

**MUNICIPAL CORPORATION OF GREATER MUMBAI**

**MUNICIPAL ANALYST LABORATORY**

# **CUSTOMER GUIDE**

**Introduction: -**

\* Purpose of Customer Guide is to provide information about the Sample Analysis performed in laboratory.

\* As per capability and resources available in the laboratory, the test parameters for analysis and cost of analysis are clearly defined.

## AMENDMENT SHEET

Sr No	Page No.	Sample Type	Date of Amendment	Amendment	Reasons	Signature QM	Municipal Analyst
1	6-20	--	10.07.2020	Fees Structure	Per Annum Change as per MCGM Guidelines		
2	6-20	--	10.07.2020	Test methods specified w.r.t test	Pre-assessment Observation		
3	6-20	--	01.04.2021	Fees Structure	Per Annum change as per MCGM Guidelines		
4	6	Khoa/Mawa	01.04.2021	Test parameters added	FSSR, 2011 Standard		
5	5	--	01.08.2021	Terms & Conditions amended	Review of Terms & condition		
6	6-20	--	01.04.2022	Fees Structure	Per Annum change as per MCGM Guidelines		
7	6-20	--	01.04.2023	Fees Structure	Per Annum change as per MCGM Guidelines		

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## Terms and Conditions for Sample Analysis

- 1) Customer should submit the sample in clean/sterile\* container/bottle. In case of multiple samples, the information regarding samples should be clearly mentioned in the Customer Service Request Form. (\*sterile bottles available at sample reception counter)
- 2) Before submitting the sample for analysis, Customer should read the Customer Guide Available at Sample Reception Section and understand
  - a) The quantity of food sample required for analysis.
  - b) Testing charges applied by the laboratory.
  - c) Respective tests to be performed and the test methods.
- 3) After understanding the scope of tests done in laboratory, customer should fill & sign the Customer Service Request Form with Name, Address, Contact No., Quantity of sample, Specific requirements, information required by the laboratory.
- 4) If Customer wants the sample to be tested by method other than specified method, please ask for technical opinion.
- 5) In case, if laboratory does not have capability and resources for the specific test method requested by customer, Laboratory does not accept the sample.
- 6) Customer should submit appropriate quantity of the sample along with testing charges at the sample reception table. If Sample submitted is insufficient for analysis, only possible tests will be carried out.
- 7) Customer has to bring original money receipt to get the analysis report. The report will be issued on 14th working day from receipt of sample (Except the report of samples for Shelf-Life Estimation)
- 8) There is no provision for return of remnant sample after analysis. The remnant sample will be disposed after 20 working days from the date of receipt of sample. Perishable Sample will be disposed after its shelf life / expiration.
- 9) MAL assures the customer that the results obtained on testing the sample provided by the customer will not be disclosed to anybody else other than the customer or concerned regulatory authority without explicit permission from the customer. Legal action can be taken by customer if this requirement is not complied by MAL.
- 10) If Customer require statement of conformity to a specification or standard for the test, clearly mention in Customer Service Request Form.

**Decision Rule: While stating the conformity statement, the measurement uncertainty will not be considered. However, if requested, Measurement Uncertainty will be conveyed to the customer.**

## Dairy Products &amp; Analogues

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Milk Curd Flavoured Milk	100-300ml 100-300g	Total Solids	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Fat in Milk	
			Milk Solid Not Fat	
			Qualitative test for Cane Sugar	
			Determination of Sugar (Flavoured Milk)	
			Qualitative test for Starch	
			Qualitative test for Urea	
			Qualitative test for Bicarbonate	
			Qualitative test for Preservative	
2	Cream, Malai, Chhena or Paneer	100-200g	Total Solid	FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products)
			Milk Fat /Total Fat	
			Milk Protein/Total Protein	
			Synthetic Food Colour	
3	Cheese & Cheese Products	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat (on dry basis)	
4	Concentrated Milk/ Sweetened Condensed Milk/ Dairy based Desserts / Confections (Ice-cream, Frozen Desserts)	100-200g	Total Solid %	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat /Total Fat %	
			Milk Protein/Total Protein	
			Milk solid not fat% (Sweetened condensed Milk)	
			Synthetic Food Colour (Qualitative Test)	
5	Khoa / Mawa	100-200g	Total Solids, Min. %	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat, Min. %	
			Total Ash, Max. %	
			Titration acidity (as % lactic acid), Max %	
			Test for Starch (Qualitative Test)	
			Test for Sugar (Qualitative Test)	
			Reichert Meissl Value	
			Polenske Value	
			Butyrefractometer Reading	

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
6	Milk Powder	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat	
			Milk Protein	
			Titration Acidity	
			Total Ash	
7	Shrikhand/ Chakka	100-200g	Total Solid	FSSAI Manual of Methods of Analysis of Foods (Milk & Milk Products)
			Milk Fat	
			Milk Protein	
			Titration Acidity	
			Total Ash	
			Sucrose (in Shrikhand)	
			Synthetic Food Colour	
8	Table Butter / White-Cooking Butter	200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat	
			Milk Solids Not Fat	
			Common Salt	
9	Ghee	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat	
			B. R Reading at 40°C	
			Reichert Meissl Value	
			Polensky Value	
			FFA as Oleic Acid	
			Boudouin Test	
			Iodine Value	
Saponification Value				
10	Milk Fat/ Butter Oil	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Fat	
			B. R Reading at 40°C	
			Reichert Meissl Value	
			Polensky Value	
			FFA as Oleic Acid	
			Boudouin Test	
			Iodine Value	
Saponification Value				
11	Fermented Milk Products (Buttermilk/Chhaach)	100-200 ml	Milk Protein %	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Titration Acidity % (as Lactic Acid)	
12	Milk Protein Concentrate / Whey Protein Concentrate	100-200 g	Moisture %	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Milk Protein %	
			Total Ash %	
			Insolubility Index	
13	Cow or Buffalo Colostrum & Colostrum Products	100 – 200 g/ 100 - 200ml	Moisture %	FSSAI Manual of Methods of Analysis of Foods - (Milk & Milk Products)
			Protein	
			Fat	
			Total Ash (Colostrum Powder)	

**Fats, Oils and Emulsions**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Edible Oils and Edible Fats (Test are applicable as per FSSAI Standards)  Peanut Butter/ Shea Butter	150-250ml	Moisture (for Refined Oil) Butyro Refractometer Reading at 40 <sup>0</sup> C Refractive Index at 40 <sup>0</sup> C Saponifiable Value Iodine Value Unsaponifiable Matter Acid Value / Free fatty acids (as Oleic Acid) Boudouin Test Cloud Point Reichert Meissl Value Polenske Value Test for Rancidity Peroxide Value Test for Mineral Oil	FSSAI Manual of Methods of Analysis of Foods - (Oils And Fats)
2	Margarine and Fat Spread / Bakery and Industrial Margarine	100-200g	Fat Moisture Unsaponifiable Matter Free Fatty Acid / Acid Value Baudouin Test	FSSAI Manual of Methods of Analysis of Foods - (Oils And Fats)
3	Hydrogenated Vegetable Oils / Vanaspati	100-200g	Moisture Unsaponifiable Matter Free Fatty Acid	FSSAI Manual of Methods of Analysis of Foods - (Oils And Fats)

**Fruits & Vegetable Products**

<b>Sr. No.</b>	<b>Food Products</b>	<b>Quantity required for analysis</b>	<b>Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2</b>	<b>Test Method</b>
1	Thermally processed / non-thermally processed Fruit & Vegetable Juices/ Fruit Nectars/ Pulps/ Purees / Squashes/ Crushes/ Fruit Syrups / Barley Water/ Synthetic Syrups/ Ready to serve Fruit Drinks/ Beverages/ Sharbat/ Murabba Jam/ Jelly Marmalades (Test are applicable as per FSSAI Standard)	50-100ml/ 50-100g	Total Soluble Solid Acidity Ash insoluble in dil. HCl  Synthetic Food Colour	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
2.	Soup Powder/ Fruit Bar/ Toffee	50-100 g	Moisture Total Soluble Solid	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
3.	Tomato Ketchup/ Sauce/ Puree/ Paste/ Tamarind Pulp/ Puree/ Soyabean Sauce	50-100 ml	Total Soluble Solid Acidity	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
4.	Dehydrated Vegetables / Chutney/ Grated Desiccated Coconuts/ Date Paste (Test are applicable as per FSSAI Standard)	50-100g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Total Ash	
			Ash insoluble in dil. HCl	
			pH	
5.	Pickles in Citrus Juice/ Brine/ Vinegar (Test are applicable as per FSSAI Standard)	100-200g	Sodium Chloride Content	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Acidity	
6.	Vinegar	100-200ml	Acidity	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Total Solids	
			Total Ash	
7.	Nuts & Raisin (All Dry Fruits)/ Cocoa Beans/ Betelnut (Test are applicable as per FSSAI Standards)	100-250g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Damaged kernel/Damaged Unit	
			Unopened Shells	
			Empty Shell	
			Extraneous Matter	
			Rancidity	
			Acidity/ FFA as Oleic Acid	
			Acid insoluble Ash	
Peroxide Value				
8.	Seedless Tamarind/ Date Paste (Test are applicable as per FSSAI Standards)	100- 200 g	Moisture%	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Organic Extraneous Matter	
			Total Ash	
			Acid insoluble Ash	
			Crude Fibre	
			Tamarind Seeds	
9.	Coconut Milk/ Coconut Cream/ Coconut Milk Powder (Non-Dairy)	100-200 g/ 100-200 ml	Moisture%	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Total Solids%	
			Solids-not-Fat %	
			Fat%	
			pH	
			FFA as lauric acid	
10	Fermented Soyabean Paste	20 - 50 g	Moisture%	FSSAI Manual of Methods of Analysis of Foods - (Fruit and Vegetable Products)
			Total Nitrogen %	

**Cereal and Cereal Products**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Atta/ Maida/ Suji (Rawa)/ Besan/ Cornflour/ Macroni Products / Oat Products/ Flours (Test are applicable as per FSSAI Standards)	150-250g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Cereal and Cereal Products)
			Total Ash	
			Ash insoluble in dil. HCl	
			Gluten	
			Alcoholic Acidity	
			Total Protein (Protein rich Atta & Maida)	
2	Food Grains (Test are applicable as per FSSAI Standards)	250-500g	Extraneous Matter/Foreign Matter	FSSAI Manual of Methods of Analysis of Foods - (Cereal and Cereal Products)
			Other Edible Grains	
			Damaged Grains	
			Weevilled Grains	
			Moisture	
3	Maize Starch/ Corn Flakes/ Custard Powder/ Pearl Barley / Barley Powder/ Malted Food / sago Flour (Test are applicable as per FSSAI Standards)	150- 250 g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Cereal and Cereal Products)
			Total Ash	
			Ash insoluble in dil. HCl	
			Gluten	
			Alcoholic Acidity	
			Starch Content	
			pH	
Crude Fibre				
4	Soy Protein Products/ Whole Maize Flour/Maize Grits/ Textured Soy Protein	100-150 g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Cereal and Cereal Products)
			Total Ash	
			Total Protein	
			Crude Fat	
			Crude Fibre	
5	Bakery Products (Biscuits/ Bread) (Test are applicable as per FSSAI Standards)	200-250g	Ash insoluble in dil. HCl	FSSAI Manual of Methods of Analysis of Foods - (Cereal and Cereal Products)
			Acidity of extracted Fat	
			Alcoholic Acidity	
			Synthetic Food Colour.	
			Rancidity of extracted fat	

**Meat and Meat Products**

<b>Sr. No.</b>	<b>Food Products</b>	<b>Quantity required for analysis</b>	<b>Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2</b>	<b>Test Method</b>
1	Fresh or Chilled or Frozen Meat (Test are applicable as per FSSAI Standards)	150-200 g	Moisture %	FSSAI Manual of Methods of Analysis of Foods - (Meat & Meat Products)
			Protein %	
			Fat %	
			Carbohydrates %	
			Ash %	
2	Fresh Eggs/ Frozen Eggs (Test are applicable as per FSSAI Standards)	4-6 pieces	Moisture % / Min. solids matter content%	FSSAI Manual of Methods of Analysis of Foods - (Meat & Meat Products)
			Protein %	
			Fat %	
			Carbohydrates %	
			Ash %	
3	Pickled Eggs	50-100 g	Acidity as Acetic Acid %	FSSAI Manual of Methods of Analysis of Foods - (Meat & Meat Products)
			Sodium Chloride %	
			pH	

**Sweets & Confectionery**

<b>Sr. No.</b>	<b>Food Products</b>	<b>Quantity required for analysis</b>	<b>Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2</b>	<b>Test Method</b>
1	Sugar boiled confectionery / Milk Toffee/ Butter Toffee (Test are applicable as per FSSAI Standards)	100-200g	Ash insoluble in dil. HCl	FSSAI Manual of Methods of Analysis of Foods - (Sugar and Sugar Products and Confectionery Products)
			Sulphated Ash	
			Total Fat	
			Total Protein	
2.	Chewing Gum/ Bubble Gum/Lozenges (Test are applicable as per FSSAI Standards)	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Sugar and Sugar Products and Confectionery Products)
			Ash insoluble in dil. HCl	
			Sulphated Ash	
			Reducing Sugar (as Dextrose)	
			Sucrose	
3.	Chocolate	100-200g	Insect & fungal infestation	FSSAI Manual of Methods of Analysis of Foods - (Sugar and Sugar Products and Confectionery Products)
			Total Fat	
			Milk Fat	
			Milk Solids	
			Acid insoluble Ash	
4.	Ice Lollies/ Edible Ice	100-200g	Sucrose	FSSAI Manual of Methods of Analysis of Foods - (Sugar and Sugar Products and Confectionery Products)
			Artificial Sweetener (Saccharin Sodium)	
5.	Cocoa Powder	100-200g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Sugar and Sugar Products and Confectionery Products)
			Acid insoluble ash	
			Alkalinity of total ash as K <sub>2</sub> O by weight	
			Crude Fibre	

**Sweetening Agents including Honey**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Sugar/ Bura Sugar/ Cube Sugar/ Kandsari Sugar/ Misri Sugar/ Icing Sugar (Tests are applicable as per FSSAI Standards)	50-100g	Moisture Sucrose Total Ash Ash insoluble in dil. HCl Sulphated Ash	DGHS Manual of Methods of Analysis of Foods - (Beverages, Sugar and Sugar Products and Confectionery Products)
2	Honey	100-200g	Moisture Total reducing Sugar Sucrose Fructose- Glucose Ratio Total Ash Acidity Fiehe's Test	DGHS Manual of Methods of Analysis of Foods - (Beverages, Sugar and Sugar Products and Confectionery Products)
3	Bees Wax	100-200 g	Solubility Acid Value Peroxide Value Saponification Value Ash Total volatile Matter	DGHS Manual of Methods of Analysis of Foods - (Beverages, Sugar and Sugar Products and Confectionery Products)
4	Jaggery/ Gur	200-250g	Total Sugar as Inverted Sugar Sucrose Extraneous Matter Total Ash Ash insoluble in dil HCl Added Colouring Matter	DGHS Manual of Methods of Analysis of Foods (Beverages, Sugar and Sugar Products and Confectionery Products)

**Salt, Spices, Condiments and Related Products**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Spices (whole) (Tests are applicable as per FSSAI Standards)	200-250g	Extraneous Matter	FSSAI Manual of Methods of Analysis of Foods - (Spices and Condiments)
			Moisture	
			Total Ash	
			Ash insoluble in dil. HCl	
			Volatile Oil Content	
	Saffron (Kesar)	15-20g	Cold Water-Soluble Extract	
			Other Edible Seeds	
			Test for Lead Chromate	
			Added colouring matter	
			Total Nitrogen Content (for Saffron)	
2	Powdered Spices/ Chili Powder/ Turmeric Powder/ Asafoetida (Hing)/ Mixed Masala Powder/ Dried Oregano Powder/ Seasoning  (Tests are applicable as per FSSAI Standards)	200-250g	Moisture	FSSAI Manual of Methods of Analysis of Foods - (Spices and Condiments)
			Total Ash	
			Ash insoluble in dil. HCl	
			Volatile Oil Content	
			Non-Volatile ether extract	
			Crude Fibre	
			Cold Water-Soluble Extract	
			Water Soluble Ash	
			Alcoholic Extract	
			Starch (in Asafoetida & Turmeric Powder)	
			Test for Lead Chromate	
			Total Nitrogen Content (for Saffron)	
			Acidity	
			Synthetic Food Colour	
3	Edible Common Salt	100-200g	Moisture	IS: 253-1985 (Reaffirmed 2009)
			Sodium Chloride content	
			Matter insoluble in water	
			Matter soluble in water other than NaCl	

**Beverages**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Tea / Green Tea (Tests are applicable as per FSSAI Standards)	100-200g	Total Ash	IS13854:1994 Reaffirmed 2014
			Water soluble ash	IS13855:1993 Reaffirmed 2014
			Alkalinity of water- soluble ash	IS13856:1993 Reaffirmed 2014
			Acid insoluble ash	IS13857:1993 Reaffirmed 2014
			Water Extract	IS13862:1999 Reaffirmed 2014
			Crude Fibre	IS16041:2012 Reaffirmed 2014
			Added Colouring matter	FSSAI Manual of Methods of Analysis of Foods – Beverages: Tea, Coffee, Chicory
2	Coffee/ Chicory / Coffee –Chicory Mixture	100-200g	Total Ash	FSSAI Manual of Methods of Analysis of Foods – Beverages: Tea, Coffee, Chicory
			Water soluble ash	
			Alkalinity of water- soluble ash	
			Acid insoluble ash	
			Water Extract	
			Crude Fibre	
			Added Colouring matter	
			Solubility in Boiling Water	
			Solubility in Cold Water	
Moisture %				
3	Carbonated Beverages (Cold Drinks: Pepsi, Cocacola, Thumps up etc.) (For Chemical Analysis)  (For Bacteriological Analysis)	100- 200ml	<b>Chemical Analysis</b>	DGHS Manual of Methods of Analysis of Foods -- (Food Additives)
			Synthetic Food Colour	
			Artificial Sweetners (Saccharin Sodium)	
		200- 300ml	<b>Bacteriological Analysis</b>	BIS Methods
			Total Plate Count	
			Coliform Count	
Yeast & Mould Count				
4	Alcoholic Beverages (Whisky/Toddy/Wine/ Beer)	1lit.	Alcohol Content	FSSAI Manual of Methods of Analysis of Foods – Alcoholic Beverages
			Residue on evaporation	
			Total Acidity (as Tartaric Acid)	
			Volatile Acids (as Acetic Acid)	
			Reducing sugar	
			Total Sugar	

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed	Test Method
5	Mineral Water / Packaged Drinking Water	2-3 lit.	<b>Chemical Analysis</b>	FSSAI Manual of Methods of Analysis of Foods -- (Water)
			Odour	
			Physical Appearance	
			Turbidity	
			Total Dissolved Solid	
			pH	
			Iron	
			Nitrate	
			Nitrite	
			Fluoride	
			Chloride	
			Sulphate	
			Alkalinity	
			Calcium	
		Residual Free Chlorine		
		2-3 lit	<b>Bacteriological Analysis</b>	
			Packaged Drinking Water	IS 14543: 2024
			Packaged Natural Mineral water	IS 13428: 2024
			Coliform count	IS 15185:2016
			<i>E. coli</i>	IS 15185:2016
			Yeast & Mould	IS 16069 (P-1) 2008 RA 2022
			Aerobic Plate Count (P-1)	IS 5402: 2021
			<i>Salmonella Sp.</i>	IS 15187:2016 RA 2021
<i>Vibrio cholerae &amp; Vibria Parahaemolyticus</i>	IS 5887 (Part 5): 1976 RA 2018			
<i>Pseudomonas aeruginosg</i>	IS 13428:2024 Annex-1			
<i>Faecal Streptococci</i>	IS 15186:2002 RA 2018			
<i>Staphylococcus aureus</i>	IS 5887 Part 2: 1976 RA 2020			
<i>Shigella</i>	IS 5887 (Part 7): 1999 RA 2022			
Sulphite reducing Anaerobe	IS 13428: 2024 Annex C			

**Other Food Products & Ingredients & Proprietary Food**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed as per the standards prescribed in FSS Regulations Chapter 2	Test Method
1	Pan Masala	25-50g	Insect & fungal infestation	As per prohibition order/ FSSA Notification by commissioner of food safety, FDA, Govt. of Maharashtra
			Test for carbonate	
2	Silver Leaf	2-3 Leaf's	Physical Testing	Physical Testing
2	Proprietary Food / Food for Quality Check (Prepared Food/ Cake/ Mithai etc.)	75-100g	Artificial Sweeteners (Saccharin Sodium)	Methods for tests are referred from FSSAI Manual of Methods of Analysis of Foods -- (Food Additives)
			Synthetic Food Colour	
			Rancidity of extracted fat	

**Food for Nutritional Analysis**

Sr. No.	Food Products	Quantity required for analysis	Tests to be performed	Test Methods
1	Food for Nutritional Analysis	100-150g	Moisture %	Halogen Moisture Balance
			Total Ash %	Gravimetric Method
			Total Fat %	Rose Gottlieb Method / Soxhlet Method
			Protein %	Kjeldahl Method
			Carbohydrates %	By difference
			Sucrose %	Lane Eynon Method
			Calorific Value	By Calculation

**Bacteriological Analysis for Food**

Sr. No.	Sample	Quantity required for analysis	Tests to be performed	Test Methods
1	Food	100g/ 100ml	Aerobic Microbial Count	IS 5402 (Part 1): 2021 - Pour Plate Method IS 5402 (Part-2): 2024 - Surface Plate Technique
			Yeast & Mold Count & Detection	IS 5403:1999 RA 2018 IS 16069 (Part 1): 2013 IS 16069 (Part-2): 2013
			Coliform Count	IS 5401 (Part-1):2012 RA 2022
			<i>E. coli</i> Count	IS 5887 (Part-1) :1976 RA 2022
		25g/25ml for each test	<i>Salmonella Spp.</i> detection	IS 5887(Part-3) Sec-1: 2020
			<i>Shigella</i> detection	IS 5887(Part-7) 1999 RA 2022
			<i>Vibrio cholerae</i> detection	IS 5887(Part-5): 1976 RA 2018
			<i>Vibrio cholerae</i> (For Fish Products)	(O1 & O139) - USFDA BAM Online, May 2004
			<i>Vibrio parahaemolyticus</i> detection	IS 5887 (P-5) 1976 RA 2018
			<i>Staphylococcus aureus</i> coagulase +ve count & detection	IS 5887 (P-2) 1976 (RA 2022)
			<i>Enterobacteriaceae</i> count/ detection	IS 17112 P-1 & P-2: 2019
			<i>Listeria Monocytogenes</i> detection	IS 4988 (P-1): 2020
			Sulphite reducing bacteria detection	ISO 15213: 2003
			Enterobacter Sakazaki	IS 18357: 2023

**Bacteriological Analysis for Water**

Sr. No.	Type of water	Quantity required for analysis	Tests to be performed as per IS Specifications	Test Methods
1	Drinking Water for Bacteriological Analysis (Standards prescribed in IS:10500 of 2012)	100ml	Coliform Count	IS 15185: 2016
			<i>E. coli</i>	IS 15185: 2016
2	Swimming Pool Water for Bacteriological Analysis (Standards prescribed in IS:3328: 1993 RA 2019)	100ml	Standard Plate Count	IS 3328: 2003 (Annex-A)
			Coliform Count	IS 15185: 2016

**Chemical Analysis of Water**

Sr. No.	Type of water	Quantity required for analysis	Tests to be performed as per the standards prescribed in IS Specifications	Test Methods
1	Drinking Water <b>(Standards prescribed in IS:10500 of 2012)</b>	1 - 2 lit.	Odour Physical Appearance Total Dissolved Solid Turbidity pH Nitrate Total Alkalinity as CaCO <sub>3</sub> Total Hardness as CaCO <sub>3</sub> Chloride Residual Free Chlorine Sulphate Iron Fluoride Calcium Ammonia	IS 3025 Part 05:1983 Reaffirmed 2002 Visual Examination TDS Electrode IS 3025 Part 10:2023 IS 3025 Part 11:1983 Reaffirmed 2006 IS 3025 Part 34: 1988 IS 3025 Part 23:1986 Reaffirmed 2003 IS 3025 Part 21:1983 Reaffirmed 2009 ASTM Methods D4646-87 By Chlorinometer APHA ASTM E 1615-05 IS 3025 Part 60:2008 AASTM D-511 IS 3025 Part 34:1988
2	Construction Water <b>(Standards prescribed in IS:456 of 2000)</b>	2 – 5 lit.	pH NaOH required to neutralize 100ml water H <sub>2</sub> SO <sub>4</sub> required to neutralize 100ml water Inorganic Solids Organic Solid Sulphate (as SO <sub>4</sub> ) Chloride (as Cl) Suspended Matter	IS 3025 Part 11:1983 Reaffirmed 2006 IS 3025 Part 22:1986 Reaffirmed 2003 IS 3025 Part 23:1986 Reaffirmed 2003 IS 3025 Part 18:1984 Reaffirmed 2002 IS 3025 Part 18:1984 Reaffirmed 2002 IS 3025 Part 24:1986 Reaffirmed 2009 IS 3025 Part 32:1988 Reaffirmed 2007 IS 3025 Part 17:1984 Reaffirmed 2012

Sr. No.	Type of water	Quantity required for analysis	Tests to be performed as per the standards prescribed in IS Specifications	Test Methods
3	Swimming Pool Water <b>(Standards prescribed in IS:3328: 1993 RA 2019)</b>	1 - 1.5 lit.	Odour	IS 3025Part 05:1983 Reaffirmed 2002
			Turbidity	IS 3025Part 10:1984 Reaffirmed 2006
			pH	IS 3025 Part 11:1983 Reaffirmed 2006
			Total Dissolved Solid	TDS Electrode
			Chloride	IS 3025 Part 32:1988 Reaffirmed 2007
			Total Alkalinity	IS 3025Part 23:1986 Reaffirmed 2003
			Total Residual Chlorine	By Chlorinometer
			Oxygen absorption	Tidy's Method

**Non-Food Articles**

<b>Sr. No.</b>	<b>Sample</b>	<b>Quantity required for analysis</b>	<b>Tests to be performed as per IS methods</b>	<b>Test Methods</b>
1	Soap <b>(Standards prescribed in IS 286: 1978 Reaffirmed 2008)</b>	250g	Total Fatty Matter	IS 286: 1978 Reaffirmed 2008
2	Bleach Solution (Sodium Hypochlorite) <b>(Standards prescribed in IS 11673: 1992)</b>	150-250g/ 150-250ml	Relative Density Available chlorine Free alkali Free sodium carbonate	IS 11673: 1992
3	Synthetic Detergent <b>(Standards prescribed in IS 4956: 2002)</b>	150-250g	Active ingredient Moisture and volatile matter pH Matter insoluble in water	IS 4956: 2002
4	Cleaning Powder <b>(Standards prescribed in IS 6047: 2009)</b>	150-250g	Active alkalinity Lather	IS 6047: 2009
5	Cigarette <b>(Standards prescribed in IS 1577:2008)</b>	25-50g	Loss on Heating Total Ash Ash insoluble in dil. HCl	IS 5643: 1999 Reaffirmed 2005
6	Gutkha/ Scented Tobacco/ Scented Supari/ Mukhwas <b>(fssai Notification)</b>	20-50g	Insect & Fungal Infestation Test for Carbonate	Visual Examination & Qualitative Test

**Samples for Shelf Life**

Sr. No.	Sample	Quantity required for analysis	Tests to be performed as per IS methods	Test Methods
1	<b>Shelf Life (Accelerated Shelf Life) – For Samples with minimum 2% fat</b>	100-150 g	Shelf Life	By Oxitest Instrument
2	<b>Shelf Life up to 30 days</b>	150-250g/ 150-250ml	Appearance/ Visual Examination Rancidity of extracted fat (If applicable) Acidity (If applicable)	FSSAI Manual of Methods

**Analysis by Instrumental Method**

Sr. No.	Sample	Quantity required for analysis	Tests to be performed as per IS methods	Test Methods
1	Nutritional Analysis of Mid-Day Meal	100-150 g	Protein % Calorific Value	By NIR Instrument
2	Fatty Acid Profile	100 g	Quantitative Analysis	Gas Chromatography
3	Pesticide Residue	100 g	Quantitative Analysis	Gas Chromatography
4	Food Additives	100 g	Quantitative Analysis	HPLC

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