1.21-1.50%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Moisture	FSSAI Lab Manual 4(6.2) IS 4941	13-25%
		Total reducing sugars	FSSAI Lab Manual 4(6.4) IS 4941	50-85%
		Sucrose	FSSAI Lab Manual 4(6.4.4) IS 4941	0.4-90%
		Glucose/ Fructose ratio	FSSAI Lab Manual 4(6.5) IS 4941	0.8-1.8
		Ash	FSSAI Lab Manual 4(6.7) IS 4941	0.002-5%
		Acidity as formic acid	FSSAI Lab Manual 4(6.8) IS 4941	0.002-0.5%
		HMF	IS 4941: Annex D	1.0-90 mg/kg
		Reducing sugars	IS 4941: Annex C	1.0-85.0%
		Fiehe's test	IS 4941: Annex F	Qualitative
		Color	P fund color grader	1.0-200mm
		Refractive index	IS 4941: Annex B-2	1.330-1.499
		Pollens and plant element	IS 4941: Annex G of	Qualitative
		Optical density at 660 nm	IS 4941: Annexure H	0.100 to 0.800
		Sucrose	IS 4941: Annexure C	(0.5 to 10) g/100g
		Acidity (as formic acid)	IS 4941:Annexure E	(0.01 to 0.5) g/100g
		Hydroxyl Methyl Furfural	IS 4941 AOAC.980.23	1-200 mg/kg
		Glucose	IS 4941	0.2-20%
		Fructose	IS 4941	0.2-20%
		Foreign Matter	RIMS/SOP/FD/09	1.0-10%
		Particle Size	IS 11923	1-100 passing through 150mesh
		Adultration		
		Fiehe's test	FSSAI Lab Manual 4(6.6.1) IS 4941	Qualitative
		Hydroxy methyl furfural	IS 4941	2-120 mg/kg
		Foreign matter	IS 4941	Qualitative

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Aniline chloride tes	FSSAI Lab Manual 4(6.6.2)	Qualitative
		Fragments of insects	IS 4941	Qualitative
		Sugar solution	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Invert sugar/jaggery	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI	Qualitative
		Extraneous matter	IS 4941	Qualitative
b.	**Saccharin**	Assay(on dry basis)	IS 5345	0.1-100%
		Loss on drying	IS 5345	0.02-30%
		Sulphated ash	FSSAI Lab Manual 4(13.2)	0.02-30%
		Acidity	IS 5345	Qualitative
		Alkalinity	IS 5345	Qualitative
10.	**Tea and Tea Products**			
a.	**Tea (Raw, Processed and Instant Tea Bags) Tea, Kangra Tea, Green Tea**	Moisture	FSSAI Lab Manual 4(1.2)	0.1–10.0%
		Ash	FSSAI Lab Manual 4(1.3)	0.1–20.0%
		Acid insoluble ash	FSSAI Lab Manual 4(1.5)	0.02–2.0%
		Water soluble ash of total ash	FSSAI Lab Manual 4(1.4)	1.0–60.0%
		Alkalinity of water soluble ash	FSSAI Lab Manual 4(5.7)	1.0–5.0%
		Crude fiber	FSSAI Lab Manual 4(5.8)	0.50–30.0%
		Water extract	FSSAI Lab Manual 4(1.7)	0.5–50.0%
		Protein	IS 7219	0.1-50%
		Caffeine	FSSAI Lab Manual 4(1.8)	0.1-10%
		Fat	AOAC 922.06:2012	0.1–10.0%
		Carbohydrate	AOAC 986.25:2012	1.0–95.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
		Iron fillings	IS 3633: Appendix H	Qualitative
		Total Catechins	IS 2962	1-50%
		Water Soluble Extracts	IS 13855	1-99%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Tannin Content	AOAC 952.03.19 Edition	0.05-5.0%
		Added Color	FSSAI Food Analysis Manual-08; Clause 4.2	Qualitative
		Adulteration		
		Exhausted Tea	Instruction Manual – Part – II (Method for detection of adulterants) by FSSAI,	Qualitative
		Extraneous Matter	IS 3633	Qualitative
		Insect & Insect Fragments	FSSAI Lab Manual 3 2015	Qualitative
		Rodent Hair & Excreta	FSSAI Lab Manual 3	Qualitative
11.	**Coffee Cocoa and By Products**			
a.	**Coffee** **Roasted coffee and ground coffee** **Soluble Coffee Powder** **CHICORY** **COFFEE-CHICORY MIXTURE** **Coffee-Chicory Mixture** **Instant Coffee-Chicory Mixture**	Moisture	FSSAI Lab Manual 4(1.3)	0.1-10.0%
		Ash	FSSAI Lab Manual 4(1.3)	0.1-30.0%
		Acid insoluble ash	FSSAI Lab Manual 4(1.3)	0.05-1.0%
		Alkalinity of ash	IS 13856	0.1-5.0%
		Water soluble ash	IS 13855	2-80%
		Energy (calorific value)	RIMS/SOP/FD/06	10.0-500.00 kcal/100g
		Crude fiber	IS 10226 (P-I)	0.2-10.0%
		Caffeine	FSSAI Lab Manual 4(1.8)	0.5-10%
		Fat	AOAC 922.06	0.1–10.0%
		Protein	IS7219	0.2–30.0%
		Water extract	IS 13862	0.1-90%
		Solubility in boiling water	IS 2791: Annex E	Qualitative Present/ Absent
		Solubility in cold water	IS 2791: Annex E	Qualitative Present/ Absent
		Sulphated ash	IS 6287	0.10-20 %
		Carbohydrate	AOAC 986.25	1.0–95.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
		Iron fillings	IS 3633:Appendix H	Qualitative Present/ Absent
		Total Catechins	IS 2962	1-50%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Water Soluble Extracts	IS 13855	1-99%
		Tannin Content	AOAC 952.03.19 Ed	0.05-5.0%
		Added Color	FSSAI Food Analysis Manual-08; Clause 4.2	Qualitative Present/ Absent
12.	**Tobacco and by Products**	Loss on drying	IS 5643: Clause 6	0.1-10.0%
		Total alkaloids (as nicotine)	IS 5643: Clause 8	0.03-5.0%
		Total ash	IS 5643: Clause 10	0.1-40.0%
		Acid insoluble ash	IS 5643: Clause 11	0.05-3.0%
		Freedom from foreign matter and weevil attack	IS 5643: Clause 7	Qualitative
		Total Nitrogen	IS 5643	(0.5 to 20) g/100g
		Total Chlorides	IS 5643	(0.1 to 5) g/100g
13.	**Alcoholic Drinks & Beverages**			
a.	**Beer**	Ethyl Alcohol content	IS 3865: Annex A	1.0-50.0%
		Methanol content	IS 3865: Annex C	Qualitative
		pH	IS 3865; Annex B	2.0-12.0
		Caramel	AOAC 948.07	Qualitative
b.	**Whisky, Rum, Gin, Vodka, Brandie, Table Wine, Country Spirit Distillate, Ena, Tequila, Fortified Wine**	Ethyl Alcohol content	IS 3752: Clause 4 IS 3811: Clause 7.1 IS 4100: Clause 7.1 IS 4449: Clause 7.1 IS 4450: Clause 7.1 IS 5286: Clause 7.1 IS 5287: Clause 7.1 IS 7058: Clause 7.1 IS 7585: Clause 4	1.0-50.0%
		Methanol content	IS 3752:Clause 16	Qualitative
		Ash content	IS 3752: Clause 6	0.1-2.0%
		Esters as Ethyl acetate	IS 3752: Clause 10	1.0-500g/100ltr
		Higher alcohol	IS 3752	1-10%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Aldehyde as acetaldehyde	IS 3752: Clause 12	0.5-1.0 g/100ltr
		Furfural	IS 3752: Clause 13	0.1-12.0 g/100ltr
		Total acidity (as tartaric acid)	IS 3752: Clause 7	0.02-2.0 g/100ltr
		Residue on evaporation	IS 3752 Clause 5	0.1-20.0%
		Volatile acidity (as acetic acid)	IS 3752: Clause 8 IS 7585: Clause 5.3	0.02-200 gm/100ltr
		Fixed Acidity	IS 3752: Clause 9	0.1-5 g/100ltr
		Reducing Sugar	IS 7585: Clause 7	0.5-20%
		Suspended or Sediment particles	RIMS/SOP/FD/01	Qualitative
		Color	RIMS/SOP/FD/03	Qualitative
		Added Color	FSSAI Food Analysis Manual-08; Clause 4.2	Qualitative
		pH	IS 7585: Clause 5.1	2.0-12.0
		Caramel	AOAC 948.07	Qualitative
		Free SO_2	IS 7585: Clause 9	10-200 mg/l
		Total SO_2	IS 7585:Clause 9 IS 3752	10-500 mg/l
		Extract	IS 7585: Clause 6	0.5-50g/l
		Tannin	IS 7585: Clause 8	0.1-1.0 g/l
14.	**Non Alcoholic Carbonated and Non Carbonated Beverages**			
a.	**Non Alcoholic Carbonated And Non Carbonated Beverages (Soft Drink)**	Sulphur dioxide	AOAC 990.28:2012	10-500 mg/kg
		Total sugar	FSSAI Food Analysis Manual 5:Clause 2.6 AOAC 923.09	1.0-8.0%
		Total Acidity	IS 13844,IS 2860:Clause 10 AOAC 942.15	0.2-5.0%
		Total Soluble Solid	IS 13815:2009	1-80°Brix
		Fill Volume	Physical (By Measurement)	100 mL to 2500 mL
		Vitamin C	AOAC 967.21 FSSAI Food Analysis Manual 5; Clause 2.8	1-500 mg/100g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Adulteration		
		Benzoic acid &it s salts	FSSAI Lab Manual 8	Qualitative (Present/ Absent)
15.	**Meat & Meat Product**	Moisture	IS 5960 (P-V) AOAC 950.46	1-85 %
		Ash	IS 5960 (P-II) FSSAI Lab Manual - 6;Clause 2.4 AOAC 920.153	0.2-10.0%
		Acid insoluble ash	IS 5960 (P-II) FSSAI Lab Manual -6:; Clause 2.4	0.05-2.0%
		Fat	IS 5960 (P-IV) FSSAI Lab Manual -6; Clause 2.1, AOAC 922.06	1.0–5.0%
		Protein/volatile nitrogen	IS 5960 (P-I) FSSAI Lab Manual -6; Clause 2.2	0.2-30.0%
		Carbohydrate	AOAC 986.25	1.0-90.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g
		Sodium chloride	IS 1743: Appendix A	1.0-90.0%
		Phosphorus	AOAC 965.17	50.0-500.0 mg/kg
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66, AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
16.	**Egg and Egg Products**	Moisture	IS 4723: Appendix A	0.1-10.0%
		Ash	IS 1165: Annex A	0.1-10.0%
		Acid Insoluble Ash	IS 1165: Annex A	0.05–2.0%
		Nitrogen	IS 7219	0.2–5.0%
		Fat	IS 4723: Appendix B	0.2–20.0%
		Carbohydrate	AOAC 986.25	1.0-90.0%
		Energy (calorific value)	RIMS/SOP/FD/06	10–500 kcal/100g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66, AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g
17.	**Oil Seeds and By-Products**	Moisture	IS 3579 Clause 5.1.	0.1–10.0%
		Ash	IS 3579	0.1–10.0%
		Protein	IS 7219	0.2–30.0%
		Carbohydrate	AOAC 986.25	1.0-50.0%
		Energy (Calorific value)	RIMS/SOP/FD/06	50.0-500 kcal/100g
		Acidity of extracted fat	IS 3579 Clause 5.3.	0.1–5.0%
		Oil content	IS 3579 Clause 5.2.	1.0–50.0%
		Pod or capsule	IS 3579	0.5–20.0%
		Fruit	IS 3579	0.1–10.0%
		Seed	IS 3579	1.0–20.0%
		Kernel	IS 3579	0.2-20.0%
		Damaged or weeviled grains	IS 3579	0.01-20.0%
		Slightly damaged grains	IS 3579	0.01-20.0%
		Shrivelled and immature grains	IS 3579	0.01-20.0%
		Spilt kernels	IS 3579	0.01-20.0%
		Determination of Insoluble Impurities	IS 548 Part -1	Qualitative
		Flash Point	IS 1448 Part-21	25°C-400°C
		Insoluble Bromide	IS 4276	Qualitative
		Phosphorous	IS 4276	Qualitative
		Dietary Fiber	AOAC.985.29	0.5-50%
		Fatty acid profile		
		Saturated Fat Monounsaturated Fat Polyunsaturated Fat Trans Fat	AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66 AOCS Ce 2-66	(0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g (0.01 g to 100 g)/100 g

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
18.	**Nutritional Analysis of Food Products**			
a.	**Nutritional Analysis Of Food Products Proprietary Food , Freshly Prepared Food (Juices, Biscuits, Pastes, Fruit & Vegetable Products, Ayuervadic Products, Sandwiches/ Burger, Atta, Dal, Chawal, Roti, Sabzi Cereals)**	Protein	IS 7219	0.05-70%
		Fat	IS 4684 IS 11721 IS 4079	0.02-50%
		Carbohydrates	IS 1656	0.5-95%
		Crude fibre	IS 10226(PART 1)	0.02-40%
		Energy	RIMS/SOP/FD/06	4-900 KCAL/100 GM
		Moisture	IS 1155	0.1-95%
		Ash	IS 1155	0.01-11%
		Acid insoluble ash	IS 4684	0.02-20%
19.	**Other Food Products and Ingredients**			
a.	**Baking Powder Catechu Gelatin Silver Leaf (chand-ki warq) Pan Masala Low and High Fat Cocoa Powder Carob Powder**	Total ash(on dry basis)	IS 1155	0.01-11%
		Ash insoluble in Hcl (on dry basis)	IS 4684	0.02-20%
II.	**Animal FOOD & FEEDS**			
1.	**Animal feed & by Product**	Moisture	IS 7874 (P-1) Clause 4	1.0-25.0%
		Total Ash	IS 7874 (P-1) Clause 9	0.1-50.0%
		Acid Insoluble Ash	IS 7874 (P-1) Clause 10	0.05-5.0%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Crude Fat	IS 7874 (P-1) Clause 7 AOAC (20th Edition) 920.39	0.2-20.0%
		Crude Protein	IS 7874 (P-1) Clause 5 IS 7219	0.2-50.0%
		Carbohydrates	AOAC 986.25:2012	1.0-100.0%
		Energy (Calorific value)	RIMS/SOP/FD/06	10.0-500 kcal/100g
		Crude Fiber	IS 7874 (P-1) Clause 8 IS 10226 (P-I)	0.2-5.0%
		Vitamin C	AOAC 985.33	1.0-500 mg/100g
		Salt as sodium chloride	AOAC 960.29	0.2-10.0%
		Phosphorus	AOAC 965.17 IS 7874 (P-2)	0.05-5.0 g/100g
		Dietary Fiber	AOAC 985.29	1.0-50%
		Sulphite / Sulphur Dioxide	AOAC 990.28	10-500 mg/kg
III.	**RESIDUE IN FOOD AND AGRICULTURAL PRODUCTS**			
A.	**Metal & Metal Contaminates**			
1.	**Milk and Milk Product**			
	Liquid milk Cream, cream powder curd, dahi, chhena, paneer cheese, ice cream, kulfi, milk milk powder infant milk food, cereal weaning food, khoya, butter, ghee yoghurt whey products, edible casein products	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminum	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Manganese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	**Oil Fat & Related Products and Oil Seed & Byproducts**			
	Coconut Oil Cotton Seed Oil Groundnut oil Linseed Oil Mustard oil Olive oil Poppy Seed Oil Til oil Soya bean Oil Refined & Blended Vegetable Oil Almond Oil, Palm oil Sunflower seed oil Rice Bran Oil Cocoa Butter Margarine and Fat Spreads Vanaspati Oil Seed Oil			
		Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.10	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.10	0.1-200mg/kg
		Arsenic	AOAC942.17	0.05-50mg/kg
		Aluminium	AOAC 975.34	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC 984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
3.	**Fruit & Vegetable Products**			
	Thermally Processed Curried Vegetables / Ready-to-eat Vegetables, Vegetable soups, Fruit Juices, Vegetable Juices, Tomato Juice, Fruit Nectar, Mango Pulp,	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Puree and sweetened, Fruit Pulp Puree and, Vegetable Pulp Puree, Concentrated, Fruit/Vegetable/Concentrated Juice/Pulp/Puree with Preservatives For Industrial Use only, Toffee, Fruit Vegetable, Cereal Flakes, Squashes, Crushes, Fruit Syrups, fruit Sharbats and Synthetic Syrup or Sharbat Murabba, Candied, Crystallized and Glazed Fruit Vegetable, Fruit peel, Tomato Ketchup and Sauce, Culinary pastes/Fruit and Vegetables Sauces other than Tomato and Soya sauce, Jam, Fruit Jelly, Fruit Cheese, Dehydrated Fruits			

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	& Vegetables, Frozen Fruits & Vegetables Frozen Curried Vegetables/ready-to-eat vegetables Mix/Powdered , Fruits and vegetable chutney Mango chutney Pickles, Table Olives, Tomato Puree			
4.	**Nuts and Nut Products**			
a.	**Nuts and Raisins Groundnut Kernel Raisins Pistachio Nuts Dates Dry Fruits and Nuts Bean**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
5.	**Cereal and Cereal Products, Bakery & Bakery Products**			
	Atta, maida, semolina (suji or rawa), besan Pearl barley(jau) Food grains, Wheat Maize	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Jawar and bajra **Rice** **Pulses whole, split** **Corn flour (maize starch)** **Corn flakes** **Corn flakes** **Custard powder** **Macaroni, pasta products** **Malted and malt based foods** **Rolled oats** **Solvent extracted flours** **Soya flour, groundnut flour sesame flour, coconut flour, cotton seed flour** **Starchy foods** **Arrowroot** **Sago**	Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
6.	**Salt, Spices, Condiments and Related Products**			
	Whole & powder **Caraway** **Cardamom** **Chillies and capsicum** **Cinnamon** **Cassia** **Cloves** **Coriander** **Cumin**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200 mg/kg
		Arsenic	AOAC 999.11	0.05-50 mg/kg
		Aluminium	AOAC983.05	0.1-200 mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Fennel Fenugreek, ginger Mace, mustard nutmeg Pepper black Poppy (khaskhas) Turmeric (haldi) Curry powder Mixed masala Aniseed (saunf) Ajwain (bishops seeds) Dried mango slices Dried mango powder Pepper white Garlic Edible common Salt Iodised salt double fortified salt Saffron	Mangenese	AOAC984.01	0.05-200 mg/kg
		Tin	AOAC 980.19	0.5-200 mg/kg
7.	**Bakery and Confectionary Product**			
	Bakery Products (Biscuit, Bread, Snacks, Namkeen, Chips)	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	FSSAI Lab Manual -9,2015	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
8.	**Sweet and Confectionary**			
	Sugar boiled confectionery Lozenges Chewing gum and bubblegum Chocolate Ice lollies or edible ices Ice lollies or edible ices ice candy	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	FSSAI Lab Manual -9,2015	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
9.	**Sugar and Sugar Products**			
	Sugar Plantation white sugar Refined sugar Khandasari sugar Bura sugar Sugar cubes Icing sugar Misri Gur or jaggery Dextrose Dextrose Golden syrup Golden syrup Dried glucose syrup Dried glucose syrup	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	FSSAI Lab Manual -9,2015	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
10.	**Honey & Honey Products**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
11.	**Artificial Sweetener**			
	Saccharin aspartyl phenyl alanine methyl ester (aspartame) Aspartyl phenyl alanine methylester Acesulfame potassium Acesulfame potassium Sucralose Sucralose	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	FSSAI Lab Manual -9,2015	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
12.	**Tea and Tea Products**			
	Tea (Raw, Processed and Instant Tea Bags) Tea, Kangra Tea, Green Tea	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	FSSAI Lab Manual -9,2015	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
13.	**Coffee Cocoa and By Products**			
	Coffee Roasted coffee and ground coffee Soluble coffee powder Chicory Coffee-chicory mixture Coffee-chicory mixture Instant coffee-chicory mixture	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
14	**Tobacco and by Products**			
	(Pan Masala)	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
15.	**Alcoholic Drinks & Beverages**			
	Beer Whisky, Rum, Gin, Vodka, Brandie, Table wine, Country spirit distillate, ENA, Tequila*, Fortified Wine Carbonated Fruit Beverages, Fruit Drinks, Ready to serve Fruit Beverages	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
16.	**Non Alcoholic Carbonated and Non-Carbonated beverages**			
	Non Alcoholic Carbonated and Non-Carbonated beverages (Soft Drink)	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
17.	**Meat & Meat Product**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
18.	**Egg and Egg Products**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
19.	**Oil Seeds and by Products**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
20.	**Animal Feeds**	Cadmium	AOAC 999.11	0.05-200 mg/kg
		Chromium	FSSAI Lab Manual -9,2015	0.10-200 mg/kg
		Copper	AOAC 999.11	0.05-200 mg/kg

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Iron	AOAC 999.11	0.10-200 mg/kg
		Lead	AOAC 999.11	0.1-200 mg/kg
		Nickel	AOAC 975.34	0.1-200 mg/kg
		Zinc	AOAC 999.11	0.1-200mg/kg
		Arsenic	AOAC 999.11	0.05-50mg/kg
		Aluminium	AOAC983.05	0.1-200mg/kg
		Lithium	FSSAI Lab Manual -9,2015	0.1-250mg/kg
		Mangenese	AOAC984.01	0.05-200mg/kg
		Tin	AOAC 980.19	0.5-200mg/kg
III.	**BUILDING MATERIALS**			
1.	**Hydraulic Cement**	SiO_2	IS 4032	0.5 to 70.0 %
		Loss On Ignition	IS 4032	0.1 to 10 %
		Al_2O_3	IS 4032	0.5 to 30 %
		Fe_2O_3	IS 4032	0.1 to 10 %
		CaO	IS 4032	0.5 to 70 %
		MgO	IS 4032	0.1 to 10 %
		SO_3	IS 4032	0.1 to 5 %
		Insoluble Residue	IS 4032	0.2 to 40 %
		Na_2O	IS 4032	0.05 to 3 %
		K_2O	IS 4032	0.05 to 3 %
		Chloride	IS 4032	0.01 to 2 %
2.	**Pozzolanic Material (Flyash, Calcined Clay)**	SiO_2	IS 1727	0.5 to 70.0%
		Loss on Ignition	IS 1727	0.1 to 10 %
		Al_2O_3	IS 1727	0.5 to 30 %
		Fe_2O_3	IS 1727	0.1 to 10 %
		CaO	IS 1727	0.5 to 70 %
		MgO	IS 1727	0.1 to 10 %
		SO_3	IS 1727	0.1 to 5 %
		Insoluble Residue	IS 1727	0.2 to 40 %
		Na_2O	IS 1727	0.05 to 3 %
		K_2O	IS 1727	0.05 to 3 %
		Chloride	IS 4032	0.01 to 2 %

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Concrete Admixture**	pH	IS 9103	3 to 12
		Dry Material Content	IS 9103	5 to 50 %
		Ash Content	IS 9103	0.1 to 20 %
		Density	IS 9103	1.0 to 1.5
		Chloride	IS 6925	0.005 to 2.5 %
4.	**Soil**	pH Value	IS 2720 (Part 26)	3 to 12
		Electrical Conductivity	IS 14767	15 to 5000 µS/cm
		$CaCO_3$	IS 2720 (P-23)	1 to 20 %
		Sodium	IS 9497	5 to 1000 mg/kg
		Potassium	IS 9497	10 to 1000 mg/kg
		Organic Matter	IS 2720 (Part 22)	0.12 to 2 %
		Sulphate	IS 2720 (Part 27)	5 to 1000 mg/kg
		Total Soluble Solids	IS 2720 (Part 21)	10 to 10000 mg/kg
IV.	**METALS AND ALLOYS**			
1.	**Steel/ Alloy Steel**	Carbon	IS 228 (Part 1)	0.05 to 0.5 %
		Sulphur	IS 228 (Part 9)	0.01 to 0.25 %
		Phosphorus	IS 228 (Part 3)	0.01 to 0.05 %
		Silicon	IS 228 (Part 8)	0.1 to 1.0 %
		Manganese	IS 228 (Part 2)	0.3 to 1.5 %
2.	**Metallic Coating and Treatment Solutions**	Mass of Zinc Coating	IS 6745	20 to 2000 g/m^2
		Anodic Coating	IS 5523	10 to 150 µ
		Uniformity of Coating	IS 2633	Qualitative
V.	**WATER**			
1.	**Water for Construction Purpose**	Organic Solids,	IS 3025:Part-18	10-1000 mg/L
		Inorganic Solids	IS 3025:Part-18	10-1000 mg/L
		Sulphate as (SO_4)	IS 3025:Part-24 4500-SO4-E APHA	10-5000 mg/L
		Chloride as (Cl)	IS 3025:Part-32 4500-Cl-B APHA	10-10000 mg/L
		Suspended Matter	IS 3025:Part-17 2540-D- APHA	10-10000 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		pH at 25°C	IS 3025:Part-11 4500-B- APHA	1-14
		Water Neutralization		
		To Neutralize 100 ml sample of water using phenolphthalein as an indicator using 0.02N NaOH	IS 456 IS 3025:Part-22	0.3-25 ml
		To Neutralize 100 ml sample of water using mixed as an indicator using 0.02N H_2SO_4	IS 456 IS: 3025 (Part 23)	0.5-25 ml
2.	**Drinking Water, Surface & Ground Water/Potable & Domestic**	Colour	IS 3025:Part-4	2.0 –99 unit
		Odour	IS 3025:Part-5	Agreeable/ Disagreeable
		Taste	IS 3025:Part-8	Agreeable/ Disagreeable
		Specific Conductivity	IS 3025:Part-14	1.0– 20000 µs/cm
		pH Value	IS 3025:Part-11	1.0-14
		Turbidity	IS 3025:Part-10	1.0-1000 NTU
		Total Dissolved Solids (Dried at 105 ^{0}C)	IS 3025:Part-16	10.0-2000 mg/L
		Acidity	IS 3025:Part-22	5-1000 mg/L
		Alkalinity as ($CaCO_3$),	IS 3025:Part-23	5-1000 mg/L
		Chloride as (Cl)	IS 3025:Part-32	1-1000 mg/L
		Fluoride as (F)	4500 F^- D APHA 22nd	0.2- 100 mg/L
		Phosphate as(P)	IS 3025:Part-31	0.7-2000 mg/L
		Sulphate as (SO_4)	IS 3025:Part-24	2 – 1000 mg/L
		Residual Free Chlorine	IS 3025:Part-26	0.5 -5 mg/L
		Total Hardness as ($CaCO_3$)	IS 3025:Part-21	10-2000 mg/L
		Calcium (Ca)	IS 3025:Part-40	5-1000 mg/L
		Magnesium (Mg)	APHA 3500 Mg A-3111A&B	0.2-200 mg/L
		Potassium (K)	IS 3025:Part-45	0.2-200 mg/L
		Sodium (Na)	IS 3025:Part-45	0.2-200 mg/L
		Bio-Chemical Oxygen Demand (BOD)	IS 3025:Part-44	4-5000 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Chemical Oxygen Demand (COD)	IS 3025:Part-58	5-5000 mg/L
		Oil & Grease	IS 3025:Part-39	2 – 100 mg/L
		Nitrate as(NO_3)	IS 3025:Part-34	10 to 1000 mg/L
		Total Chromium as (Cr)	3500-Cr(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Iron as (Fe)	3500-Fe(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Fixed Solids(Dried at 103-105 ^{0}C)	IS 3025:Part-18	1.5-3000 mg/L
		Fixed and Volatile Solids, ignited (at 550 ^{0}C)	IS 3025:Part-18	1.5-3000 mg/L
		Settleable Solids	IS 3025:Part-19	1.5-1000 mg /l
		Mixed Liquor Suspended Solids, (MLSS)	2540-F APHA 22nd Edition	1.5 to 10000 mg/L
		Mixed Liquor Volatile Suspended Solid (MLVSS)	2540-G APHA 22nd Edition	1.5 to 5000 mg/L
		Total Solids Dried, (at 103-105^{0}C)	IS 3025:Part:5	10-2000 mg/L
		Total Suspended Solids, (Dried at 103-105 ^{0}C)	IS 3025:Part-17	5-1000 mg/L
		Temperature	IS 3025:Part-9	5º - 50º C
		Chlorine Demand,	IS 3025:Part-25	0.5 -5 mg/L
		Dissolved Oxygen,	IS 3025:Part-38	1-16 mg/L
		Sulphide as (S)	IS 3025:Part-29 4500-S-F APHA 22nd Edition	3- 20 mg/L
		Ammonical Nitrogen as NH_3-N	IS 3025:Part-34	5 to 500 mg/L
		Total Kjeldhal's Nitrogen	IS 3025:Part-34	10 to 1000 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nitrite as(NO_2)	IS 3025:Part-34	3.0 to100 mg/L
		Cyanide as (CN)	IS 3025:Part-27 4500-Cn C&E APHA 22nd Edition	0.1 mg/L to 20 mg/L
		Phenolic Compounds,	IS 3025:Part-43	0.5 to 100 mg/L
		Silica as (SiO_2)	IS 3025:Part-35:2003 4500-SiO2-C,DAPHA 22nd Edition 2012	0.5 to 100 mg/L
		Sludge Volume Index	2710 APHA 22nd Edition	3.0 to 250 ml/l
		Sodium Adsorption Ratio (SAR)	By Calculation	5.0 to 50
		Anionic Surfactant	IS 13428 (Annex K)	1.0-5mg/L
		Free Ammonia as NH_3	IS 3025:Part-34	0.1-20 mg/L
		Sulphite as (SO_3)	IS 3025:Part-28 4500 SO_3 A&B APHA 22nd Edition	0.01-5 mg/L
		Barium as (Ba)	IS 3025:Part-2 IS 13428 Annex F	0.1-5 mg/L 5-100 mg/L
		Tin as (Sn)	3500-Sn (3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Boron as (B)	IS 3025:Part-48 3500-B-B(3111A&B) APHA 22nd Edition	0.1-10 mg/L
		Vanadium as (V)	IS 3025:Part-2 3500-V-B (3111A&B) APHA 22nd Edition	0.1-100 mg/L
		Arsenic as (As)	3500-As(3111A&B) APHA 22nd Edition	0.08 to 50 mg/L
		Cadmium as (Cd)	IS 3025:Part-41 3500-Cd(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Hexavalent Chromium as(Cr^{6+})	3500 Cr- B APHA 22nd Edition IS 3025:Part-52	0.2-200 mg/L
		Copper as (Cu)	3500-Cu(3111A&B) APHA 22nd Edition	0.2-200 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Lead as (Pb)	IS 3025:Part-47 3500-Pb(3111A&B) APHA 22nd Edition	0.05-100mg/L
		Nickel as (Ni)	3500-Ni(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Zinc as (Zn)	3500-Zn(3111A&B) APHA 22nd Edition	0.05-200 mg/L
		Aluminum as (Al)	3500-Al-B(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Manganese as (Mn)	3500-Mn-B(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Lithium as (Li)	3500-Li(3111A&B) APHA 22nd Edition	0.2-200 mg/L
3.	**Reagent Grade Water**	Conductivity	IS 3025:Part-14	1– 20000 µs/cm
		pH Value	IS 3025:Part-11	1-14
		Total Solids Dried (at 103-105 ^{0}C)	IS 3025:Part-15	5-2000 mg/L
		Silica as (SiO_2)	IS 3025:Part-35 4500-SiO2-C,DAPHA 22nd Edition	0.2 to 100 mg/L
		Color Retention of $KMNO_4$ at 27°C	IS 1070	10 Min-60 Min
4.	**Feed Water, Boiler Water & Condensate Water for high pressure Boiler water**	pH at 25°C	IS 3025:Part-11 4500-H^+ - B- APHA 22nd Edition	1-14
		Total Hardness as ($CaCO_3$)	IS 3025:Part-21 2340-C APHA 22nd Edition	2-1000 mg/L
		Dissolved Oxygen	IS 3025:Part-38 4500 O- BC APHA 22nd Edition	1-16 mg/L
		Odour	IS 3025:Part-5	Qualitative
		Iron as (Fe)	IS 3025:Part-53 3500-Fe-B(3111A&B) APHA 22nd Edition	0.1-100 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Copper as (Cu)	IS 3025:Part-42 3500-Cu(3111A&B) APHA 22nd Edition 2012	0.1 -200 mg/L
		Silica as (SiO_2)	IS 3025:Part-35 4500-SiO2-C,D APHA 22nd Edition 2012	0.2-100 mg/L
		Oil & Grease	IS 3025:Part-39 5520 O&G-B APHA 22nd Edition	5 – 1000 mg/L
		Residual Hydrazine as(N_2H_4)	26 of IS-3550	0.1 -5 mg/L
		Conductivity at 25°C	IS 3025:Part-14	10– 10000 s/cm
		Oxygen Consumed in 24 hours	IS 3025:Part-63	2-100 mg/L
		Total Alkalinity as ($CaCO_3$)	IS 3025:Part-2 2320-B APHA 22nd Edition	10-500 mg/L
		Caustic Alkalinity as ($CaCO_3$)	IS 3025:Part-23	10-10000 mg/L
		Phosphate as (P)	IS 3025:Part-31 4500-P-B.D APHA 22nd Edition	10-100 mg/L
		Total Dissolved Solids, (Dried at 105 ^{0}C)	IS 3025:Part-16 2540-C APHA 22nd Edition	10 -10000 mg/L
		Total Suspended Solids (Dried at 103-105 ^{0}C)	IS 3025:Part-17 2540-D APHA 22nd Edition	10-10000 mg/L
		Chloride as (Cl)	IS 3025:Part-32 4500-Cl-B APHA 22nd Edition 2012	5-10000 mg/L
		Free Ammonia as NH_3	IS 3025:Part-34	0.1-20 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
5.	**Cooling Tower Water Swimming Pool Water Storage Batteries Water**	pH Value at 25°C	IS 3025:Part-11 4500-H^+ - B- APHA 22nd Edition	1-14
		Total Alkalinity as ($CaCO_3$)	IS 3025:Part-23 2320-B APHA 22nd Edition	10-10000 mg/L
		Aluminum as (Al)	IS 3025:Part-55 3500 Al (3111A&B) APHA 22nd Edition	0.1 -100 mg/L
		Total Residual Chlorine	IS 3025:Part-26 4500-Cl B APHA 22nd Edition	0.1-5 mg/L
		Oxygen Absorbed in 24 hours	IS 3025:Part-63	0.1-50 mg/L
		Total Dissolved Solids,(Dried at 105 ^{0}C)	IS 3025:Part-16 2540-C APHA 22nd Edition	10-10000 mg/L
		Chloride as (Cl)	IS 3025:Part-32 4500-Cl-B APHA 22nd Edition	1-10000 mg/L
		Iron as (Fe)	IS 3025:Part-53 3500-Fe(3111A&B) APHA 22nd Edition	0.1-100 mg/L
		Lead as (Pb)	IS 3025:Part-47 3500-Pb(3111A&B) APHA 22nd Edition	0.1-100 mg/L
		Tin as (Sn)	3500-Sn (3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Colour	IS 3025:Part-4 2120-B APHA 22nd Edition	1.0 –100 unit (Hazen)
		Conductivity	IS 3025:Part-14 2510-B APHA 22nd Edition	1– 100000 µs/cm
		Odour	IS 3025:Part-5:1983	Agreeable/ Disagreeable
		Magnesium (Mg)	3500 Mg A(3111B) APHA 22nd Edition	0.1-200 mg/L
		Silica as (SiO_2)	IS 3025:Part-35 4500 SiO2-C,D APHA 22nd Edition	2-100 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Sulphate as (SO_4)	IS 3025:Part-24 4500-SO4-E APHA 22nd Edition	5-500mg/L
		Free Ammonia as NH_3	IS 3025:Part-34	0.1-20 mg/L
		Dissolved Oxygen	IS 3025:Part-38	1-16 mg/L
		Phosphate as (P)	IS 3025:Part-31 4500-P-B.D APHA 22nd Edition	1-100 mg/L
		Copper as (Cu)	IS 3025:Part-42 3500-Cu(3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Oxydizable Matter	IS 1069 Annex A2	5-500 mg/L
		Non Volatile Residue	IS 1069 Annex A2	5-500 mg/L
6.	**Packaged Drinking Water Packaged Natural Mineral Water Processed Food Industry**	Colour	IS 3025:Part-4	2.0 –99 unit
		Odour	IS 3025:Part-5	Agreeable/ Disagreeable
		Taste	IS 3025:Part-8	Agreeable/ Disagreeable
		Specific Conductivity	IS 3025:Part-14	1.0– 2000 µs/cm
		pH Value	IS 3025:Part-11	1-14
		Turbidity	IS 3025:Part-10	1.0-1000 NTU
		Total Dissolved Solids, (Dried at 105 ^{0}C)	IS 3025:Part-16	10.0-5000 mg/L
		Acidity	IS 3025:Part-22	5-1000 mg/L
		Alkalinity as ($CaCO_3$)	IS 3025:Part-23	5-5000 mg/L
		Chloride as (Cl)	IS 3025:Part-32	2-5000 mg/L
		Fluoride as (F)	4500 F^- D APHA 22nd Ed	0.1- 5 mg/L
		Phosphate as(P)	IS 3025:Part-31	2-1000 mg/L
		Sulphate as (SO_4)	IS 3025:Part-24	5 – 1000 mg/L
		Residual Free Chlorine	IS 3025:Part-26	0.5 -5 mg/L
		Total Hardness as $CaCO_3$	IS 3025:Part-21	10-5000 mg/L
		Calcium (Ca)	IS 3025:Part-40	5-1000 mg/L
		Magnesium (Mg)	3500 Mg A-3111A&B APHA 22nd Edition	0.5-200 mg/L
		Potassium (K)	IS 3025:Part-45	0.4-200 mg/L
		Sodium (Na)	IS 3025:Part-45	0.5-200 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Oil & Grease	IS 3025:Part-39	2 – 100 mg/L
		Nitrate as(NO_3)	IS 3025:Part-34	2 to 1000 mg/L
		Total Chromium as (Cr)	3500-Cr(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Iron as (Fe)	3500-Fe(3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Total Solids Dried (at 103-105 ^{0}C)	IS 3025:Part:5	5-2000 mg/L
		Total Suspended Solids, (Dried at 103-105 ^{0}C)	IS 3025:Part-17	5-1000 mg/L
		Temperature	IS 3025:Part-9	5º - 50º C
		Chlorine Demand	IS 3025:Part-25	0.5 -5 mg/L
		Dissolved Oxygen	IS 3025:Part-38	1-16 mg/L
		Sulphide as (S)	IS 3025:Part-29 4500-S-F APHA 22nd Ed	0.5 - 20 mg/L
		Ammoniacal Nitrogen as NH_3-N	IS 3025:Part-34	2 to 500 mg/L
		Total Kjeldhal's Nitrogen	IS 3025:Part-34	2 to 1000 mg/L
		Nitrite as(NO_2)	IS 3025:Part-34	5 to100 mg/L
		Cyanide as (CN)	IS 3025:Part-27 4500-Cn C&E APHA 22nd	0.1 mg/L to 5 mg/L
		Phenolic Compounds	IS 3025:Part-43	0. 1 to 100 mg/L
		Silica as (SiO_2),mg/L	IS 3025:Part-35 4500-SiO2-C,D APHA 22nd Edition	0.2 to 100 mg/L
		Sludge Volume Index	2710 APHA 22nd Edition	3 to 250 ml/l
		Sodium Adsorption Ratio (SAR)	By Calculation	5.0 to 50
		Percent Sodium	By Calculation	3.0 to 50
		Anionic Surfactant	IS 13428 (Annex K)	0.1 mg/L to 5mg/L
		Free Ammonia as NH_3	IS 3025:Part-34	0.1-50 mg/L
		Sulphite as (SO_3)	IS 3025:Part-28 4500 SO_3 A&B APHA 22nd Edition 2012	0.01-1mg/L 1-5 mg/L

Laboratory	**The Research Institute of Material Sciences, Plot No. 22 & 23, Ranaji Enclave, Nangli Sakrawati, New Delhi**	
Accreditation Standard	**ISO/IEC 17025: 2005**	
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Validity	**07.03.2017 to 06.03.2019**	**Last Amended on 08.05.2017**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Barium as (Ba)	IS 3025:Part-2 IS 13428 Annex F	0.2-100 mg/L
		Tin as (Sn)	3500-Sn (3111A&B) APHA 22nd Edition	0.1 -200 mg/L
		Boron as (B)	IS 3025:Part-48 3500-B-B(3111A&B) APHA 22nd Edition	0.1 -10 mg/L
		Vanadium as (V)	IS 3025:Part-2 3500-V-B (3111A&B) APHA 22nd Edition	0.1 -100 mg/L
		Arsenic as (As)	3500-As(3111A&B) APHA 22nd	0.01 to 50 mg/L
		Cadmium as (Cd)	IS 3025:Part-41 3500-Cd(3111A&B) APHA 22nd Edition	0.05 -200 mg/L
		Hexavalent Chromium as(Cr^{6+})	3500 Cr- B APHA 22nd Edition IS 3025:Part-52	0.1 -200 mg/L
		Copper as (Cu)	3500-Cu(3111A&B) APHA 22nd Edition	0.05-200 mg/L
		Lead as (Pb)	IS 3025:Part-47 3500-Pb(3111A&B) APHA 22nd Edition	0.1 -100mg/L
		Nickel as (Ni)	3500-Ni(3111A&B) APHA 22nd Edition	0.1 -200 mg/L
		Zinc as (Zn)	3500-Zn(3111A&B) APHA 22nd Edition	0.05 -200 mg/L
		Aluminum as (Al)	3500-Al-B(3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Manganese as (Mn)	3500-Mn-B(3111A&B) APHA 22nd Edition	0.03 -200 mg/L
		Lithium as (Li)	3500-Li(3111A&B) APHA 22nd Edition	0.1 -200 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
V.	**POLLUTION & ENVIRONMENT**			
1.	**Effluent/Sewage/ Waste Water**	Colour	IS 3025:Part-4	2-99 unit
		Conductivity	IS 3025:Part-14	5– 20000 µs/cm
		pH Value	IS 3025:Part-11	1-14
		Total Solids, (Dried at 103-105 ^{0}C)	IS 3025:Part-15	10- 20000 mg/L
		Total Suspended Solids (Dried at 103-105 ^{0}C)	IS 3025:Part-17	10- 10000 mg/L
		Total Dissolved Solids, (Dried at 105 ^{0}C)	IS 3025:Part-16	10-10000 mg/L
		Fixed Solid, (at 105 ^{0}C and Volatile Solids Ignited at 550 ^{0}C)	IS 3025:Part-18	10-10000 mg/L
		Settleable Solids	IS 3025:Part-19	10-5000 mg/L
		Turbidity	IS 3025:Part-10	10-1000 NTU
		Temperature	IS 3025:Part-9	5 – 70 ° C
		Acidity	IS 3025:Part-22	10-5000 mg/L
		Alkalinity as ($CaCO_3$)	IS 3025:Part-23 2320- B APHA 22nd Edition 2012	10-5000 mg/L
		Chloride as (Cl)	IS 3025:Part-32	10-5000 mg/L
		Dissolved Oxygen	IS 3025:Part-38	2-14 mg/L
		Total Hardness as ($CaCO_3$)	IS 3025:Part-21	10-5000 mg/L
		Calcium as (Ca)	IS 3025:Part-40	10-1000 mg/L
		Magnesium as (Mg)	IS 3025:Part-46	10-200 mg/L
		Bio-Chemical Oxygen Demand (BOD)	IS 3025:Part-44	10-10000 mg/L
		Chemical Oxygen Demand (COD)	IS 3025:Part-58	10-10000 mg/L
		Chlorine Demand	IS 3025:Part-25	0.5 -5 mg/L
		Oil & Grease	IS 3025:Part-39	1 – 200 mg/L
		Ammoniacal Nitrogen as (NH_3-N)	IS 3025:Part-34	10 to 500 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total Kjeldhal's Nitrogen	IS 3025:Part-34	10 to 1000 mg/L
		Nitrate as (NO_3)	IS 3025:Part-34	10 to 1000mg/L
		Sulphide as (S)	IS 3025:Part-29 4500-S-F APHA 22nd Ed	1 to 10000 mg/L
		Nitrite as (NO_2)	IS 3025:Part-34	5 to100 mg/L
		Phenolic Compounds	IS 3025:Part-43 5530- B-C-D APHA 22nd Ed	5 to 100 mg/L
		Potassium as (K)	IS 3025:Part-45	5-2000 mg/L
		Sodium as (Na)	IS 3025:Part-45	5-2000 mg/L
		Fluoride as (F)	4500 F^- D APHA 22nd Ed	2- 100 mg/L
		Phosphates as (P)	APHA 22nd Edition IS 3025:Part-31	5 to 1000 mg/L
		Sulphate as (SO_4)	IS 3025:Part-24 4500- SO4-E APHA 22nd	2 – 10000 mg/L
		Silica as (SiO_2)	IS 3025:Part-35 4500-SiO2-C-D APHA 22nd Edition	2 to 100 mg/L
		Sludge Volume Index(SVI)	2710 APHA 22nd Edition	10 to 250 ml/L
		Mixed Liquor Suspended Solids (MLSS)	2540-F APHA 22nd Edition	15 to 10000 mg/L
		Mixed Liquor Volatile Suspended Solid (MLVSS)	2540-G APHA 22nd Edition	15 to 5000 mg/L
		Sodium Adsorption Ratio (SAR)	By Calculation	5 to 50
		Dissolve Phosphate as (P)	IS 3025:Part-31	5 -2000 mg/L
		Cyanide as (Cn)	IS 3025:Part-27 3114 APHA 22nd Edition	2 -10 mg/L
		Barium as (Ba)	IS 3025:Part-2 IS 13428 Annex F	0.1 -100 mg/L
		Boron as (B)	IS 3025:Part-48 4500-B-B APHA 22nd Ed	0.1-10 mg/L

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Arsenic as (As)	3500-As(3111A&B) APHA 22nd Edition	0.2to 50 mg/L
		Cadmium as (Cd	IS 3025:Part-41 3500-Cd(3111A&B) APHA 22nd	0.2-200 mg/L
		Total Chromium as (Cr)	3500-Cr(3111A&B) APHA 22nd Edition	0.5-200 mg/L
		Hexavalent Chromium as (Cr^{6+})	IS 3025:Part-52 3500 Cr- B APHA 22nd Edition	0.2-200 mg/L
		Copper as (Cu)	3500-Cu(3111A&B) APHA 22nd Edition IS 3025:Part-42	0.5-200 mg/L
		Iron as (Fe)	IS 3025:Part-53 3500-Fe (3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Tin as (Sn)	3500-Sn (3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Lead as (Pb)	3500-Pb(3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Nickel as (Ni)	3500-Ni(3111A&B) APHA 22nd Edition	0.1 -200 mg/L
		Zinc as (Zn)	3500-Zn(3111A&B) APHA 22nd Edition	0.1-200 mg/L
		Aluminum as (Al)	3500-Al-B (3111A&B) APHA 22nd Edition	0.2-200 mg/L
		Manganese as (Mn)	3500-Mn-D(3111A&B) APHA 22nd Edition	0.5-200 mg/L
		Lithium as (Li)	3500-Li(3111A&B) APHA 22nd	0.2-200 mg/L
		Bioassay	IS 6582 IS 6582:Part-2	90 % Survival of fish after 96 hrs.

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
VII.	**ATMOSPHERIC POLLUTION**			
1.	**Ambient Air Monitoring**	Dust Fall Rate	IS 5182:Part-1	10 to 10000 mg/M^2/day
		Sulphur Dioxide	IS 5182:Part-2	5 to 1050 µg/m^3
		Suspended Particulate Matter (SPM)	IS 5182:Part-4	10 to 2000 µg/m^3
		Nitrogen Dioxide	IS 5182:Part-6	5 to 740 µg/m^3
		Hydrogen Sulphide	IS 5182:Part-7	3 to 600 µg/m^3
		Carbon Monoxide	IS 5182:Part-10	0.2 to 500 mg/m^3
		Volatile Organic Carbon (Benzene, Toluene, Xylene)	IS 5182:Part-11	1 to 50 µg/m^3
		PAH Benzo (A) Pyrene	RIMS/SOP/Env/Air/07 IS 5182:Part-12	0.1 to 50 ng/m^3
		Total Fluoride	IS 5182:Part-13	0.5 to 100 µg/m^3
		Chlorine	IS 5182:Part-19	5 to 2900 µg/m^3
		Lead (As Pb) in Particulate Matter	IS 5182:Part-22	0.1 to 20 µg/m^3
		PM_{10}- Particulate Matter (≤10µm)	IS 5182:Part-23 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 1000 µg/m^3
		$PM_{2.5}$ - Particulate Matter (≤2.5µm)	RIMS/SOP/Env/Air/04 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 500 µg/m^3
		Ammonia	Methods of Air Sampling & Analysis (3rd Edition) APHA Air (Indophenol Method) Method No.401, CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	1 to 500 µg/m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Ozone	IS 5182:Part-9 Methods of Air Sampling & Analysis (3rd Edition) Method No.411, CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	3-500 µg/m^3
		Arsenic	Methods of Air Sampling & Analysis (3rd Edition) APHA-Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	1 to 100 ng/ m^3
		Nickel	Methods of Air Sampling & Analysis (3rd Edition) APHA Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	1 to 100 ng/ m^3
2.	**Emission from Stationary Sources (From Stack/Ducts)**	Particulate Matter (PM)	IS 11255:Part-1	5.0 to 2000 mg/Nm^3
		Flow Rate	IS 11255:Part-3	3-30 m/s
		Sulphur Dioxide	IS 11255:Part-2	1 to 1250 mg/Nm^3
		Oxides of Nitrogen	IS 11255:Part-7	10 to 2500 mg/Nm^3
		Carbon Monoxide (CO)	IS 13270	1.0 to 50 %
		Oxygen (O_2)	IS 13270	1.0 to 50%
		Ammonia	IS 11255:Part-6	1 to 1250 mg/Nm^3
		Carbon Dioxide (CO_2)	IS 13270	1.0-100% v/v
		Chlorine	RIMS/SOP/ENV/Air/29	1 to 100 mg/Nm^3
		Iron	RIMS/SOP/ENV/Air/30	1 to 20 mg/Nm^3
		Lead	RIMS/SOP/ENV/Air/31	1 to 50 mg/Nm^3
		Acid Mist	RIMS/SOP/ENV/Air/32	2 to 200 mg/Nm^3
		Moisture	IS 11255:Part-3	1 to 80 %
3.	**Fugitive Emission Monitoring**	Sulphur Dioxide	IS 5182:Part-2	10 to 1050 µg/m^3
		Total Suspended Particulate Matter	IS 5182:Part-4	10 to 5000 µg/m^3
		Nitrogen Oxide	IS 5182:Part-6	10 to 740 µg/m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hydrogen Sulphide	IS 5182:Part-7	3 to 600 µg/m^3
		Carbon Monoxide	IS 5182:Part-10	0.2 to 1000 mg/m^3
		Chlorine	IS 5182:Part-19	3.0 to 2900 µg/m^3
		Lead	IS 5182:Part-22	1 to 50 µg/m^3
		PM_{10}- Particulate Matter (≤10µm)	IS 5182:Part-23 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 1000 µg/m^3
		$PM_{2.5}$ - Particulate Matter (≤2.5µm)	RIMS/SOP/Env/Air/04 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 500 µg/m^3
		Ammonia	Methods of Air Sampling & Analysis (3rd Edition) APHA Air (Indophenol Method) Method No.401, CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	2 to 500 µg/m^3
		Ozone	IS 5182:Part-9 Methods of Air Sampling & Analysis (3rd Edition) Method No.411, CPCB Guideline for the measurement of Ambient Air Pollutant Volume	3.0-500 µg/m^3
		Arsenic	Methods of Air Sampling & Analysis (3rd Edition) APHA-Air M Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	0.5 to 100 ng/ m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nickel	Methods of Air Sampling & Analysis (3rd Edition) APHA Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	0.5 to 100 ng/ m^3
4.	**Indoor Air Quality**	Temperature	RIMS/SOP/Env/Air/20	5-45°C
		Relative Humidity	RIMS/SOP/ENV/Air/21	5-100%
		PM2.5	IS 5182:Part-23 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 500 µg/m^3
		PM10	IS 5182:Part-23 CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 1000 µg/m^3
		Total Suspended Particulate Matter	CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	10 to 1000 µg/m^3
		Sulphur Dioxide	IS 5182:Part-2	5 to 1000 µg/m^3
		Nitrogen Oxides	IS 5182:Part-6	5 to 740 µg/m^3
		Carbon Monoxide	IS 5182:Part-10	0.2 to 100 mg/m^3
		Carbon Dioxide	RIMS/SOP/Env/Air/31	10 to 10000 mg/m^3
		Chlorine	IS 5182:Part-19	3.0 to 2900 µg/m^3
		Ammonia	Methods of Air Sampling & Analysis (3rd Edition) APHA Air (Indophenol Method) Method No.401	2.0 to 1000 µg/m^3
5.	**Personnel Monitoring**	PM2.5	RIMS/SOP/ENV/Air/22	10 to 500 µg/m^3
		PM10	RIMS/SOP/ENV/Air/23	10 to 1000 µg/m^3
		Total Suspended Particulate Matter	RIMS/SOP/ENV/Air/23	10 to 1000 µg/m^3
		Sulphur Dioxide	IS 5182:Part-2	5 to 1000 µg/m^3
		Nitrogen Oxides	IS 5182:Part-6	5 to 740 µg/m^3
		Carbon Monoxide	IS 5182:Part-10	0.2 to 1000 mg/m^3
		Carbon Dioxide	RIMS/SOP/ENV/Air/24	10 to 10000 mg/m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Chlorine	IS 5182:Part-19	3.0 to 2900 µg/m^3
		Ammonia	Methods of Air Sampling & Analysis (3rd Edition) APHA Air (Indophenol Method) Method No.401	1 to 1000 µg/m^3
		Lead	IS 5182:Part-22	0.1 to 20 µg/m^3
		Arsenic	Methods of Air Sampling & Analysis (3rd Edition) APHA-Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	0.2 to 100 ng/ m^3
		Nickel	Methods of Air Sampling & Analysis (3rd Edition) APHA Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	0.5 to 100 ng/ m^3
6.	**Work Zone Monitoring**	$PM_{2.5}$	RIMS/SOP/ENV/Air/25	10 to 500 µg/m^3
		PM_{10}	RIMS/SOP/ENV/Air/26	10 to 1000 µg/m^3
		Total Suspended Particulate Matter	RIMS/SOP/ENV/Air/27	10 to 1000 µg/m^3
		Sulphur Dioxide	IS 5182:Part-2	5 to 1000 µg/m^3
		Nitrogen Oxides	IS 5182:Part-6	5 to 740 µg/m^3
		Carbon Monoxide	IS 5182:Part-10	0.2 to 1000 mg/m^3
		Carbon Dioxide	RIMS/SOP/ENV/Air/28	10 to 10000 mg/m^3
		Chlorine	IS 5182:Part-19	3.0 to 2900 µg/m^3
		Ammonia	Methods of Air Sampling & Analysis (3rd Edition) APHA Air (Indophenol Method) Method No.401	0.5 to 1000 µg/m^3
		Lead	IS 5182:Part-22	0.1 to 20 µg/m^3
		Arsenic	Methods of Air Sampling & Analysis (3rd Edition) APHA-Air Method No.822/ CPCB Guideline for the	0.2 to 100 ng/ m^3

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			measurement of Ambient Air Pollutant Volume I	
		Nickel	Methods of Air Sampling & Analysis (3rd Edition) APHA Air Method No.822/ CPCB Guideline for the measurement of Ambient Air Pollutant Volume I	0.5 to 100 ng/m^3
7.	**Noise**	Noise Level (Ambient)	IS15575 (Part-1)	34 to 134 dB
		Noise Levels Source	IS15575 (Part-1)	34 to 134 dB
8.	**Light**	Code of Light intensity	IS 6685	1-2000 Lux
		Code of Interior Illumination	IS 3646	1-2000 Lux

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

ELECTRICAL TESTING

I.	**CABLES AND ACCESSORIES**			
1.	**PVC Insulated unsheathed and sheathed cables with rigid and flexible conductor for rated voltage up to and including 450/750 Volts**	A. Tests on Conductor		
		Annealing test (for Copper)	IS:10810:(Pt-1)	0.1to 30%/ 0.1% 0 to 400mm/1mm
		Tensile test (for Aluminum)	IS:10810: (Pt-2)	0 to 800N/mm^2/1N/mm^2
		Wrapping test (for Aluminum)	IS:10810 :(Pt-3)	Qualitative
		Persulphate test (for Tinned copper)	IS 10810(Pt-4)	0.1to 8 g/m^2/ 0.1 g/m^2
		Conductor Resistance tests	IS:10810: (Pt-5)	0.02to 25Ω/km / 0.02m Ω/km
		B. Test for Overall dimension, thickness of insulation & sheath	IS:10810: (Pt-6)	0.01 to 30mm/ 0.01mm
		C. Physical test on insulation & sheath		
		Tensile strength & Elongation at break	IS:10810: (Pt-7)	0.1 to 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Ageing in air oven After ageing Tensile strength & Elongation at break	IS:10810: (Pt-11)	0.1 to 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Loss of mass in air oven	IS:10810 :(Pt-10)	0 to 3 mg/cm^2/ 0.0001mg/cm^2
		Shrinkage tests	IS:10810: (Pt-12)	0 to 8%/0.1%
		Hot deformation tests	IS:10810 :(Pt-15)	0 to 80%/0.1%
		Heat shock tests	IS:10810: (Pt-14)	Qualitative Rt to 300°C/ 1°C
		Thermal stability test	IS:10810 :(P-60)	0 to 5 hour/0.1Sec

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Cold bend test	IS:10810 : (Pt-20)	Qualitative -20°C to 50°C/0.1°C
		Cold impact test	IS:10810 : (Pt-21)	Qualitative -20°C to 50°C/0.1°C
		Insulation Resistance Test	IS:10810: (Pt-43)	1 X 10^{18}ohm-cm/10^{10}ohm-cm
		High voltage (water immersion AC test)	IS:10810: (Pt-45)	Qualitative 0 to 10kV/0.2kV
		High voltage (water immersion D.C. test)	IS:10810: (Pt-45)	Qualitative 0.05 to 3 kV/ 0.05kV
		A.C. High voltage (At room temp.)	IS:10810 : (Pt-45)	Qualitative 0 to 10kV/0.2kV
		Flammability test	IS:10810 : (Pt-53)	0 to 30min /0.1Sec 0 to 600mm/1mm
2.	**PVC Insulated electric cables for working voltage up to and including 1100Volts**	Tests on conductor		
		Annealing test (for copper)	IS:10810:(Pt-1)	0.1to 30%/ 0.1%
		Tensile test (for Aluminum)	IS:10810: (Pt-2)	0 to 800N/mm^2/1N/mm^2
		Wrapping test (for Aluminum)	IS:10810 :(Pt-3)	Qualitative
		Conductor Resistance tests	IS:10810: (Pt-5)	0.02to 25Ω/km/ 0.02m Ω/km
		B. Physical test on insulation & sheath		
		Test for overall dimension, Thickness of insulation& sheath	IS:10810: (Pt-6)	0.01 to 25mm/ 0.01mm
		Tensile strength & Elongation at break	IS:10810: (Pt-7)	0.1 to 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Ageing in air oven After ageing Tensile strength & Elongation at break	IS:10810: (Pt-11)	0.1 to 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Loss of mass in air oven	IS:10810 :(Pt-10)	0.0001 to 5 mg/cm^2/ 0.0001mg/cm^2

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Shrinkage tests	IS:10810: (Pt-12)	0 to 8%/0.1%
		Hot deformation tests	IS:10810 :(Pt-15)	0 to 80%/0.1%
		Heat shock tests	IS:10810: (Pt-14)	Qualitative Rt to 300°C/ 1°C
		Thermal stability test	IS:10810 :(P-60)	0 to 5 hour/0.1Sec
		Insulation resistance test	IS:10810: (Pt-43)	1 to 1 X 10^{18}ohm-cm/10^{10}ohm-cm
		A.C. High voltage at room temp.	IS:10810: (Pt-45)	Qualitative 0 to 10kV/0.2kV
		High voltage (water immersion A.C. test)	IS:10810: (Pt-45)	Qualitative 0 to 10kV/0.2kV
		High voltage (water immersion D.C. test)	IS:10810 : (Pt-45)	Qualitative 0.05 to 3 kV/ 0.05kV
		Flammability test	IS:10810 : (Pt-53)	0.1 to 30min /0.1Sec 0 to 600mm/1mm
		Cold bend test	IS:10810 : (Pt-20)	Qualitative -20°C to 50°C/0.1°C
		Cold impact test	IS:10810 : (Pt-21)	Qualitative -20°C to 50°C/0.1°C
		Test on armoured wire/Formed wire		
		Dimensions	IS:10810 (Pt-36)	0.01 to 15mm/ 0.001mm 0.02
		Tensile test	IS:10810 (Pt-37)	0 to 700N/mm^2/ 1N/mm^2
		Elongation test	IS:10810 (Pt-37)	0 to 20%/0.1%
		Torsion test	IS:10810 (Pt-38)	Qualitative (Pass/Fail) Visual test
		Mass of Zinc coating	IS:10810 (Pt-41)	0 to 500mg/cm^2/ 0.1mg/cm^2
		Uniformity of zinc coating	IS:10810 (Pt-40)	Qualitative (Pass/Fail) Visual test
		Armoured coverage percentage	IS:1554 (Pt-1) Cl.13.1.2 IS 7098	0 to 100%/1%
		Resistance test	IS:10810 (P-42)	0.02 to 25Ω/km/0.02m Ω/km

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Cross Linked Polyethylene Insulated PVC Sheathed Cables for Working voltage up to and including 1100 Volts**	Tests on conductor		
		Annealing test (for copper)	IS:10810:(Pt-1)	0 to 30%/0.1%
		Tensile test (for Aluminium)	IS:10810: (Pt-2)	0 to 800N/mm^2/1N/mm^2
		Wrapping test (for Aluminum)	IS:10810 :(Pt-3)	Qualitative
		Conductor Resistance tests	IS:10810: (Pt-5)	0.02to 25Ω/km/ 0.02m Ω/km
		B. Physical test on insulation and sheath		
		Test for Thickness of insulation& sheath	IS:10810: (Pt-6)	0.01 to 30mm/ 0.01mm
		Tensile strength & Elongation at break	IS:10810: (Pt-7)	0.1- 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Ageing in air oven After ageing Tensile strength & Elongation at break	IS:10810: (Pt-11)	0.1- 30Nmm^2/0.1N/mm^2 0 to 700%/1%
		Hot Set Test	IS:10810: (Pt-30)	0 to 60%/0.1%
		Shrinkage tests	IS:10810: (Pt-12)	0 to 8%/0.1%
		Water Absorption Test	IS:10810: (Pt-33)	0 to mg/cm^2/0.015mg/cm^2
		Hot deformation tests	IS:10810: (Pt-15)	0 to 80%/0.1%
		Heat shock tests	IS:10810: (Pt-14)	Qualitative Rt to 300^{o}C/1^{o}C
		Thermal stability test	IS:10810: (Pt-60)	0 to 5 hour/0.1Sec
		Insulation resistance test	IS:10810: (Pt-43)	1 X 10^{18}ohm-cm/10^{10}ohm-cm
		High voltage test (Room Temp.)	IS:10810: (Pt-45)	Qualitative 0 to 10kV/0.2kV
		Flammability test	IS:10810: (Pt-53)	0 to 30min /0.1Sec 0 to 600mm/1mm
		Cold bend test (outer Sheath)	IS:10810: (Pt-20)	Qualitative -20°C to 50°C/0.1°C
		Cold impact test (outer sheath)	IS:10810: (Pt-20)	Qualitative (Pass/Fail) -20°C to 50°C/0.1°C

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Test on armoured wire/Formed wire		
		Dimensions	IS:10810 (Pt-36)	0.001 to 15mm/0.001mm
		Tensile test	IS:10810 (Pt-37)	0 to 700N/mm^2/ 1N/mm^2
		Elongation test	IS:10810 (Pt-37)	0 to 20%/0.1%
		Torsion test	IS:10810 (Pt-38)	Qualitative
		Winding test	IS:10810 (Pt-39)	Qualitative
		Mass of Zinc coating	IS:10810 (Pt-41)	0 to 500g/m^2/0.1 g/m^2
		Uniformity of zinc coating	IS:10810 (Pt-40)	Qualitative
		Armoured coverage percentage	Cl.13.1.2 of IS 7098 (Pt-1)	0 to 100%/ 1%
		Resistance test	IS:10810 (P-42)	0.02 to 25Ω/km/0.02 m Ω/km
4.	**Aerial Bunched Cables for Working Voltage Upto and Including 1100Volts**	**Test on phase Conductor**		
		Tensile test (for Aluminium)	IS:10810: (Pt-2)	0.1 to 800N/mm^2/0.1 N/mm^2
		Wrapping test (for Aluminium)	IS:10810: (Pt-3)	Qualitative
		Conductor Resistance test	IS:10810: (Pt-5)	0.02 to 25Ω/km/0.02 Ω/km
		Test on messenger Conductor		
		Breaking load	IS:10810: (Pt-2)	1 to 30kN/1N
		Elongation Test	IS:14255 Cl.11.3	0 to 15%/1%
		Resistance test	IS:10810: (Pt-5)	0.02 to 25Ω/km/0.02 Ω/km
		Physical test for XLPE and PE insulation		
		Test for Thickness of insulation& sheath	IS:10810: (Pt-6)	0.01-30mm/0.01mm
		Tensile strength & Elongation at break	IS:10810: (Pt-7)	0.1-30N/mm^2/0.1N/mm^2 0 to 700%/1%
		Ageing in air oven After ageing Tensile strength & Elongation at break	IS:10810: (Pt-11)	0.1-30N/mm^2/ 0.1N/mm^2 0 to 700%/1%

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Hot Set Test	IS:10810: (Pt-30)	0 to 60%/1%
		Shrinkage tests	IS:10810: (Pt-12)	0-8%/0.1%
		Water Absorption Test	IS:10810: (Pt-33)	0 to 5mg/cm^2/0.1 mg/cm^2
		Insulation resistance test	IS:10810: (Pt-43)	1 X 10^{18}ohm-cm/10^{10}ohm-cm
		High voltage test (Room Temp.)	IS:10810: (Pt-45)	Qualitative 0.2 to 5/10 kV/ 0.2 kV

Laboratory	**The Research Institute of Material Sciences, Plot No. 22 & 23, Ranaji Enclave, Nangli Sakrawati, New Delhi**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Certificate Number	**TC-5603** ***(In lieu of T-2463, T-2464 & T-3368)***	**Page 82 of 85**	
Validity	**07.03.2017 to 06.03.2019**	**Last Amended on 08.05.2017**	

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		MECHANICAL TESTING		
I.	**BUILDING MATERIALS**			
1.	**Ordinary Portland Cement (33, 43 & 53 Grade Portland Pozzolona Cement Portland Slag Cement**	Fineness by Blaine Air	IS 4031 (Part 2)	100 m^2/kg to 500 m^2/kg
		Soundness - Le Chatelier	IS 4031 (Part 3)	0.5 mm to 10 mm
		Soundness- Autoclave	IS 4031 (Part 3)	0.01 % to 3.0 %
		Consistency	IS 4031 (Part 4)	15 % to 50 %
		Initial Setting Time	IS 4031 (Part 5)	5 min to 300 min
		Final Setting Time	IS 4031 (Part 5)	30 min to 650 min
		Compressive Strength	IS 4031 (Part 6)	10 N/mm^2 to 75 N/mm^2
		Drying Shrinkage	IS 4031 (Part 10)	0.01 % to 0.5 %
		Density /Sp. Gravity	IS 4031 (Part 11)	1.0 gm/cc to 3.8 gm/cc
2.	**Concrete Cubes**	Compressive Strength	IS 516	10 N/mm^2 to 70 N/mm^2
		Permeability Test	DIN: 1048 (Part 5)	1 mm to 25 mm
3.	**Precast Concrete Block for Paving**	Compressive Strength	IS 15658	10 N/mm^2 to70 N/mm^2
		Water Absorption	IS 15658	1 % to10 %
4.	**Ceramic Tiles**	Water Absorption	IS 13630 (Part 2)	0.01 % to 25 %
		Scratch Hardness of Surface on Mohr's Scale	IS 13630 (Part 2)	1 to 9
		Modulus of Rupture	IS 13630 (Part 6)	2.0 N/$mm^2$to 60.0 N/mm^2
5.	**Fresh Concrete**	Slump	IS 1199	1 mm to 200 mm
6.	**Timber**	Moisture content	IS 1708(Part 1)	1 % to 30 %
		Specific Gravity	IS 1708(Part 2)	0.1 to 3.0
7.	**Fine Aggregate**	Sieve Analysis	IS 2386 (Part 1)	1 % to 100 %
		Total Deleterious Materials except 75 micron passing	IS 2386(Part 1 & 2)	0.2 % to 8.0 %
		Specific Gravity	IS 2386 (Part 3)	1.5 % to 3.0 %
		Water Absorption	IS 2386 (Part 3)	0.1 % to 5.0%
		Bulk Density	IS 2386 (Part 3)	1.0 kg/l to 2.0 kg/l

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Soundness	IS 2386 (Part 5)	1 % to 20 %
8.	**Burnt Clay Bricks, Pulverised Fuel Ash Lime Bricks, Burnt Clay Fly Ash Bricks**	Dimensions	IS 1077 IS 12894 IS 13757	L: 4000 mm to 5000 mm W: 2100 mm to 2400 mm H: 1300 mm to 1600 mm
		Water Absorption	IS 3495 (Part 2)	1 % to 30 %
		Compressive Strength	IS 3495(Part 1)	3 N/mm^2 to 60 N/mm^2
		Efflorescence	IS 3495(Part 3)	Qualitative
9.	**Coarse Aggregate**	Sieve Analysis	IS 2386(Part 1)	1 % to 100%
		Water Absorption	IS 2386(Part 3)	0.1 % to 5%
		Specific Gravity	IS 2386(Part 3)	1.5 to 3.0
		Total Deleterious Materials except 75 micron passing	IS 2386 (Part 1 & 2)	0.2 to 8.0
		Bulk Density	IS 2386(Part 3)	1.0 kg/l to 2.0 kg/l
		Elongation Index	IS 2386(Part 1)	5 % to 40 %
		Flakiness Index	IS 2386(Part 1)	5% to 40 %
		Soundnees	IS 2386(Part 5)	1% to 20 %
		Abrasion Value	IS 2386(Part 4)	5% to 55%
		Crushing Value	IS 2386(Part 4)	5 % to 50%
		Impact Value	IS 2386(Part 4)	5 % to 50%
		10% Fine Value	IS 2386(Part 4)	10KN to 1500 KN
10.	**Bitumen**	Penetration	IS 2386(Part-3)	30 to 100
		Specific Gravity	IS 1202	1.0 to 2.0
		Ductility	IS 1208	70 cm to 100 cm
		Softening Point	IS 1205	30 ^{0}C to 100 ^{0}C
		Bitumen Binder Content	IRC SP 11-1984	3 % to 10 %
		Marshal Stability value	ASTM D 6927, MS 2	5 kN to 15 kN
		Marshal Flow	ASTM D 6927, MS 2	2 mm to 4 mm
		Bulk Density	ASTM D 2726	1 g/cc to 3 g/cc
II.	**SOIL & ROCK**			
1.	**Soil**	Moisture Content	IS 2720 (Part 2, Sec-1)	0.1 % to 30 %
		Specific Gravity	IS 2720 (Part 3/ Sec I)	1.5 to 3.0

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Light Compaction	IS 2720 (Part 7)	MDD 1 g/cc to 3 g/cc OMC 1 % to 20 %
		Heavy Compaction	IS 2720 (Part 8)	MDD 1 g/cc to 3 g/cc OMC 1 % to 20 %
		Liquid Limit	IS 2720 (Part 5)	20 % to 70 %
		Plastic Limit	IS 2720 (Part 5)	10 % to 30 %
		California Bearing Ratio (CBR)	IS 2720 (Part 16)	1 % to 60 %
		Free Swell Index	IS 2720 (Part 40)	0 to 50 %
III.	**MECHANICAL PROPERTIES OF METALS**			
1.	**Hot Rolled Medium & High Tensile Structural Steel, Steel Tubes for Structural Purpose, Hollow Steel Section for Structural Use**	Tensile Strength	IS 1608	10 kN to 950 kN
		Yield Stress	IS 1608	10 kN to 950 kN
		Elongation	IS 1608	0.5 % to 50 %
		Bend Test	IS 1599	Qualitative (Mandrel Dia: 8, 10, 12,16, 20, 25, 32, 36, 40 mm)
2.	**High Strength Deformed Steel Bar & Wire**	Rebend Test	IS 1786	Qualitative (Mandrel Dia: 8, 10, 12,16, 20, 25, 32, 36, 40 mm)
		Mass	IS 1786	0.05 kg/m to 25 kg/m

Laboratory	**The Research Institute of Material Sciences, Plot No. 22 & 23, Ranaji Enclave, Nangli Sakrawati, New Delhi**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Certificate Number	**TC-5603** ***(In lieu of T-2463, T-2464 & T-3368)***	**Page 85 of 85**	
Validity	**07.03.2017 to 06.03.2019**	**Last Amended on 08.05.2017**	

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

NON – DESTRUCTIVE TESTING

I.	**BUILDING MATERIALS**			
1.	**Hardened Concrete**	Rebound Hammer Test	IS 13311 (Part 2)	10 N/mm^2 to 70 N/mm^2
		Ultrasonic Pulse Velocity	IS 13311 (Part 1)	1.0 Km/s to 6 Km/s

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