

Laboratory Precision Laboratories, 18/20, Jamini Roy Sarani, Kolkata, West Bengal

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7631

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Last Amended on 15.02.2019

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

I.	FOOD & AGRICULTURAL PRODUCTS			
1.	Bakery & Confectionery Products			
a.	(Biscuits, Bread, Bun, Cake, Pastries, Muffins, Swiss Rolls, Patties) Bread & Ordinary Bakery Wares & Mixes, Bread & Rolls Including Yeast Leavened Breads, Specialty Breads & Soda Breads, Cakes, Cookies, Biscuits, Cracker & Pies, Bread Type Products, Including Bread Stuffing & Bread Crumbs, Steamed Breads, Other Ordinary Bakery Products, Other Fine Bakery Products, Mixes For Bread & Ordinary Bakery Wares & Mixes, Fine Bakery, Thin	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS5402:2012	≥ 10 cfu/g
		Coliform count (Enumeration MPN)	IS 5401- Part -2 : 2012	≥ 10 MPN/g
		Coliform (Detection)	ISO-4831:2006	Present/absent/g or ml
		Coliform (Enumeration CFU)	IS5401-Part-1:2002 RA-2012	≥ 10 cfu/g
		Yeast & moulds count	IS 5403 :1999:RA2005	≥ 10 cfu/g
		Escherichia coli (Enumeration)	IS 5887 (Part-1) : 1976 RA-2005	≥ 10 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	≥0.3 MPN/g
		Escherichia coli (Detection)	IS 5887 (part-1):1976 RA-2005	Present/Absent/g or ml

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	crust Pizza Base, Frozen Tortilla Wrap, etc. Confectionery Products- Toffees/ Modified Toffees, Eclairs, Hard boiled confectionery, Chewing Gum, Fruit Bar, Lozenges, Sugar Free Lozenges			
2.	Coffee & Cocoa Products			
a.	Coffee, Coffee seeds, Roasted Coffee, Coffee Beans, Coffee Powder, Instant Coffee Powder, Chicory Powder, Chicory Mixture, Instant Preparation. Cocoa, Cocoa Products, Chocolate, Cocoa Mixes (Powder, Syrups) & Cocoa Mass/Cake, Cocoa -Based Beverages Including All Types of Coffee	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/g
		Coliform (Detection)	ISO-4831:2006	Present/absent/g or ml
		Coliform (Enumeration)	ISO: 4832:1991, IS 5401-1:2002 RA-2012	≥10cfu/g , ≥1cfu/ml
		Yeast & moulds count	IS 5403 :1999: RA 2005	≥ 10 cfu/g, ≥1cfu/ml
		Escherichia coli (Detection)	IS 5887(Part 1) :1976: RA 2005	Absent/Present/ g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976:RA 2005	≥ 10 cfu/g , ≥1 cfu/ml
		Escherichia coli (MPN)	IS 5887 (Part-1):1976: RA 2005	<0.3 to> 110 MPN/g

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3.	Tea & Tea Products			
a.	Green Tea, Instant Tea, Black Tea, Herbal Tea, Tea Mixes, Flavoured Tea, Kangra Tea, Oolong Tea, CTC Tea, Darjeeling Tea, including all types of Tea	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥10 cfu/g
		Coliform count	IS 5401:Pt-1:2002:RA 2012	≥ 10 cfu/g
		Bacillus cereus Count	IS 5887 (Part-6):2012	≥ 10 cfu/g ≥1 cfu/ml
		Yeast & moulds count	IS 5403:1999:RA 2005	≥ 10 cfu/g, ≥1cfu/ml
		Escherichia coli (Enumeration)	IS 5887 (Part 1) :1976 RA 2005	≥ 10 cfu/g
		Escherichia coli (Detection)	IS 5887 (Part-1): 1976 RA 2005	Absent/Present/ g or ml
		Escherichia coli (MPN)	IS 5887 (Part-1): 1976 2005	<0.3 MPN/g to ≥110 MPN/g
		Total Coliform/Coliform (Enumeration, MPN)	IS 5401(Part-2): 2012	≥10 cfu/g ≥1 cfu/ml
		Total Coliform/Coliform(Detection)	ISO 4831:2006	Present/Absent/g or ml
	Total Coliform/Coliform (Enumeration CFU)	IS 5401-1:2002 RA-2012	≥10 cfu/g ≥1 cfu/ml	
4.	Nut & Nut Products			
a.	Nut & Nut Products, Whole Nut/Mixed nuts/ Cashew/ Brazil nuts/ Almond/ /Peanuts/ Hazlenuts/Areca nut/ Betelnut/	Escherichia coli (Enumeration)	IS 5887 (Part-1):1976:RA 2005	≥ 10 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976:RA 2005	<0.3MPN/g to >110 MPN/g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976	Present/Absent/g or ml

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	Macadamia Nut/Pecans/ Ground Nut/Ground Nut	Coliform Detection	IS 5401 (Part-2):2012	Present/Absent/g or ml
		Coliform count	IS 5401 (Part-1):2002 RA-2012	≥ 10 cfu/g
	Nut/Ground Nut Kernels/ Walnut/ Pistachio Nut / Raisins/ Fox nuts (Makhana), Munnaka/Dry Fruits/Beans/ Fig/ Dates/ Table Olives/ Processed Nuts Including Coated Nuts/ Salted Nuts & Nut Mixtures	Yeast & mould count	IS 5403:1999:RA 2005	≥ 10 cfu/g
		Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/g
5.	Herbs Spices & Condiments			
a.	(Whole, Ground & Powder) Caraway, Oregano, Cardamom, Chillies, Capsicum, Cinnamon, Cassia, Cloves, Coriander, Cumin, Fennel, Fenugreek, Ginger, Mace, Mustard, Nutmeg, Black Pepper/Black Pepper powder, Poppy, Saffron,	Coliform count	IS 5401 (Part-1):2002 Ra-2012	≥ 10 cfu/g
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	<0.3MPN/g to >110 MPN/g
		Coliform (Detection)	ISO 4831:2006	Present/Absent per X g or ml
		Yeast & mould count	IS 5403:1999 RA 2005	≥ 10 cfu/g or ml
		Escherichia coli (Enumeration, cfu)	IS 5887 (Part-1):1976 :RA 2005	≥ 10 cfu/g or ml
		Escherichia coli (Detection)	IS 5887 (Part-1):1976:RA 2005	Present/Absent/ gm or ml
		Escherichia coli (MPN)	IS 5887 (Part-1):1976:RA 2005	< 0.3 MPN/g to >110 MPN/g
	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate	IS 5402 :2012	≥ 10 cfu/g	

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	Turmeric, Curry Powder, Chilli Powder, Mixed Masala, Garam Masala, Aniseed, Ajwain, Dried Mango Slices, Amchur, White Pepper/White Pepper powder, Garlic, Celery, Dehydrated Onion, Asafoetida, Edible Common Salt, Dried Mango Powder, Coriander Powder	count/ Total Bacterial count		
6.	Other Specified Food Items			
a.	Cereals, Pulses & Cereal Products - Rice, Bajra, Corn/Maize, Wheat, Barley, Bengalgram, Soyabean, Jwar, Musseli, Soybeans powder, Flours (Wheat, Rice, Gram, Corn, Soya) Atta, Maida, Semolina/Suji/ Rawa, Besan,	Coliform count	IS 5401-1:2012 RA-2012	≥ 10cfu/g
		Coliform (Detection)	ISO 4831: 2006	Present/Absent/g or ml
		Coliform (Enumeration,MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g to >110 MPN/g
		Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS -5402: 2012	≥ 10cfu/g
		Yeast & Moulds count	IS 5403 :1999:RA 2005	≥ 10cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976: RA 005	< 0.3 MPN/g to ≥ 110 MPN/g
		Escherichia coli	IS 5887 (Part-1):1976: RA	≥ 10cfu/ ml

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	Cornflour, Poha, Cornflakes, Custard Powder, Raagi Flour, Jawar Flour, Oats, Green Peas. Pulses –Whole Or Split, Dals (Urad Dal, Toor Dal, Masoor Whole, Mosoor Dal, Mung Whole, Mung Dal, Chola (chickpea) /Chana, Rajma, Malt Based Products, Horlicks, Various Processed Forms of Cereals & Cereal Based Products.	(Enumeration, cfu)	2005	
		Escherichia coli (Detection)	IS 5887 (Part-1):1976: RA 2005	Present/Absent/g or ml
7.	Ready to Eat Products			
a.	Ready To Eat Food Products - Pooari/Sambar/Rasam/ Chapathi/ Roti, Thepla, Rice/Dal/Sabzi/ Idli/ Dosa, Veg. Curry, Veg. Biryani, Pulav, Salads Non-Veg Biryani, Chicken Curry,	Coliform count	IS 5401-Pt-1:2002 RA-2012	≥ 10 cfu/g
		Yeast & mould count	IS 5403:1999 RA 2005	≥ 10 cfu/g
		Coliform (Detection)	IS 5401-Part-2:2012	Present/ absent per g or ml
		Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/g
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976: RA 2005	≥ 10 cfu/g

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	Egg Curry, Veg. Salads, Cut Capsicum, Sliced	Escherichia coli (Detection)	IS 5887 (Part-1):1976:RA 2005	≥ 10 cfu/g
	Onion, Lettuce, Chopped Cabbage, Sliced Tomato, Salad, Frozen Parathas, Naan, Fermented Foods, Raw/Cooked Ready To Serve Idli & Dosa Batter, Curd	Escherichia coli (MPN)	IS 5887 (Part-1):1976:RA 2005	Present/Absent/g or ml
8.	Snacks & Instant Mixes			
a.	Snacks- Namkeen & Snacks, Potato Chips, Popcorn, Pretzels, Rice Crackers, Flavoured Crackers, Bhujia, Chanachur, Badam Pakora, Papad, Khari, Kara, Murukku, Namakpara, Chiwda, Palakayalu, Thattupakoda, Dalmoth or Mixes, Soya Nuts, Nimki, Fali including all savoury snacks.	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402 :2012	≥ 10 cfu/g
		Coliform count	IS 5401-1:2012 RA-2012	≥ 10 cfu/g
		Yeast & mould count	IS 5403 :1999:RA 2005	≥ 10 cfu/g
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976:RA 2005	≥ 10 cfu/g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976:RA 2005	≥ 10 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part1):1976 : RA 2005	Present/Absent/g
		Coliform (Detection) Coliform (MPN)	IS 5401-Pt-2:2012 IS 5401-Pt-2:2012	≥ 10 cfu/g < 0.3 MPN/g to ≥ 110 MPN/g
	ii)Instant Mixes-			

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	(Energy Foods) Panjiri Mix, Idli Mix, Upma Mix,			
9.	Milk & Dairy Products			
a.	Milk & Dairy Products (Liquid Milk of Cows And Buffaloes, Pasteurized Milk/ Packaged Pasteurized Milk/ Boiled Milk/Skimmed Milk/Flavored Milk, Pasteurized Cream, Sterilized Milk/UHT Milk/Evaporated Milk, Sterilized/UHT Cream, Condensed Milk, Sweetened Condensed Milk, Butter, Pasteurized Butter, Milk Powder, Skimmed Milk Powder, Whole Milk Power; SMP, Partly SMP, Dairy Whitener, Cream Powder, Ice-	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count Yeast & Moulds count Coliform count Coliform (Detection) Coliform (Enumeration,MPN) Escherichia coli (MPN) Escherichia coli (Detection) E. coli (count) Lactic acid bacteria	IS -5402: 2012 IS 5403 :1999:RA 2005 IS 5401-1:2002 RA-2012 FSSAI Manual 14 chapter 5:2012 IS 5401 (Part-2):2012 IS 5887 (Part-1):1976: RA 2005 IS 5887 (Part-1):1976: RA 2005 IS 5887 (Part-1):1976: RA 2005 ISO 15214:1998 IS 14988(Part-1):2001	≥ 10cfu/g ≥ 10cfu/g ≥ 10cfu/g Present/Absent/X g or ml < 0.3 MPN/g to >110 MPN/g < 0.3 MPN/g to >110 MPN/g Present/Absent per g or ml ≥ 10cfu/g ≥10 cfu/g , ≥1 cfu/ml

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	Cream Mix Powder, Lactose Whey Based Powder, Butter-Milk Powder, Casein Powder; Ice-Cream, Frozen Dessert, Milk Lolly, Milk Chocolates, Ice Candy, Processed Cheese/ Cheese Spread, All Other Cheese Categories Including Fresh Cheese/Cheddar/ Cottage/Soft/Semi-Soft, Fermented Milk Products, Tofu/ Paneer/ Chhana, Chhana Based Sweets, Khoa/Khoa Based Sweets Lassi, Curd, Butter Milk, Frozen Paneer).			
10.	Fruits & Fruit Products			
a.	Apple, Custard Apple, Banana, Grapes, Papaya, Mango, Orange, Mandarin, Cherries, Pomegranate,	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS -5402: 2012	≥ 10cfu/g
		Yeast & Moulds count	IS 5403 :1999:RA 2005	≥ 10cfu/g

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	Dates, Lemon, Lime, Pine Apple, Pears, Figs, Kiwi, Mangosteen, Jamun, Apricot & Melons. (Raw Fruits, Dried Fruits, Nuts And Seeds, Thermally/ Non-thermally Processed Fruit) Fresh Fruits, Untreated Fruits, Surface Treated Fresh Fruits, Peeled Or Cut Fresh Fruits, Processed Fruits, Frozen Fruits, Canned Or Bottled (Pasteurized) Fruit. Fruit Products- Fruit Fillings For Pastries, Cooked Fruits, Dates, Dry fig, Pasteurized juices, Amla juice, Jamun juice, Mango juice, Orange juice, Apple juice, Dry fruit & apple juice, Pineapple juice,	Coliform count	IS 5401-1:2002 RA-2012	≥ 10cfu/g
		Coliform (Detection)	FSSAI Manual 14 chapter 5:2012	Present/Absent/X g or ml
		Coliform (Enumeration MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g to >110 MPN/g
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976: RA 2005	≥ 1 cfu/g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976: RA 2005	Absent/present/g or ml
		Escherichia coli (MPN)	IS 5887 (Part-1):1976: RA : 2005	< 0.3 MPN/g or ml to >110 MPN/g or ml

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	Pink guava juice, Fruit juice powder, Black currant, Pomegranate beverage, Beetroot juice, Carrot pulp, Tomato pulp, Phalsa juice, Bael juice, Pomegranate juice, Litchi juice, Mixed fruit juice, Cranberry bits, Pickle.			
11.	Vegetables & Vegetable Products			
a.	Vegetables (whole/peeled/cut or minimally processed and packaged/treated/ untreated/ surface treated/ thermally processed/ Non-thermally processed, frozen/dehydrated /dried/ canned) - Okra, Onion, Cauliflower, Cabbage, Potatoes, Pepper, Carrots, Peas, Snow Peas,	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/ml or g
		Yeast & mould count	IS 5403 :1999:RA 2005	≥ 10 cfu/g or ml
		Coliform (Count)	IS 5401-1:2002 RA-2012	≥ 10 cfu/g or ml
		Coliform detection	IS 5401 (Part-2):2012	Present/ absent per g or ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Escherichia coli (Detection)	IS 5887 (Part-1):1976: RA 2005	Absent/present/g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976:RA 2005	≥ 1 cfu/g to 100000 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976:RA	0.3 MPN/gm or ml to ≥ 110

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	Mushrooms, Green Chilly, Tomatoes, Cherry Tomatoes, Gherkin, Cucumber, Brinjal, Bitter Gourd, Radish, White Radish, Green Beans, Babycorn, Sweet corn, Spinach, Broccoli, Bok choy, Eggplant , Chinese Vegetables Vegetable Products- – White onions toasted, Anardana seeds, Corn, Toor Dal powder, Sweet corn kernels, Ginger bits, White garlic minced, Onion powder, Garlic powder, Onion flakes, Fried onion, Potato flakes powder, Tomato powder, Tomato ketchup, Beet juice powder, Parsley, Onion		2005	MPN/gm or ml

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	bits, Hydrolysed vegetable protein powder, Desiccated coconut powder, Aniseed powder, Roasted onion powder, Nutmeg powder, Ring beans, Hydrolysed vegetable protein soya, Pickle			
12.	Jams, Jellies, Juices, Sauces & Concentrates			
a.	Sauces, Puree, Ginger Paste, Juices Soup, Soup Powder, Murabba, Squashes, Sharbat, Juices, Chutines, Jellies, Dehydrated, Fruit Frozen, Fruit & Jams, Ketchup, Puree, Mango-Pulp, Sauce Maker .	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/ml or g
		Yeast & mould count	IS 5403 :1999:RA 2005	≥ 10 cfu/g or ml
		Coliform (Detection)	ISO 4831:2006	Absent/Present per Xml/100 ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Coliform (Enumeration CFU)	IS 5401-1:2002	≥ 10 cfu/g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976:RA 2005	Absent/present/g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976:RA 2005	≥ 1 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 ; RA 2005	< 0.3 MPN/g or ml to >110 MPN/g or ml

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13.	Beverages (Non-Alcoholic/Alcoholic)			
	Ready-To-Serve Beverages Including Carbonated & Fruit Beverages, Non Alcoholic-Carbonated Beverages, Non Carbonated-Ready to serve Beverages, Sweetened Carbonated Beverages, Carbonated Water & All Fruit Drinks & Energy Drinks	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 1 cfu/ml
		Coliform count (enumeration , cfu)	IS 5401 (Part-1):2002	≥ 1 cfu/g/ml
		Coliform (Detection)	ISO 4831:2006	Absent/Present per Xml/100 ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Yeast & mould count	IS 5403-1999 : (RA-2005)	≥ 10 cfu/g/ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976 ; RA 2005	≥ 1 cfu/g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976 ; RA 2005	Absent/present/g or ml
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 ; RA 2005	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Incubation Test	IS 2860:1964	Passes/Fails the test
		Lactic acid bacteria	ISO 15214:1998	≥ 1 cfu /g / ml
14.	Sugar & Sugar Products			
a.	Refined & Raw Sugars, White Sugar, Dextrose Anhydrous, Dextrose Monohydrate, Fructose, Powdered Sugar,	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS:5402:2012/	≥10 cfu/g
		Aerobic microbial count/ Standard Plate	@FSSAI MANUAL: Chapter 1(1)	≥10 cfu/g

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	Powdered Dextrose (Icing Sugar) Soft White Sugar, Sugar Cubes, Soft Brown Sugar, Raw Cane Sugar, (Sugar Boiled Confectionery, Lozenges, Candies, Chewing Gum And Bubble Gum, Chocolate, Bura, Jaggery, Misri, Sugar Solutions & Syrups Including Treacle & Molasses, Sugar Solutions & Syups (E.G. Xylose, Maple Syrup, Sugar Toppings), Sugar-Syrup, Dextrose/ Glucose And Golden Syrup, Dried Glucose Syrup, Saccharin Sodium, Aspartame, Sucralose, Acesulfame Potassium)	count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count		
		Yeast & Mould	IS:5403:1999 RA 2005	≥10 cfu/g
		Escherichia coli(Enumeration CFU)	IS:5887(Part-1):1976 RA 2005	≥10 cfu/g
		Escherichia coli (Detection)	IS:5887(Part-1):1976 RA 2005/ ISO:7251:2005	Present/Absent per x g
		Escherichia coli (MPN)	@FSSAI MANUAL: Chapter 1(4)	3 MPN/g to >1100 MPN/g
		Escherichia coli (MPN)	IS:5887(Part-1):1976 RA 2005/ ISO:7251:2005	0.3 MPN/g to >110 MPN/g
		Coliform (Enumeration CFU)	IS:5401(Part-1):2002 RA 2012/ @FSSAI MANUAL: Chapter 1(4)	≥10 cfu/g
		Coliform (Enumeration MPN)	IS:5401(Part-2):2012	0.3 MPN/g to >110 MPN/g
		Coliform (Enumeration MPN)	@FSSAI MANUAL: Chapter 1(4)	3 MPN/g to >1100 MPN/g
		Coliform (Detection)	ISO:4831:2006	Present/Absent per x g

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
15.	Egg & Egg Products			
a.	Fresh Eggs, Liquid Egg Products, Frozen Egg Products, Dried &/Or Heat Coagulated Egg Products, Preserved Eggs, Including Alkaline, Salted And Canned Eggs, Egg Based Desserts(Flan And Egg Custard, Custard Fillings e.t.c),Cooked Egg, Egg Albumin Powder, Egg White Powder	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10cfu/ml
		Yeast & mould count	IS 5403:1999 RA-2005	≥ 10 cfu/g/ml
		Coliform count	IS 5401 (Part-1):2002	≥ 10 cfu/g/ml
		Coliform (Detection)	ISO 4831:2006	Absent/Present per Xml/100 ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Escherichia coli (Detection)	IS 5887 (Part-1):1976 RA-2005	Absent/present/g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976 RA-2005	≥ 10 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	< 0.3 MPN/g or ml to >110 MPN/g or ml
16.	Poultry & Poultry Products	Yeast and Mould	IS 5403:1999 RA-2005	>10 cfu/g
		Escherichia coli (Enumeration)	IS:5887 (Part-1)1976 RA-2005	≥10 cfu/g
		Escherichia coli (Enumeration CFU)	IS:5887 (Part-1)1976 RA-2005	≥ 10 cfu/g/ml
		Escherichia coli(Detection)	IS:5887 (Part-1)1976 RA-2005	Absent/present/g or ml
		Coliform (Enumeration MPN)/ (Detection)	IS 5401 (Part-2):2012	0.3 MPN/g or ml; Absent/present/g or ml
		Coliform (Enumeration)	IS 5401 (Part-1):2002	≥10 cfu/g
		Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate	IS 5402:2012	≥10 cfu/g

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		count/ Total Bacterial count		
17.	Honey & Honey Products	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥ 10 cfu/ml or g
		Yeast & mould count	IS 5403:1999 RA-2005	≥ 10 cfu/g or ml
		Coliform (Enumeration)	ISO 4831:2006	Absent/Present per Xml/100 ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012 IS 5401 (Part -2): 2012	< 0.3 MPN/g or ml to >110 MPN/g or ml Absent/Present/ g or ml
		Coliform (Detection)		
		Escherichia coli (Detection)	IS 5887 (Part-1):1976 RA-2005	Absent/present/g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976 RA-2005	≥ 1 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Determination of total count of pollens & plant elements	IS 4941 (Annex-G) 1994	< 1000 number of pollen & plant elements per g
18.	Infant Foods			
a.	(Milk Based Infant Nutritional Food, Infant Formula, Infant Foods, Weaning Food, Milk Cereal Based Complementary Food, Processed Cereals Based	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 5402:2012	≥ 1 cfu/ml
		Yeast & mould count	IS 5403:1999(RA-2005)	≥ 10 cfu/g/ml
		Coliform count	IS 5401 (Part-1):2002	≥ 1 cfu/g/ml

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	Complementary Food, Follow-Up-Formula-Complementary Food, Infant Milk Substitute, Malted Foods) Malt Based Products.		RA:2012	
		Coliform (Detection)	ISO 4831:2006	Absent/Present per Xml/100 ml
		Coliform (Enumeration, MPN)	IS 5401 (Part-2):2012	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Escherichia coli (Detection)	IS 5887 (Part-1):1976 RA-2005	Absent/present/g or ml
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976 RA-2005	≥ 1 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	< 0.3 MPN/g or ml to >110 MPN/g or ml
		Lactic acid bacteria	ISO 15214:1998	≥ 1 cfu /g / ml
19.	Canned & Processed Foods			
a.	All types of canned foods including, Canned Rasgulla, Traditional Sweets, Farsan, Canned babycorn, Canned mushroom, Canned fruits, Canned Shrimp/ Canned Sardines or Sardines type product/ Canned Salmon/ Canned Crab meat/ Tuna/Meat/Chicken/Mutton/ Ham Canned Bonito, Canned Fish, Canned Pickles	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 5402:2012	≥10 cfu/g
		Coliform (Detection)	FASSAI Manual Chapter 1(4):2012	Present/Absent per gm
		Coliform (Enumeration)	IS 5401(Part-1):2002 RA-2012	≥10 cfu/gm
		Coliform (MPN)	IS 5401(Part-2):2012	<0.3 MPN/gm to >110 MPN/gm
		E.coli(Detection)	IS 5887(Part-1):1976 RA-2005	Present/Absent per gm
		E.coli(Enumeration)	IS 5887(Part-1):1976 RA-2005	≥10 cfu/gm
		E.coli(MPN)	IS 5887(Part-1):1976 RA-2005	<0.3 MPN/g to >110MPN/g
		Yeast & Mould count	IS 5403:1999 RA-2005	≥10 cfu/g or ml

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20.	Ready to Eat Foods & Food to be Processed			
a.	Paratha, Tomato Chutney, Coriander Chutney, Salads, Chicken Nuggets, Masala Noodle Mix, Thin Crust Pizza Base, Puliogre Mix, Veg Soup & Mixes, Pasta, Noodles, Instant Mix Powders, Ready Vegetarian/ non-Vegetarian Meals	Aerobic Microbial count/ Standard Plate Count/ Total plate count/ Heterotrophic plate count/ Total bacterial count	IS 5402:2012	≥10 cfu/g
		Coliform (Enumeration)	IS 5401(Part-1):2002	≥10 cfu/gm
		Coliform (MPN)	IS 5401(Part-2):2012	<0.3 MPN/gm to >110 MPN/gm
		Coliform (Detection)	IS 5401(Part-2):2012	Present/Absent per gm
		E.coli(Detection)	IS 5887(Part-1):1976 RA-2005	Present/Absent per gm
		E.coli(Enumeration)	IS 5887(Part-1):1976 RA-2005	≥10 cfu/gm
		E.coli(MPN)	IS 5887(Part-1):1976 RA-2005	<0.3 MPN/g to >110MPN/g
			Yeast & Mould	IS 5403:1999 RA-2005
21.	Tobacco & Tobacco Products	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 5402:2012	≥ 10 cfu/g or ml
		Yeast & mould count	IS 5403: 1999 RA-2005	≥ 10 cfu/g or ml
		Coliform (Count)	IS 5401-pt-1:2012	≥ 10 cfu/g or ml
		Coliform (Enumeration, MPN)/ (Detection)	IS 5401 (Part-2):2012	< 0.3 MPN/g to >110 MPN/g ; Absent/ Present per g
		Escherichia coli (Detection)	IS 5887 (Part-1):1976 RA-2005	Absent/present/g
		Escherichia coli (Enumeration)	IS 5887 (Part-1):1976 RA-2005	≥ 1 cfu/g to 100000 cfu/g
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	0.3 MPN/gm to 100000 MPN/gm

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II.	ANIMAL FEED /PET FOOD			
1.	Cereal mix, Poultry Feed, Cereal Supplements, Pet Food, Cattle Feed Compounded Mineral Mix Including Dry, Semi Moist & Moist (Wet Or Canned) Pet Feed, Dry Dog Food, Dog Treats, Including all types of Animal Feed	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count/ Total Bacterial count	IS 5402:2012	≥10 cfu/g
		Yeast and Mould	IS 5403:1999 RA-2005	>10 cfu/g
		Escherichia coli (Enumeration)	IS:5887 (Part-1)1976 RA-2005	≥10 cfu/g
		Escherichia coli (Detection)	IS:5887 (Part-1)1976 RA-2005	Absent/present/g or ml
		Escherichia coli (MPN)	IS 5887 (Part-1):1976 RA-2005	≤0.3 MPN/g to ≥110MPN/g
		Coliform (Enumeration MPN)	IS 5401 (Part-2):2012	≤0.3 MPN/g or ml TO ≥110 MPN/g or ml
		Coliform (Detection)	IS 5401 (Part 2): 2012	Absent/Present per g or ml
		Coliform (Enumeration CFU)	IS 5401 (Part-I):2002	≥10 cfu/g or ml
III.	WATER			
1.	Drinking Water/ Bore Well Water	Aerobic microbial count/Standard Plate Count/ Total Plate count/Heterotrophic Plate Count	IS 1622 RA 2009:1981	≥1 cfu/ml
		Coliforms/Total Coliforms (MPN)	IS 1622:1981 RA-2009	<2 to ≥ 1600 MPN/100 ml
		Total Coliform Count(MPN)	APHA 23 RD Edn. (9221B):2017	<1.8 to ≥1600 MPN/100 ml
		Coliforms/Total Coliforms	IS 15185:2002	Absent/Present/100 ml

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Faecal Coliforms	IS 1622:1981RA-2009	Absent/Present/100 ml
		Faecal Coliforms count (MPN)	APHA 23 RD Edn. (9221E):2017	<1.8 to \geq 1600 MPN/100 ml
		Faecal Coliforms/100ml	IS 1622:1981 RA-2009	2 MPN/100ml to 1600 MPN/100ml
		E.coli(Enumeration by spread plate method)	IS 5887(PART-1)RA 2005:1976	\geq 1 cfu/ml
		E.coli (Detection)	IS 15185:2002	Absent/Present/100 ml
		E.coli(MPN)	IS 1622:1981 RA-2009	<2 to \geq 1600 MPN/100 ml
2.	Ground Water	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 1622:1981 (RA-2009)	\geq 1 cfu/ml
		Coliform (MPN)	APHA-23 rd Edition(9221B):2017	<1.8 to \geq 1600 MPN/100 ml
		Coliforms/Total Coliforms (Detection)	IS 15185:2002	Absent/Present/100 ml
		Coliform(Enumeration)	IS 5401(Part-1)RA 2012:2002	\geq 1 cfu/ml
		MPN coliform/100 ml	IS 1622:1981 RA-2009	2 MPN/100 ml to 1600 MPN/100 ml
		Faecal coliform/100 ml	IS 1622:1981 RA-2009	2 MPN/100 ml to 1600 MPN/100 ml
		Faecal coliform count (MPN method)	APHA-23 rd Edition(9221 E):2017	<1.8 to \geq 1600 MPN/ 100 ml
		Faecal Coliform	IS 1622 RA 2009:1981	Absent/Present/250 ml or per volume filtered
		E.coli	IS 15185:2002	Absent/Present/100 ml
		E.coli(MPN)	IS 1622:1981 RA-2009	2 MPN/100 ml to 1600 MPN/100 ml
		Yeast & Mould count	IS 5403:1999 RA-2005	Absent/Present/ 250 ml

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	Packaged Drinking Water, Carbonated Water	Aerobic microbial count at 37°C for 24 hrs & 22°C for 72 hrs	IS 5402:2012	i)20/ml at 37°C for 24 hrs ii)100/ml at 22°C for 72 hrs
		Coliforms/Total Coliforms	IS 15185 :2002	Absent/Present/250 ml or per volume filtered
		Coliform/Total Coliforms	APHA 23 rd Edn(9221B):2017	Absent/Present/ 100 ml
		Total Coliforms count(MPN)	APHA 23 rd Edn(9221B):2017	<1.8 TO \geq 1600 MPN/100 ml
		Total Coliform count(MPN)	IS 1622:1981 RA-2009	<2 TO \geq 1600 MPN/100 ml
		Feacal Coliform(MPN)	IS 1622:1981 RA-2009	<2 TO \geq 1600 MPN/100 ml
		Fecal Coliforms (Detection)	IS 1622:1981 RA-2009	Absent/Present/ 100 ml
		E.coli (Detection)	IS 15185:2002	Absent/Present/ 250 ml
		E.coli (Detection)	IS 5887(Par-1):1976 RA-2005	Absent/Present/ 250 ml
		E.coli(MPN)	IS 1622:1981RA-2009	<2 TO \geq 1600 MPN/100 ml
		Yeast & Mould	FASSI Manual Chapter 1(5)	Absent/Present/ 250 ml
		Yeast & Mould	IS 5403:1999 RA-2005	Absent/Present/ 250 ml
		4.	Packaged Natural Mineral Water	Aerobic microbial count at 37°C for 24 hrs & 22°C for 72 hrs
Total Coliforms count(MPN)	APHA 23 rd Edn(9221B):2017			<1.8 TO \geq 1600 MPN/100 ml
Coliforms/Total Coliforms	IS 15185 RA 2009:2002			Absent/Present/250 ml or per volume filtered
Feacal Coliform(MPN)	IS 1622:1981 RA-2009			<2 TO \geq 1600 MPN/100 ml
Fecal Coliforms	IS 1622:1981 RA-2009			Absent/Present/ 100 ml
E.coli	IS 15185 :2002			Absent/Present/250 ml or per volume filtered
E.coli	APHA-9221B(23 RD Edition):2017			Absent/Present/ 100 ml
E.coli	IS 1622:1981RA-2009			Absent/Present/ 100 ml

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		E.coli(MPN)	IS 5887(Part-1):1976 RA-2005	<0.3 to 110MPN/100 ml
		Yeast & Mould	IS 5403:1999 RA-2005	Present or Absent/ 250 ml
5.	Water for Processed Food Industry/Water for Fermentation Industry	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 1622:1981 RA-2009	≤1 cfu/ml
		E.coli	IS 15185 :2002	Absent/Present/250 ml or per volume filtered
		E.coli	APHA-9221B(23 RD Edition):2017	Absent/Present/ 100 ml
		E.coli	IS 1622:1981RA-2009	Absent/Present/ 100 ml
		E.coli(MPN)	IS 5887(Part-1):1976 RA-2005	<0.3 to 110MPN/100 ml
		Yeast & Mould	IS 5403:1999 RA-2005	Present or Absent/ 250 ml
		Coliforms/Total Coliforms	IS 15185 :2002	Absent/Present/250 ml or per volume filtered
		Coliform/Total Coliforms	APHA 23 rd Edn(9221B):2017	Absent/Present/ 100 ml
		Total Coliforms count(MPN)	APHA 23 rd Edn(9221B):2017	<1.8 TO ≥1600 MPN/100 ml
6.	Water for Medical Purpose/ Dialysis Water, RO Water & Other Water Used In Diagnosis	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 5402:2012	≥10 cfu/ml
		Standard plate count/ Heterotrophic plate count	APHA 23 rd Edition (9215A):2017	Less than1 to less than 10 cfu/ml
		Coliform bacteria	APHA 23 rd Edition 9222B:2017	≥1 cfu/100 ml

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		E.coli	APHA 23 rd Edition 9222H:2017	Present or Absent/100 ml
		Faecal Coliform	APHA 23 rd Edition 9222D:2017	≥10 cfu/100 ml
7.	Water for Industry/ Industrial water/ Cooling Tower Water /RO Water	E.coli	IS 1622:1981 RA-2009	≥1 cfu/ml
		Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 1622:1981 RA-2009	≥1 cfu/ml
		Coliform	IS 1622:1981 RA-2009	Present or Absent/100 ml
		Coliform Count(MPN)	IS 1622 RA 2009:1981	<1 MPN/100 ml to >161 MPN/100ml
		Coliform bacteria MPN Index	IS 4251:1967 RA-2004	2 MPN/100 ml to 1600 MPN/100ml
		E.coli (MPN)	APHA 23 rd Edition (9221B):2017	Present or Absent/100 ml
		E.coli	IS 15185:2002	Present or Absent/250 ml
8.	Water for Construction	Aerobic Microbial count/Standard Plate Count/Total plate count/Heterotrophic plate count /Total bacterial count	IS 1622:1981 RA-2009	≤1 cfu/ml
		Coliform (Detection)	IS 1622:1981 RA-2009	Present or Absent/100 ml
		Coliform Count(MPN)	IS 1622 RA 2009:1981	<1 MPN/100 ml to >161 MPN/100ml
		Coliform bacteria MPN Index	IS 4251:1967RA-2004	2 MPN/100 ml to 1600 MPN/100ml
		E.coli	APHA 23 rd Edition (9221B):2017	Present or Absent/100 ml
		E.coli	IS 15185:2002	Present or Absent/250 ml

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Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV.	ENVIRONMENT & POLLUTION			
1.	WasteWater/ Sewage Water/ Drain water	Aerobic microbial count/ Standard Plate count/ Total plate count/ Heterotrophic plate count	IS:1622:1981 RA 2009/ APHA :23rd edition (9215) 2017 ISO:6222:1999	≥1 cfu/ml
		Coliform/ Total Coliform	IS:1622:1981 RA 2009	<1 MPN/100 ml to >161 MPN/100 ml multiplied by the dilution factor
		Coliform/ Total Coliform	APHA :23rd edition (9221 B):2017	<1.8 to >1600 MPN/100 ml multiplied by the dilution factor
		Coliform (MFT)	APHA :23rd edition (9222 B) :2017 IS:1622:1981 RA 2009	1 (Absent) to 200 cfu/100ml or per volume filtered X dilution factor
		Feacal Coliform	IS:1622:1981 RA 2009	<1 MPN/100 ml to >161 MPN/100 ml multiplied by the dilution factor
		Feacal Coliform	APHA :23rd edition (9221 E):2017	<1.8 MPN/100 ml to >1600 MPN/100 ml multiplied by the dilution factor
		Feacal Coliform (MFT)	APHA :23rd edition (9222 D):2017/ IS:1622:1981 RA 2009	1 (Absent) to 200 cfu/ volume of filtered X dilution factor
		E. coli	IS:1622:1981 RA 2009	<1 MPN/100 ml to >161 MPN/100 ml multiplied by the dilution factor
		E. coli	APHA :23rd edition (9221 F & G):2017	<1.8 MPN/100 ml to >1600 MPN/100 ml multiplied by the dilution factor
		E. coli (Enumeration by	IS:5887(Part-1):1976	≥1 cfu/ml

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		spread plate method)	RA 2005	

CHEMICAL TESTING

I.	WATER			
1.	Drinking Water	pH	IS 3025 (Part II)	4 to 12
		Turbidity	IS 3025 (Part 10)	1 NTU to 100 NTU
		Conductivity	APHA 23 rd Edn.	0.50 micro Semens to 20 mili Semens
		Total Hardness (as CaCO ₃)	IS 3025 (Part 21)	1 mg/L to 3000 mg/L
		Calcium Hardness	IS 3025 (Part 40)	0.50 mg/L to 2000 mg/L
		Magnesium Hardness	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L
		Total Alkalinity as (CaCO ₃)	IS 3025 (Part 23)	1 mg/L to 2000 mg/L
		Chloride (as Cl)	IS 3025 (Part 32)	1 mg/L to 2000 mg/L
		Sulphate (as SO ₄)	IS 3025 (Part 24)	1 mg/L to 500 mg/L
		Nitrate (as NO ₃)	APHA 23 rd Edn.	0.01 mg/L to 50 mg/L
		Fluoride (as F)	APHA 23 rd Edn.	0.20 mg/L to 20 mg/L
		Iron (Fe)	IS 3025 (Part 53)	0.050 mg/L to 5 mg/L
		Arsenic (As)	IS 3025 (Part 37)	0.010 mg/L to 0.1 mg/L
		Copper (Cu)	IS 2488 (Part II)	0.010 mg/L to 2 mg/L
		Total Dissolved Solids (TDS)	IS 3025 (Part 16)	50 mg/L to 10000 mg/L
		Sodium (Na)	IS 3025 (Part 45)	1 mg/L to 1000 mg/L
		Potassium (K)	IS 3025 (Part 45)	1 mg/L to 1000 mg/L
		Manganese (Mn)	IS 3025 (Part 59) Cl. No. 5	0.010 mg/L to 1 mg/L
		Phenolic Compound (as Phenol) C ₆ H ₅ OH	IS 3025 (Part 43)	0.50 µg/L to 100 µg/L
2.	Ground Water	pH	IS 3025 (Part II)	1 to 14

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		Turbidity	IS 3025 (Part 10)	1 NTU to 1000 NTU
		Conductivity	APHA-23rd Edn	0.50 micro Semens to 30 mili Semens
		Total Hardness (as CaCO ₃)	IS 3025 (Part 21)	1 mg/L to 8000 mg/L
		Calcium Hardness	IS 3025 (Part 40)	0.50 mg/L to 5000 mg/L
		Magnesium Hardness	IS 3025 (Part 46)	0.50 mg/L to 3000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 2000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 2000 mg/L
		Total Alkalinity as (CaCO ₃)	IS 3025 (Part 23)	1 mg/L to 4000 mg/L
		Chloride (as Cl)	IS 3025 (Part 32)	1 mg/L to 3000 mg/L
		Sulphate (as SO ₄)	IS 3025 (Part 24)	1 mg/L to 500 mg/L
		Nitrate (as NO ₃)	APHA 23 rd Edn. 4500 NO ₃ -E	0.01 mg/L to 100 mg/L
		Fluoride (as F)	APHA 23 rd Edn. 4500 F-B, F	0.20 mg/L to 50 mg/L
		Iron (Fe)	IS 3025 (Part 53)	0.050 mg/L to 20 mg/L
		Arsenic (As)	IS 3025 (Part 37)	0.010 mg/L to 1 mg/L
		Copper (Cu)	IS 2488 (Part II)	0.010 mg/L to 2 mg/L
		Total Dissolved Solids (TDS)	IS 3025 (Part 16)	50 mg/L to 10,000 mg/L
		Sodium (Na)	IS 3025 (Part 45)	1 mg/L to 1000 mg/L
		Potassium (as K)	IS 3025 (Part 45)	1 mg/L to 1000 mg/L
		Silica (SiO ₂)	IS 3025 (Part 35)	1 mg/L to 1000 mg/L
		Manganese (Mn)	IS 3025 (Part 59)	0.010 mg/L to 1 mg/L
		Phenolic Compound (as Phenol) C ₆ H ₅ OH	IS 3025 (Part 43)	0.50 µg/L to 100 µg/L
3.	Industrial Water	pH	IS 3025 (Part II)	2 to 12
		Turbidity	IS 3025 (Part 10)	1 NTU to 50 NTU
		Conductivity	APHA-23 rd Edn	0.50 micro Semens to 10 mili Semens
		Total Hardness (as CaCO ₃)	IS 3025 (Part 21)	1 mg/L to 2000 mg/L
		Calcium Hardness	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L

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		Magnesium Hardness	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L
		Chloride (as Cl)	IS 3025 (Part 32)	1 mg/L to 1000 mg/L
		Sulphate (as SO ₄)	IS 3025 (Part 24)	1 mg/L to 500 mg/L
		Nitrate (as NO ₃)	APHA 23 rd Edn. 4500 NO ₃ -E	0.01 mg/L to 100 mg/L
		Fluoride (as F)	APHA 23 rd Edn. 4500 F-B,F	0.20 mg/L to 50 mg/L
		Iron (Fe)	IS 3025 (Part 53)	0.050 mg/L to 50 mg/L
		Arsenic (As)	IS 3025 (Part 37)	0.010 mg/L to 5 mg/L
		Copper (Cu)	IS 2488 (Part II)	0.010 mg/L to 2 mg/L
		Total Solids (TS)	IS 3025 (Part 16)	50 mg/L to 2000 mg/L
		Manganese (Mn)	IS 3025 (Part 59)	0.010 mg/L to 1 mg/L
4.	Packaged Drinking Water	pH	IS 3025 (Part II)	1 to 13
		Total Dissolved Solids (TDS)	IS 3025 (Part 16)	10 mg/L to 5000 mg/L
		Total Hardness (as CaCO ₃)	IS 3025 (Part 21)	1 mg/L to 2000 mg/L
		Calcium Hardness	IS 3025 (Part 40)	1 mg/L to 1000 mg/L
		Magnesium Hardness	IS 3025 (Part 46)	1 mg/L to 1000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 500 mg/L
		Total Alkalinity as (CaCO ₃)	IS 3025 (Part 23)	1 mg/L to 4000 mg/L
		Chloride (as Cl)	IS 3025 (Part 32)	0.5 mg/L to 500 mg/L
		Sulphate (as SO ₄)	IS 3025 (Part 24)	1 mg/L to 500 mg/L
		Nitrate (as NO ₃)	APHA 23 rd Edn.4500 NO ₃ -E	0.050 mg/L to 50 mg/L
		Fluoride (as F)	APHA 23 rd Edn. 4500 F-B,F	0.10 mg/L to 2 mg/L
		Iron (Fe)	IS 3025 (Part 53)	0.050 mg/L to 1 mg/L
		Arsenic (As)	IS 3025 (Part 37)	0.005 mg/L to 1 mg/L
5.	Surface Water	pH	IS 3025 (Part II)	1 to 14
		Turbidity	IS 3025 (Part 10)	1 NTU to 5000 NTU
		Conductivity	APHA-23 rd Edn.	0.50 micro semens to 5 mili Semens/cm

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		Total Hardness (asCaCO ₃)	IS 3025 (Part 21)	1 mg/L to 1500 mg/L
		Calcium Hardness	IS 3025 (Part 40)	1 mg/L to 1000 mg/L
		Magnesium Hardness	IS 3025 (Part 46)	1 mg/L to 1000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L
		Total Alkalinity as (CaCO ₃)	IS 3025 (Part 23)	0.5 mg/L to 2000 mg/L
		Chloride (as Cl)	IS 3025 (Part 32)	1 mg/L to 1000 mg/L
		Sulphate (as SO ₄)	IS 3025 (Part 24)	1 mg/L to 1000 mg/L
		Nitrate (as NO ₃)	APHA 23 rd Edn. 4500 NO ₃ -E	0.05 mg/L to 50 mg/L
		Fluoride (as F)	APHA 23 rd Edn. 4500 F-B, F. Spadns Method	0.05 mg/L to 1 mg/L
		Iron (as Fe)	IS 3025 (Part 53)	0.1 mg/L to 100 mg/L
		Dissolved Oxygen	IS 3025 (Part 38)	1 mg/L to 8 mg/L
		COD	APHA 23 rd Edn. 5220 B. Open Reflux	1 mg/L to 250 mg/L
		BOD	IS 3025 (Part 44)	1 mg/L to 50 mg/L
		Total Dissolved Solids (TDS)	IS 3025 (Part 16)	10 mg/L to 1000 mg/L
		Total Suspended Solids (TSS)	IS 3025 (Part 17)	10 mg/L to 1000 mg/L
		Total Phosphorous (as P) PO ₄ ≈P	IS 3025 (Part 31) No. 4 Stannous Chloride method	0.05 mg/L to 5 mg/L
6.	Swimming Pool Water	pH	IS 3025 (Part II)	1 to 10
		Turbidity	IS 3025 (Part 10)	1 NTU to 500 NTU
		Chloride Cl	IS 3025 (Part 32)	0.5 mg/L to 1000 mg/L
		Total Hardness (as CaCO ₃)	IS 3025 (Part 21)	2 mg/L to 4000 mg/L
		Calcium Hardness	IS 3025 (Part 40)	1 mg/L to 2000 mg/L
		Magnesium Hardness	IS 3025 (Part 46)	1 mg/L to 2000 mg/L
		Calcium (Ca)	IS 3025 (Part 40)	0.50 mg/L to 1000 mg/L
		Magnesium (Mg)	IS 3025 (Part 46)	0.50 mg/L to 1000 mg/L

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		Total Alkalinity (as CaCO ₃)	IS 3025 (Part 23)	1 mg/L to 2000 mg/L
		Iron (as Fe)	IS 3025 (Part 53)	0.050 mg/L to 10 mg/L
		Sulphate (SO ₄)	IS 3025 (Part 24)	1 mg/L to 1000 mg/L
		Residual Chlorine Cl ₂	IS 2488 (Part 26)	0.10 mg/L to 1000 mg/L
		Oxygen absorbed in 4 Hours at 27°C	IS 3025 (Part 63)	0.3 mg/L to 10 mg/L
II.	POLLUTION AND ENVIRONMENT			
1.	Domestic and Industrial Wastewater/ Sewage	pH	IS 3025 (Part II)	2 to 12
		TSS	IS 3025 (Part 17)	(4 to 50,000) mg/L
		TDS	IS 3025 (Part 16)	(4 to 10,000) mg/L
		COD	APHA (23 rd) Ed. 5220 B	5 to 250,000 mg/L
		BOD	IS 3025 (Part 44) (27± 1° C for 3 Days)	(2 to 100,000) mg/L
		Oil & Grease	APHA (23 rd) Edn. 5520B	(5 to 5000) mg/L
		Ammonical Nitrogen (NH ₃ -N)	IS 3025 (Part 34) Sec.2.5	(0.50 to 250) mg/L
		Total Kjeldahl Nitrogen as (N)	APHA (23 rd) Edn., 4500 N-B	(1 to 500) mg/L
		Total Phosphorous as (PO ₄)	IS 3025 (Part 31), No.4 Stannous Chloride Method	(0.050 to 100) mg/L
		Total Sulphates as (SO ₄)	IS 3025 (Part 24)	(5 to 5000) mg/L
		Nitrates (NO ₃ -N)	APHA (23 rd) Edn., 4500, (NO ₃ -E)(Cadmium Reduction)	(0.050 to 50) mg/L
		Chloride (Cl ⁻)	IS 3025 (Part 32), Argentometric Cl. No. 2	(1 to 5,000) mg/L
		Fluoride (F ⁻)	APHA (23 rd) Edn., 4500 F-B, F SPADNS-method	(0.10 to 100) mg/L
	Nitrite (NO ₂ -N)	APHA (23 rd) Edn., 4500 NO ₂ -N, B	(0.010 to 50) mg/L	
	Sulphide S ²	APHA (23 rd) Edn., 4500	(1 to 2500) mg/L	

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			S, F	
		Total Iron (Fe)	IS 3025 (Part 53)	(0.050 to 100) mg/L
		Manganese (Mn)	IS 3025 (Part 59) Cl. No. 5	(0.10 to 50) mg/L
		Total Chromium	IS 3025 (Part 52), Method 6.5 (3,4,5,6)	(0.050 to 100) mg/L
		Hexavalent Chromium	IS 3025 (Part 52), Method 6.5 u(2) on 6.5.2	(0.050 to 50) mg/L
		Phenolic Compound (as C ₆ H ₅ OH)	APHA (23 rd) Edn. 5530 B,D	(0.10 to 100) mg/L
		Copper	IS 2488 (Part II) Clause No 11	(0.01 to 100) mg/L
		Nickel	IS 2488 (Part II) Clause No 14	(0.10 to 50) mg/L
		Arsenic	IS 3025 (Part 37)	(0.01 to 50) mg/L
		Calcium	IS 3040 (Part 40), DiSodium EDTA Titration	(1 to 8,000) mg/L
		Magnesium	IS 3025 (Part 46)	(1 to 5,000) mg/L
		Sodium	IS 3025 (Part 45) Flame Photometry	(1 to 20,000) mg/L
		Potassium	IS 3025 (Part 45) Flame Photometry	(1 to 20,000) mg/L
		Total Hardness	IS 3025 (Part 21) Di Sodium EDTA Titration	(1 to 8,000) mg/L
		Dissolved Oxygen	IS 3025 (Part 38) Winkler Method	(1 to 12) mg/L
III.	ANIMAL FOOD & FEEDS			
1.	Cattle Feeds, Poultry Feeds, Fish Feeds, Miscellaneous Animal Feeds	Moisture	IS 7874 (Part 1) Cl. No. 4	0.50% to 25%
		Ash Content	IS 7874 (Part 1) Cl. No. 9	0.10% to 10%
		Fat Content	IS 7874 (Part 1) Cl. No. 7	0.10% to 50%
		Crude Fibre	IS 7874 (Part 1) Cl. No. 8	0.05% to 15%
		Crude Protein	IS 7874 (Part 1) Cl. No. 5	0.1% to 50%

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		Copper (Cu)	IS 7874 (Part II) Cl. No. 9	0.50 mg/kg to 1000 mg/kg
		Zinc	IS 7874 (Part II) Cl. No.13	0.50 mg/kg to 1000 mg/kg
		Iron (Fe)	IS 7874 (Part II) Cl. No. 7	0.010 mg/g to 1000 mg/g
		Acid Insoluble Ash	IS 7874 (Part 1) Cl. No. 10	0.010% to 5%
		Chlorine as NaCL	IS 7874 (Part II) Cl. No. 4	0.010 mg/g to 1000 mg/g
		Manganese as (Mn)	IS 7874 (Part II) Cl. No.10	0.10 mg/kg to 1000 mg/kg
		Calcium (as Ca)	IS 13574 Di-Sodium-EDTA method	0.10 mg/g to 50 mg/g
		Magnesium (as Mg)	IS 13574 Di-Sodium-EDTA method	0.10 mg/g to 50 mg/g
		Total Sulphur (as S)	IS 1664 Annex-B	0.01% to 10%
		Total Carbohydrates	IS 1656 Annex-C	1% to 80%
		Sodium as (Na)	IS 9497 Flame Photometry	0.020 mg/g to 100 mg/g
		Potassium as K	IS 9497 Flame Photometry	0.020 mg/g to 100 mg/g
		Total Phosphorous (as P)	IS 7874 (Part II) Cl. No. 6	(0.005% to 5%) w/w
		Ammoniacal Nitrogen as (NH ₃ -N)	IS 7874 (Part 1) Cl. No. (5.4.3), (5.4.1)	(0.001% to 5%) w/w
		Total Nitrogen (as N)	IS 7874 (Part 1) Cl. No. (5.4.1), (5.5.2)	(0.5% w/w to 10%) w/w
IV.	FOOD & AGRICULTURAL PRODUCTS			
1.	Bakery & Confectionery Products (Biscuits, Breads, Cakes, Cookies, Buns, Chocolates)	Moisture (Biscuits + Cookies)	IS 12711 Cl. No. 05	(0.05 to 5)%
		Total Solids (Biscuits + Cakes)	IS 12711 Cl. No. 8	(1 to 80)%
		Ash Content (Total Ash)	IS 12711 Cl. No. 6	(0.05 to 10)%
		Acid Insoluble Ash	IS 12711 Cl. No. 7	(0.025 to 5)%
		Fat content	IS 12711 Cl. No. 10	(0.1 to 20)%
		Acidity of the Extracted Fat as Oleic Acid	IS 12711 Cl. No. 11	(0.2 to 25)%
		Crude Fibre	IS 12711 Cl. No. 13	(0.1 to 10)%

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		Alcoholic Acidity	IS 12711 Cl. No. 14	(0.05 to 10)%
		Protein Content	IS 7219	(0.05 to 20)%
		Total Carbohydrates	IS 1656 Annex-C	(0.50 to 90)%
		pH Aqueous Extract	IS 12711 Cl. No.12	(2 to 13)
2.	Beverages (Alcoholic/Non-Alcoholic)	pH-Value	IS 3865	(2 to 14)
		Residue on evaporation or Total Solids (T.S)	IS 3752 Cl. No. 5	(0.005 to 2)% m/v
	Alcoholic Beverages	Acid content	IS 3752 Cl. No. 6	(0.0025 to 2)% m/v
	Whisky, Rum, Vodka, Beer, Wine, Nib, Gin, Champagne, Country Spirit, Cognac, Brandy	Specific Gravity	IS 3506	0.8 to 1
		Ethyl Alcohol Content	IS 3752 Cl. 4.3	(0.50% to 50)% v/v
		Total Acidity as Tartaric Acid	IS 3752 Cl. No. (7.1)	(1 to 5000) g/100 L
		Volatile Acidity as (Acetic Acid)	IS 3752 Cl. No. 8	(1 to 500) g/100 L
		Fixed Acidity	IS 3752 Cl. No. 9	(1 to 1000) g/100 L
		Easter Content as (Ethyl acetate)	IS 3752 Cl. No. 10	(1 to 2000) g/100 L
		Aldehyde content as Acetaldehyde	IS 3752 Cl. No. 12	(1 to 1000) g/100 L
		Copper (as Cu)	IS 3752 Cl. 15.30	(0.01 to 50) mg/L
		Iron as (Fe)	FSSAI-2016, Determination of metals in Foods (Lab manual) Cl. No. 7.5.5	(0.05 to 100) mg/L
		Arsenic (as As)	FSSAI-2016 Determination of metals in Foods (Lab manual) Cl. No. 7.20	(0.005 to 10) mg/L
3.	Cereals, Pulses & Cereal Products	Moisture Content	IS 4333 (Part II)-2	(0.1 to 10)%
		Total Ash Content	IS 14433 2007 Annex-B	(0.1 to 10)%
		Acid Insoluble Ash	IS 14433 2007 Annex-C	(0.1 to 2)%
	Dals (Urad Dal, Toor Dal, Masoor Whole, Masoor Dal, Mung whole, Mung Dal, Chola/	Protein Content	IS 7874 (Part 1) Sec 5.4.1 & 5.5.2	(0.05 to 50)%
		Nitrogen Content	IS 7874 (Part 1) Sec 5.4.1 & 5.5.2	(0.01 to 8)%
		Calcium	IS 4285	(0.01 to 50) mg/g

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	Chana, Rajma) Rice, Bajra, Corn / Maize, Wheat, Barley, Soybeans, Green PeasFlour (Wheat, Rice, Gram, Corn)	Magnesium	SOP / PL-0 A/17 Issue No 02	(0.01 to 50) mg/g
		Fat content	IS 7874 (Part 1) Cl. No. 7	(0.1 to 10)%
		Carbohydrates	IS 1656	(1 to 50)%
		Phosphorous as P	IS 5305	(0.01 to 5)%
		Crude Fibre	IS 10226 (Part 1)	(0.1 to 10)%
		Sodium (Na)	IS 9497	(0.1 to 50) mg/g
		Potassium (K)	IS 9497	(0.1 to 50) mg/g
		Iron (Fe)	IS 14433 Annex-D-2	(1 to 1000) mg/g
		Copper (Cu)	FSSAI-2016 Determination of Metals in Foods (Lab manual) Cl. No7.40	(0.050 to 1000) mg/kg
		Arsenic (As)	FSSAI-2016 Determination of Metals in Foods (Lab manual) Cl. No. 7.20	(0.01 to 200) mg/g
4.	Coffee & Cocoa Products Coffee Powder/ Soluble Coffee (Instant) Powder/ Soluble Coffee- Chicory Powder	Moisture Content	IS 3077 Annex-E R A	0.1% to 5%
		Total Ash Content	IS 3077 Annex-F R A	0.05% to 10%
		Acid Insoluble Ash	IS 3077 Annex-GR A	0.05% to 2%
		Water Soluble Ash	IS 3077 Annex-HR A	0.1% to 30%
		Water Soluble Matter	IS 3077 Annex-KR A	0.05% to 50%
		Petroleum Ether Extract	IS 3077 Annex-MR A	0.05% to 30%
		Caffeine Content	IS 3077 Annex-LR A	0.05% to 10%
		Alkalinity of Soluble Ash (ml of N/10 HCL per g)	IS 3077 Annex-JR A	0.05 ml/g to 20 ml/g
5.		Edible Oils & Fats Mustard Oil, Rice Bran Oil, Soyabean Oil, Linseed Oil, Castor Oil, Coconut Oil, Palm-Oil,	Moisture Content	IS 548 (Part 1) Cl. No.5(c)
	Acid-Value		IS 548 (Part 1) Cl. No. 7	(0.02 to 5)
	Free-Fatty Acids (FFA)		IS 548 (Part 1) Cl. No. 7	
	FFA as Oleic Acid		IS 548 (Part 1) Cl. No.7.3.1 (a)	(0.01 to 5)%
	FFA as Lauric Acid		IS 548 (Part 1) Cl. No.7.3.1 (b)	(0.01 to 5)%
	FFA as RicinoleicAcid		IS 548(Part 1) Cl. No.7.3.1(c)	(0.01 to 5)%

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	Almond Oil	FFA as Palmitic Acid	IS 548(Part 1) Cl. No.7.3.1 (d)	(0.01 to 5)%
		Saponification Value	IS 548 (Part 1) Cl. No. 15	1 to 400
		Iodine Value	IS 548 (Part 1) Cl. No. 14	0.1 to 500
		Ash Content	FSSAI-2015 Lab. Manual-5Sec 14.40	(0.01 to 10)%
		Specific Gravity	IS 548 (Part 1) Cl. No.11.3	0.5 to 2
		Unsaponifiable Matter	IS 548 (Part 1) Cl. No. 8	(0.01 to 10)%
		Per-Oxide Value	IS 548 (Part 1) Cl. No.20	(0.05 to1000) miliequivt/1000 g
		Allyl Isothiocyanate	IS 548 (Part 1) Cl. No.17	(0.01 to 10)%
		Reichert Messl Value	IS 548 (Part 1) Cl. No.18	(0.05 to 30)
		Polenske Value	IS 548 (Part 1) Cl. No.19	(0.05 to 100)
6.	Food Additives & Preservatives			
a.	Sorbitol Powder (Food Grade)	Moisture	IS 4750 A-2	(0.1 to 5)%
		Purity (Assay)	IS 4750 A-1, Method-II	(10 to 100)%
		Sulphate SO4=	IS 4750 A-5	(0.005 to 1)%
		Chloride (Cl-)	IS 4750 A-6	(0.001 to 2)%
		Total Sugar	IS 4750 A-7	(0.1 to 10)%
		Arsenic (AS)	IS 2088	(0.01 to 100) mg/kg
		Nickel (Ni)	IS 13318 No. (6.0 to 7.1.2)	(0.05 to 100) mg/kg
		Iron (Fe)	IS 14433 A-8	(0.1 to 500) mg/kg
		Copper (Cu)	IS 7212 No.6	(0.05 to 100) mg/kg
		Reducing Sugar	IS 4750 A-3	(0.05 to 10)%
b.	Sodium Citrate (Food Grade)	Moisture	IS 5058 Annex-B	(0.10 to 5)%
		Purity (Assay)	IS 5058 Annex-A	(10 to 100)%
		Arsenic (As)	IS 2088	(0.01 to 100) mg/kg
		Copper (Cu)	IS 7212 No.6	(0.05 to 100) mg/kg
		Iron (Fe)	IS 14433 Annex D-2	(0.10 to 500) mg/kg
		Nickel (Ni)	IS 13318 No. (6.0 to 7.1.2)	(0.05 to 100) mg/kg
c.	Sodium Benzoate C6H5COONa (Food-Grade)	Moisture	IS 4447 Annex-D	(0.1 to 5)%
		Purity (Assay)	IS 4447 Annex-B	(10 to 100)%
		Arsenic (As)	IS 2088	(0.01 to 100) mg/kg

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		Copper (Cu)	IS 7212	(0.05 to 100) mg/kg
		Iron (Fe)	IS 14433	(0.1 to 500) mg/kg
		Nickel (Ni)	IS 13318 No. (6.0 to 7.1.2)	(0.05 to 100) mg/kg
d.	Sodium Bicarbonate	Total Alkalinity as (Sodium Bicarbonate Assay)	IS 2124 Annex-A	(1 to 99.5)%
		pH of 1% aqueous soln	IS 2124 Annex-B	(2 to 13)
		Chlorides (Cl)	IS 2124 Annex-C	(0.0005 to 10)%
		Sulphates (SO ₄)	IS 2124 Annex-E	(0.0005 to 1)%
		Iron (Fe)	IS 14433 Annex D-2	(0.1 to 500) mg/kg
		Copper (Cu)	IS 7212	(0.05 to 100) mg/kg
		Arsenic (As)	IS 2088	(0.01 to 100) mg/kg
		Nickel (Ni)	IS 13318	(0.05 to 100) mg/kg
		Insoluble Matter	IS 2124 Annex-D	(0.005 to 5)%
7.	Fruit & Fruit Products			
a.	Apple, Banana, Grapes, Papaya, Mango, Orange, Mandarin, Pomegranate, Lemon, Lime Pine Apple, Cherries, Pears & Melons	Water content	IS 4333 (Part II)	(0.5 to 95)%
		Total Nitrogen (N)	IS 7219	(0.05 to 8)%
		Protein	IS 7219	(0.05 to 50)%
		Fat	AOAC 945.38.F	(0.1 to 40)%
		Ash Content	FSSAI-2016 (Fruits & Veg)	(0.1 to 5)%
8.	Vegetable & Vegetable Products			
a.	Okra, Onion, Cauliflower, Cabbage, Potatoes, Pepper, Carrots Peas, Snow Peas, Mushrooms, Green Chilly, Tomatoes, Cherry,	Acid (HCL) Insoluble Ash	IS 13846	(0.05 to 2)%
		Sodium (Na)	IS 9497	(0.1 to 10,000) mg/100 g
		Potassium (K)	IS 9497	(0.1 to 10,000) mg/100 g
		Calcium (Ca)	IS 2860	(0.1 to 10,000) mg/100 g
		Magnesium (Mg)	IS 13574	(0.1 to 10,000) mg/100 g

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	Tomatoes, Gherkin, Cucumber, Brinjal, Bitter & Gourd			
9.	Jams, Juices, Sauces & Concentrates	Phosphorous (P)	IS 5305	(0.1 to 5000) mg/100 g
		Iron (Fe)	IS 14433 Annex-D-2	(1 to 10,000) mg/kg
		Copper (Cu)	FSSAI-Lab Man-9 2015	(0.1 to 10,000) mg/kg
		Chloride (Cl-)	FSSAI 2016 Fruits & Veg	(0.1 to 10,000) mg/100 g
	Sauces, Puree, Ginger paste, Juices Soup, Soup Powder, Murabba, Squashes, Sharbat, Juices, Chutnies, Jellies, Dehydrated, Fruits Frozen, Fruits & Jams	Manganese (Mn)	IS 7874 (Part 2)	(0.5 to 10,000)
		Arsenic (As)	FSSAI-2016 Metals in Food Cl. No. 7.20	(0.05 to 1000) mg/kg
		Acidity as (Citric Acid)	IS 2860 Clause No 10	(0.1 to 20)%
10.	Milk & Dairy Products	pH-Value	IS 1479 (Part 2), No.6	(2 to 14)
	Liquid Milk of Cows, Buffaloes & Pasteurised Milk & Packaged Pasteurised Milk Condensed Milk	Total Acidity as (Lactic acid)	IS 1479 (Part 1), Cl. No.14	(0.02 to 5)%
		Total Solid Content	IS 1479 (Part II), Cl. No.04	(0.5 to 50)%
		Total Fat Content	IS 1479 (Part 2), Cl. No.05	(0.05 to 10)%
		S.N F. Solid (Non-Fat)	SOP / P.L / 2017 / 01 Issue No 01	(0.5 to 10)%
		Total Ash content	IS 1479 (Part II), Cl. No.16	(0.025 to 10)%
		Total Crude Protein	IS 1479 (Part II), Cl. No. 08	(0.1 to 30)%
		Total Nitrogen (as N)	IS 1479 (Part II) Cl. No. 07	(0.01 to 10)%
		Total Carbohydrates	IS 1656	(1% to 25)%
		Total Protein content	IS 1479 (Part II),Cl. No.09	(0.1 to 25)%
		Non-Proteinous	IS 1479 (Part II),Cl. No.12	(0.01 to 10)%

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		Nitrogen		
		Casein Content	IS 1479 (Part II) Cl. No.8	(0.1 to 10)%
		Albumen content	IS 1479 (Part II), Cl. No.11	(0.01 to 10)%
		Phosphorous(as P)	IS 1479 (Part II) Cl. No.19	(0.01 to 25) mg/g
		Calcium (as Ca)	IS 1479 (Part II),Cl. No.17	(0.1 to 50) mg/g
		Magnesium (as Mg)	IS 1479 (Part II), Cl. No.18	(0.1 to 25) mg/g
		Iron (as Fe)	IS 14433 Annex D Method 1	(1 to 10,000) mg/kg
		Chloride (as Cl-)	IS 1479 (Part II) Cl. No.15	(0.5 to 1100) mg/g
		Sodium (as Na)	IS 9497	(0.05 to 200) mg/g
		Potassium (as K)	IS 9497	(0.05 to 200) mg/g
		Lactose content	IS 1479 (Part II), Cl. No.13	(0.1 to 10)%
11.	Milk Powder, Skimmed Milk, Powder Dried, Milk Products & Dried Milk Powder	Moisture Content	IS 11623	(0.05 to 10)%
		Ash Content	IS 1165 Annex-A	(0.01 to 10)%
		Acidity (as Lactic Acid)	IS 1165 Annex-B	(0.05 to 5)%
		Protein Content	FSSAI-Lab Manual-1, 2016 Sec. 10.60 Sec 19.0	(0.5 to 25)%
		Total Nitrogen	FSSAI-Lab Manual-1, 2016 Sec. 10.60 Sec 19.0	(0.05 to 10)%
		Total Fat content	IS 11721	(0.5 to 25)%
		Total Carbohydrate content	IS 1656	(0.5 to 70)%
		Total Phosphorous as P	IS 5305	(0.1 to 20) mg/g
		Chlorides (as Cl-)	FSSAI Lab manual-2016 Lab manual-1, Sec. 12.4.1 Volhard-Method	(0.1 to 25) mg/g
		Calcium (as Ca)	IS 4285 Volumetric Permanganate method	(0.05 to 100) mg/g
		Magnesium (as Mg)	IS 1479 (Part II) Cl. No.18	(0.1 to 50) mg/g
		Sodium (as Na)	IS 9497	(0.05 to 200) mg/g
		Potassium (as K)	IS 9497	(0.05 to 200) mg/g
		Iron (as Fe)	IS 14433	(1 to 10,000) mg/kg
12.	Tea, Instant Tea, Green Tea	Moisture content	IS 13859	(0.05 to 5)%
		Total Ash Content	IS 13860	(0.05 to 10)%
		Acid Insoluble Ash	IS 13857	(0.02 to 5)%

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		Water Soluble Ash	IS 13855	(0.1 to 25)%
		Alkalinity of Water Soluble Ash as (K ₂ O)	IS 13856	(0.02 to 20)%
		Water Extract	IS 13862	(0.1 to 70)%
		Crude Fibre Content	IS 10226 (Part 1)	(0.05 to 50)%
13.	Spices & Condiments Spices and Condiments any Edible Spice Whole, Ground or Mixed (Turmeric, Chilies, Cinnamon, Cumin Seeds, Cardamom, Tamarind, Spice Blends, Herbs, White/Black Pepper, Saffron, Asafoetida, Coriander)	Moisture Content	IS 1797 Cl. No. 9 By distillation (Dean-Stark)	(0.1 to 10)%
		Ash content	IS 1797 Cl. No. 6	(0.1 to 10)%
		Acid (HCL) Insoluble Ash	IS 1797 Cl. No. 8	(0.05 to 10)%
		Non-Volatile Ether Extract	IS 1797 Cl. No. 14	(0.1 to 10)%
		Volatile Oil-Content	IS 1797 Cl. No. 15	(0.1 to 10)%
		Crude Fibre Content	IS 1797 Cl. No. 13	(0.1 to 20)%
		Water Insoluble Ash	IS 1797 Cl. No. 7	(0.1 to 5)%
		Salt as (NaCL)	IS 1797 Cl. No. 16	(0.05 to 10)%
		Calcium Oxide(Lime)	IS 1797 Cl. No. 12	(0.05 to 10)%
		Iron as Fe	IS 14433 Annex D-2	(1 to 500) mg/kg
		Copper as (Cu)	FSSAI-2016 Detmn of metals in Foods Cl. No.-7.4	(0.01 to 500) mg/kg
		Arsenic as (As)	FSSAI-2016 Determination of Trace-Metals in Foods Cl. No.7.20	(0.01 to 200) mg/kg
V.		METALS AND ALLOYS		
1.	Zinc Ash	Zinc (Zn)	IS 4611 A-3; IS 3187	0.5 to 80%
		Lead (Pb)	IS 406 Sec-5	0.05 to 50%
		Aluminium (Al)	ISO 791 (11/15) BARC-1448 Appendix Pg.No.13	0.02 to 25%
		Iron (Fe)	IS 3187, IS 15556, 4.2 Method-B	0.02 to 25%
		Copper (Cu)	IS 2600 (Part 1)	0.0001 to 5%
		Ammonium Chloride	IS 701	0.1 to 20%

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		(NH ₄ CL)		
		Chloride	F.CO 16 th Edn 2012	1 mg/g to 200 mg/g
2.	Zinc Dross / Commercial Zinc/ Spelter	Zinc (Zn)	IS 4611 A-3; IS 3187	0.5% to 98%
		Lead (Pb)	IS 406 Sec-5	0.05% to 50%
		Aluminium (Al)	ISO 791(11/15) BARC-1448 Appendix Pg. No.13	0.02% to 25%
		Iron (Fe)	IS 3187; IS 15556 4.2 Method-B	0.02% to 25%
		Copper (Cu)	IS 2600 (Part 1)	0.0001% to 5%
3.	Zinc Dust	Zinc (Zn)	IS 4611 A-3; IS 3187	0.5% to 98%
		Lead (Pb)	IS 406 Sec-5	0.05% to 50%
		Aluminium (Al)	ISO 791 (11/15); BARC-1448 Appendix Pg.No.13	0.02% to 25%
		Iron (Fe)	IS 3187, IS 15556	0.02% to 25%
		Copper (Cu)	IS 2600 (Part 1)	0.0001% to 5%
		Ammonium Chloride (NH ₄ CL)	IS 701	0.1% to 20%
		Chloride	F.CO 16 th Edn	1 mg/g to 250 mg/g
		Metallic Zinc (as Zn)	IS 4611 A-2	1% to 92%
VI.	BUILDING MATERIALS			
1.	Fly Ash	Silica as SiO ₂	IS 1727	0.1% to 75%
		Ferric Oxide as Fe ₂ O ₃	IS 1727	0.1% to 20%
		Alumina as Al ₂ O ₃	IS 1727	0.5% to 20%
		Loss on ignition	IS 1727	0.1% to 20%
		Magnesia as MgO	IS 1727	0.05% to 25%
		Total Chloride as Cl	IS 4032	0.005% to 1%
		Available alkali as Equivalent Na ₂ O	IS 1727	0.001% to 1%
		Total Sulphur as SO ₃	IS 1727	0.02% to 5%
2.	Coal Ash	Silica as SiO ₂	IS 1355	1% to 75%

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		Ferric Oxide Fe ₂ O ₃	IS 1355	0.5% to 20%
		Alumina as Al ₂ O ₃	IS 1355	1% to 20%
		Lime as CaO	IS 1355	0.1% to 25%
		Magnesia as MgO	IS 1355	0.1% to 25%
		Phosphorous as (P ₂ O ₅)	IS 1355	0.01% to 1%
		Soda as Na ₂ O	IS 1355	0.01% to 1%
		Potash as K ₂ O	IS 1355	0.01% to 1%
		Sulphur as SO ₃	IS 1355	0.02% to 5%
VII.	SOLID FUELS			
1.	Coal	Moisture Content	IS 1350 (Part I)	0.5% to 25%
		Volatile Matter (VM)	IS 1350 (Part I)	1% to 50%
		Ash Content	IS 1350 (Part I)	2% to 80%
		Fixed Carbon Content (F.C)	IS 1350 (Part I)	10% to 60%
		Sulphur as S	IS 1350 (Part III)	0.05% to 20%
		Nitrogen as N	IS 1350 (Part IV / Sec-2)	0.05% to 20%
		Phosphorous as P	IS 1350 (Part V)	0.02% to 5%
		Chlorine as Cl	IS 1350 (Part V)	0.01% to 10%
		Arsenic as As	IS 1350 (Part V), IS 2088	0.50 mg/kg to 100 mg/kg
VIII.	INDUSTRIAL & FINE CHEMICALS			
1.	Zinc Oxide	Moisture Content	IS 7086 (Part 1) Cl. No. 7	0.01% to 10%
		Loss on Ignition	IS 7086 (Part 1)	0.05% to 20%
		Acid Insoluble in HCl	IS 7086 (Part 1) Cl. No. 9	0.02% to 5%
		Sieve Residue 45µ IS-sieve	IS 3399, Annex B	0.01% to 10%
		Zinc Oxide as ZnO	IS 3399, Annex A	1% to 99.8%
		Lead (as Pb)	IS 7086 (Part 1) No.14	0.01% to 10%
		Iron (as Fe)	IS 7086 (Part 1) No.13	0.001% to 1%
		Copper (as Cu)	IS 7086 (Part I) No.12	0.001% to 1%
		Manganese (as Mn)	IS 7086 (Part 1) No.12	0.01% to 1%

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		Arsenic (as As)	IS 2088 Sec 5.1 & 5.2	0.10 mg/kg to 5000 mg/kg
2.	Zinc Chloride	Zinc Chloride Content (ZnCl ₂)	IS 1880	1% to 95%
		Ammonium Compounds as NH ₄ Cl	IS 701	0.1% to 80%
		Sulphur as sulphate	IS 35	0.01% to 10%
		Manganese (as Mn)	IS 7086 (Part 1) No.12	0.01% to 1%
		Iron (as Fe)	IS 7086 (Part 1)	0.01% to 1%
		Copper (as Cu)	IS 7212	0.001% to 1%
3.	Zinc Sulphate Heptahydrate ZnSO ₄ .7H ₂ O & Zinc Sulphate Mono-Hydrate ZnSO ₄ .H ₂ O	Zinc in Zinc-Sulphate Hepta-Hydrate (Zn SO ₄ .7H ₂ O) as Zn	IS 8249 (Met-2)	0.5% to 22.50%
		Zinc in Zinc-Sulphate Mono-Hydrate (Zn SO ₄ .H ₂ O) as Zn	IS 15848	1% to 36.4%
		Sulphur (as S) in Zinc Sulphate Mono-Hydrate Zn SO ₄ .H ₂ O	IS 6092 (Part 5) Sec 5.3, IS 2317	0.5% to 19.50%
		Sulphur as (S) in Zinc Sulphate Hepta-Hydrate Zn SO ₄ .7H ₂ O	IS 6092 (Part 5) Sec 5.3	0.5% to 11%
		Manganese as Mn	IS 6092 (Part 5) Sec 6.4.1	0.001% to 5%
		Arsenic as AS	IS 2088 Sec 5.1 & Sec 5.2	0.2 mg/kg to 5000 mg/kg
		Iron as Fe	IS 15556, Cl. No. 4.5 Method B	0.1% to 10%
		Copper as Cu	IS 7212	0.001% to 1%
		Chloride as Cl	FCO 16 th edn.	0.10 mg/g to 100 mg/g
		Magnesium as Mg	IS 15848 (Annex B)	0.05% to 10%
IX.	ORES & MINERALS			
1.	Iron Ore	Moisture	IS 1493 Cl. No. 1	0.01% to 10%
		Sulphur (S)	IS 1493 Cl. No. 18	0.05% to 5%
		Phosphorous (P)	IS 1493 Cl. No. 17	0.01% to 0.50%

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		Total Iron (Fe)	IS 1493 Cl. No. 7.3	15% to 69%
		Alumina (Al ₂ O ₃)	IS 1493 Cl. No. 8	0.05% to 20%
		Silica (SiO ₂)	IS 1493 Cl. No. 6	0.10% to 20%
		Lime (CaO)	IS 1493 Cl. No. 15	0.010% to 5%
		Magnesia (MgO)	IS 1493 Cl. No. 16	0.010% to 5%
		Sodium Oxide (Na ₂ O)	IS 9497	0.010% to 2%
		Potassium Oxide (K ₂ O)	IS 9497	0.010% to 2%
		Copper (Cu)	IS 1493 Cl. No. 24.40; IS 7212 Cl. No. 6	0.001% to 1%
		Arsenic (As)	IS 2088	0.50 mg/kg to 500 mg/kg
2.	Manganese Ore	Moisture	IS 1473 Cl. No. 5	0.50% to 10%
		Silica (SiO ₂)	IS 1473 Cl. No. 6	0.10% to 20%
		Alumina (Al ₂ O ₃)	IS 1473 Cl. No. 13	0.10% to 15%
		Iron (Fe)	IS 1473 Cl. No. 12	0.10% to 15%
		Sodium Oxide (Na ₂ O)	IS 9497	0.010% to 2%
		Potassium Oxide (K ₂ O)	IS 9497	0.010% to 2%
		Sulphur (S)	IS 1473 Cl. No. 15	0.05% to 2%
		Phosphorous (P)	IS 1473 Cl. No. 14	0.005% to 1.00%
		Lime (CaO)	IS 4285	0.10% to 5%
		Magnesia (MgO)	IS 6932 (Part 1)	0.10% to 5%
		Total Manganese (Mn)	IS 1473 Cl. No. 8	15% to 60%
		Manganese Dioxide (MnO ₂)	IS 1473 Cl. No. 10	20% to 80%
3.	Gypsum	Free water	IS 1288	0.5% to 2%
		Silica (SiO ₂) and acid insoluble	IS 1288	0.10% to 10%
		Iron and Aluminum oxides	IS 1288	0.5% to 10%
		Phosphorous (P)	IS 3204; IS 3505	0.001% to 1%
		Calcium Oxide (CaO)	IS 1288	5% to 30%
		Magnesium Oxide (MgO)	IS 1288	0.1% to 10%
		Sodium Chloride	IS 1288	0.01% to 5%
		Sodium Oxide (Na ₂ O)	IS 9497	0.05% to 5%

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		Potassium Oxide (K ₂ O)	IS 9497	0.05% to 5%
		Calcium Sulphate dehydrate (CaSO ₄ -2H ₂ O)	IS 1288 Cl. No. 12	1% to 98%
		Sulphur Trioxide (SO ₃)	IS 1288 Cl. No 12	0.5% to 45%
4.	Limestone and Dolomite, Calcites & Magnesite	Moisture Content	IS 15751	0.05% to 5%
		Loss on Ignition (LOI)	IS 1760 (Part 1)	0.1% to 44%
		Silica (SiO ₂)	IS 1760 (Part 2)	0.1% to 30%
		Ferric Oxide (Fe ₂ O ₃)	IS 1760 (Part 3) Cl. No. 6 IS 15556	0.01% to 1% 0.05% to 20%
		Alumina (Al ₂ O ₃)	IS 1760 (Part 3)	0.5% to 15%
		Total Sulphur (S)	IS 3204 Cl. No. Annex-3	0.01% to 2%
		Phosphorous (P)	IS 3204 IS 5305	0.1% to 1%
		Calcium Oxide (CaO)	IS 1760 (Part 3) Cl. No. 8	0.5% to 56%
		Magnesium Oxide (MgO)	IS 1760 (Part 3) Cl. No. 9	0.1% to 55%
		Chlorides (Cl-)	IS 1760 (Part 5)	0.01% to 5%
		Sodium Oxide (Na ₂ O)	IS 9497	0.05% to 5%
		Potassium Oxide (K ₂ O)	IS 9497	0.05% to 5%

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