

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 1 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<u>BIOLOGICAL TESTING</u>				
I.	WATER			
1.	Drinking Water, Packaged Drinking Water, Packaged Natural Mineral Water, Water for construction purpose, Water from Purifiers, Ground Water/ Surface Water, Water for Medicinal Purposes, Distilled/ Demineralised Water, Water for Swimming pool and spas, Water for Processed food industry, Water for industrial purpose	Aerobic microbial count at 37°C/	IS 5402	1 cfu/ml to 10 ⁷ cfu/ml
		Aerobic microbial count at 20-22°C	IS 1622	1 cfu/ml to 10 ⁷ cfu/ml
		Total Viable count	IS 3328	1 cfu/ml to 10 ⁷ cfu/ml
		Total Plate count		
		Standard Plate Count		
		Total Bacterial count		
		Aerobic Bacterial count		
		Aerobic Plate Count		
		Heterotrophic Plate count		
		Coliforms/ Total Coliform/ Coliform count/ Coliform bacteria	IS 15185	Qualitative (Present/Absent per 100 or 250 ml)
	IS 5401 (Part 1)	1 cfu/ml to 10 ⁷ cfu/ml		
	IS 1622	(<2 to 1600) MPN/100ml		
		Qualitative (Present/Absent per 100ml or per 250ml)		
	IS 5401 (Part 2)	(<0.2 to 180) MPN/100ml		
<i>Escherichia coli</i> / Thermo tolerant coliform Bacteria	IS 15185	Qualitative (Present/Absent per 100 or 250 ml)		
	IS 1622	(<2 to 1600) MPN/100ml		
		Qualitative (Present / Absent per ml)		

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 2 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				or 250ml)
			IS 5887 (Part 1)	Qualitative (Present/Absent per 100 or 250 ml) (<0.3 to 110) MPN/ml 1 cfu/ml to 10 ⁷ cfu/ml
		Fecal coliform	IS 1622	(<2 to 1600) MPN/100ml Qualitative (Present / Absent per ml or 250ml)
		<i>Pseudomonas aeruginosa</i>	IS 13428	Qualitative (Present/Absent per 100 or 250 ml)
		<i>Staphylococcus aureus</i> / Coagulase positive <i>Staphylococcus aureus</i>	IS 5887 (Part 2)	Qualitative (Present/Absent per 100 or 250 ml) 1 cfu/ml to 10 ⁷ cfu/ml
		<i>Salmonella spp.</i>	IS 5887 (Part 3)	Qualitative (Present/Absent per 100 or 250 ml)
			IS 15187	Qualitative (Present/Absent per 100 or 250 ml)
		<i>Fecal streptococci</i>	IS 15186	Qualitative (Present/Absent per 100 or 250 ml)
			IS 5887 (Part 2)	(0.3 to >110) MPN/ml 1 cfu/ml to 10 ⁷ cfu/ml
				Qualitative (Present/Absent per 100 or 250 ml)
		Sulphite reducing anaerobes	IS 13428	Qualitative (Present/Absent per

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 3 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				50ml or 100ml)
		<i>Shigella spp.</i>	IS 5887 (Part 7)	Qualitative (Present/Absent per 100 or 250 ml)
		<i>Vibrio cholerae</i>	IS 5887 (Part 5)	Qualitative (Present/Absent per 100 or 250 ml)
		<i>V. parahaemolyticus</i>	IS 5887 (Part 5)	Qualitative (Present/Absent per 100 or 250 ml)
		Yeast and Mould	IS 5403	1 cfu/ml to 10 ⁷ cfu/ml Qualitative (Present/Absent per 100 or 250 ml)
		Proteolytic Organisms & Lipolytic Organisms	IS 4251	1 cfu/ml to 10 ³ cfu/ml
		Thermophilic Organisms	IS 4251	1 cfu/ml to 10 ³ cfu/ml
II.	FOOD AND AGRICULTURAL PRODUCTS			
1.	Ready to Eat Food - Raw & Processed, Partially cooked, Cooked Food and Feeding stuffs, Bakery & Confectionery Products, Herbs, Spices & Condiments, Fish & Sea Foods, Milk and Dairy Products, Nuts & Nuts Products Snacks and Instant Mixes	Aerobic microbial count	IS 5402	1 cfu/ml to 10 ⁷ cfu/ml
Total Viable count			10 cfu/g to 10 ⁷ cfu/g	
Total Plate count		BAM (8 th Edition)	1 cfu/ml to 10 ⁷ cfu/ml	
Standard Plate Count			10 cfu/g to 10 ⁷ cfu/g	
Total Bacterial Count				
Aerobic Bacterial Count				
Aerobic Plate Count				
<i>Enterobacteriaceae</i>		IS/ISO 7402	(0.3 to >110) MPN per g or ml 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g	
<i>Shigella spp.</i>	IS 5887 (Part 7)	Qualitative (Present/Absent per 25 g or ml)		
	BAM (8 th Edition)	Qualitative (Present/Absent per 25		

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 4 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				g or ml)
		<i>Faecal streptococci/ Enterococci</i>	IS 5887 (Part 2)	Qualitative (Present/Absent per 25 g) 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
		Coliforms	IS 5401 (Part 1)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g Qualitative (Present/Absent per 25 g or ml)
			IS 5401 (Part 2) ISO 4831	(0.2 to >180) MPN per g or ml
			BAM (8 th Edition)	(1.8 to >1600) MPN per g or ml (3 to >1100) MPN per g or ml 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
		<i>Vibrio cholera</i> <i>Vibrio parahaemolyticus</i>	IS 5887 (Part 5)	Qualitative (Present/Absent per 25 g or ml)
			BAM (8 th Edition)	Qualitative (Present/Absent per 25 g or ml)
		Detection and enumeration of <i>E. coli</i> .	IS 5887 (Part 1)	Qualitative (Present/Absent per 25 g or ml) (0.3 to >110) MPN per g or ml 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	(1.8 to >1600) MPN per g or ml (3 to >1100) MPN per g

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 5 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
				or ml
		Detection and Enumeration of <i>Staphylococcus aureus</i> / Coagulase positive <i>Staphylococcus aureus</i>	IS 5887 (Part 2)	Qualitative (Present/ Absent per 25 g or ml) 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
		<i>Salmonella Spp.</i>	IS 5887 (Part 3)	Qualitative (Present/Absent per 25 g or ml)
			BAM (8 th Edition)	Qualitative (Present/Absent per 25 g or ml)
		<i>Listeria monocytogenes</i>	IS 14988 (Part 1)	Qualitative (Present/Absent per 25 g or ml)
			IS 14988 (Part 2)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	Qualitative (Present/Absent per 25 g or ml) 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
		<i>Clostridia spp./ Anaerobic spore count</i>	IS 5887 (Part 4)	Qualitative (Present/Absent per 25 g or ml) 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	Qualitative (Present/Absent per 25 g or ml) 1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 6 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Yeast & Mould Count	IS 5403	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
		<i>Bacillus cereus</i>	IS 5887 (Part 6)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
			BAM (8 th Edition)	1 cfu/ml to 10 ⁷ cfu/ml 10 cfu/g to 10 ⁷ cfu/g
III.	ENVIRONMENT AND POLLUTION			
1.	Effluents/ Waste Water	Faecal Coliform	IS 1622	(2 to >1600) MPN/100ml Qualitative (Present / Absent per ml or 25ml)
2.	Swab test (Hygiene Monitoring of Surfaces)	Total Aerobic Count/ Total Plate count/ Aerobic Microbial count/ Total Viable count	ASPL/SOP/M/10	(1 to 10 ⁷) cfu per swab or plate or cm ²
		Yeast & Mould Count		(1 to 10 ⁷) cfu per swab or plate or cm ²
		<i>E. coli</i>		Qualitative (Present or absent per swab or plate or cm ²)
		<i>Salmonella spp.</i>		Qualitative (Present or absent per swab or plate or cm ²)
		<i>Staphylococcus aureus / Coagulase positive Staphylococcus aureus</i>		Qualitative (Present or absent per swab or plate or cm ²)

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 7 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	Hygiene Monitoring of Environment	Total Aerobic Count/Total Plate count/Aerobic Microbial count/ Total Viable count	ASPL/SOP/M/01	(1 to 10 ⁷) cfu per plate or m ³
		Yeast & Mould Count	ASPL/SOP/M/01	(1 to 10 ⁷) cfu per plate or m ³

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 8 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<u>CHEMICAL TESTING</u>				
1.	ATMOSPHERIC POLLUTION			
a.	Ambient Air, Work Environment	PM _{2.5}	ASPL/SOP/CA/02	1 µg/m ³ to 10 µg/m ³ 10 µg/m ³ to 100 µg/m ³
		RSPM or PM ₁₀	IS 5182 (Part 23)	10 µg/m ³ to 1000 µg/m ³
		SO ₂	IS 5182 (Part 2)	5 µg/m ³ to 100 µg/m ³
		NO _x	IS 5182 (Part 6)	5 µg/m ³ to 100 µg/m ³
		Ozone	IS 5182 (Part 9)	5 µg/m ³ to 100 µg/m ³
		Ammonia	APHA Methods of Air sampling and Analysis, 3 rd Edition, Method No. 401, ASPL/SOP/CA/06	1 µg/m ³ to 700 µg/m ³
b.	Stack Emission	Particulate Matter	IS 11255 (Part 1)	10 mg/ Nm ³ to 1000 mg/ Nm ³
		Sulphur Dioxide	IS 11255 (Part 2)	5 mg/ Nm ³ to 500 mg/ Nm ³
		Oxides of Nitrogen	IS 11255 (Part 7)	0.1 mg/ Nm ³ to 500 mg/ Nm ³
		Carbon dioxide	ASPL/SOP/CA/12	0.1 % to 10 %
		Oxygen	ASPL/SOP/CA/12	0.5 % to 22 %
II.	FOOD AND AGRICULTURAL PRODUCTS			
1.	Cereals, pulses & cereal products - Food Grains, Pulses, Cereals, Flours & its products- Whole and ground cereals, pulses	Moisture	IS 1155 AOAC 925.10 (20 th Edition) IS 1009 IS 1010 IS 4333 (Part 2) FSSAI Manual of Cereal & Cereal Products 2016 (Method 2, 8.1)	1% to 30%

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 9 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	such as Wheat, Rice, Chana, Moong, Rajma, Atta, Maida, Besan, Barley, Oats, Peas-Black & Green & White, Masoor, Rawa, Lapshi, Dal, Urd, Tur, Masoor, Chana, barley flour, malt & malt-based food, corn flour, other flours used for food preparation	Total Ash	IS 1155 AOAC 923.03 (20 th Edition) FSSAI Manual of Cereal & Cereal Products 2016 (Method 8.2)	1% to 15%
		Acid Insoluble Ash	IS 1155 IS 1009 IS 1010 FSSAI Manual of Cereal & Cereal Products 2016 (Method 8.3)	0.01% to 5%
		Alcoholic acidity as H ₂ SO ₄	IS 1155 FSSAI Manual of Cereal & Cereal Products 2016 (Method 8.5) IS 12711	0.05 % to 1%
		Protein/ Nitrogen	IS 7219 AOAC 920.87 (20 th Edition)	1% to 60%
		Gluten	IS 1155 IS 1009 IS 1010	1% to 25%
		Carbohydrate	IS 1656	20 % to 80%
		Fat	GAFTA 2003, Method (3.0), AOAC 920.85 (20 th Edition)	0.1% to 25%
		Energy	IS 13285	10 Kcal to 2000 Kcal
		Carbonates	FSSAI Manual of Food Additives 2016 (Method 11.1.4)	Qualitative
		Acid Value/ Acidity of extracted fat	FSSAI Manual of Cereal & Cereal Products 2016 (Method 14.5) IS 4684	0.1% to 10%

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 10 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2.	Bakery & confectionery Products - Biscuits, Bread, Cakes, cake mixes, Cookies, Cookies Mix, Bakery related instant mixes nankatai, khari, bread sticks, toast, rusk, unbaked Maida based items– samosa Patti, pizza base	Description	ASPL/SOP/C/11	Qualitative
		Moisture	IS 1011 IS 12711 FSSAI Manual of Cereal & Cereal Products 2016 (Method 14.3, 15.2)	0.1% to 10%
		Fat	IS 12711 AOAC 922.06 (20 th Edition)	0.5% to 25%
		Acidity of extracted fat as Oleic acid	IS 1011 FSSAI Manual of Cereal & Cereal Products 2016 (Method 14.5)	0.05% to 5%
		Ash	IS 1011 IS 12711 AOAC 923.03 (20 th Edition)	0.1 % to 25%
		Acid Insoluble Ash	IS 1011 IS 12711 FSSAI Manual of Cereal & Cereal Products 2016 (Method 14.4, 15.4)	0.01 % to 5%
		Carbohydrate	IS 1656	20 % to 80%
		Protein/ Nitrogen	IS 7219	0.5 % to 25 %
		pH	IS 12711	2 to 10
		Energy	IS 13285	10 kcal to 2000 kcal
		Alcoholic acidity	IS 12711 FSSAI Manual of Cereal & Cereal Products (Method 8.5, 15.3)	0.05 % to 0.5 %
		Salt Content as NaCl	IS 1797 FSSAI Manual of Fruit & Vegetable products 2016 (Method 1.7)	0.1% to 5%
			Carbonates	FSSAI Manual of Food

Laboratory **Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150, Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra**

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

Certificate Number **TC-7933**

Page 11 of 24

Validity **26.09.2018 to 25.09.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
			Additives 2016 (Method 11.1.4)	
		Peroxide Value	IS 548 (Part 1)	0.1 meq/kg to 15 meq/kg
3.	Herbs, spices & condiments - Spices, Mix spices, herbs, seasonings, Masala mix, Gravy mix, dehydrated spices & Condiments Whole & Ground	Description	ASPL/SOP/C/11	Qualitative
		Moisture	IS 1797 FSSAI Manual of Spices & Condiments 2016 (Method 3)	1 % to 50%
		Extraneous matter	IS 1797	0.1 % to 5 %
		Total Ash	IS 1797 AOAC 941.12 (20 th Edition)	0.1 % to 20%
		Acid Insoluble ash	IS 1797	0.02 % to 3%
		Water Insoluble Ash	IS 1797	0.1 % to 3%
		Solubility in Cold Water	IS 1797	1 % to 90 %
		Alcohol soluble extract	IS 1797	2 % to 70 %
		Protein	IS 7219	1 % to 50%
		Carbohydrate	IS 1656	10 % to 75%
		Salt Content as NaCl	IS 1797 IS 7224	0.1 % 15%
		Energy	IS 13285	10 kcal to 2000 kcal
		Peroxide Value	IS 548 (Part 1)	0.1 meq/kg to 15 meq/kg
		Non-Volatile Ether Extract	IS 1797 FSSAI Manual of Spices & Condiments 2016 (Method 9)	1% to 25%
Fat	IS 1797 FSSAI Manual of Spices & Condiments 2016 (Method 9)	1% to 25%		
4.	Beverages	Description	ASPL/SOP/C/11	Qualitative

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 12 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	(Alcoholic/ Non - alcoholic) - Fruits and vegetable-based beverages, Ready to serve beverage	pH	IS 2860 FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.3)	2 to 10
		Moisture	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.1.2) IS 6287	1 % to 90%
		Total Solids	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.1.2) IS 6287	20 % to 90%
		Ash	IS 6287 AOAC 940.26 (20 th Edition)	0.1 % to 25%
		Acidity	FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.4)	0.1% to 5%
		Protein/ Nitrogen	IS 7219 IS 6287	0.1 % to 50 %
		Ash insoluble in HCl	FSSAI Manual of Fruit & Vegetable products 2016 IS 6287	0.01 % to 2%
		Presence of Mineral Acid	FSSAI Manual of Fruit & Vegetable products 2016 (Method 14.6)	Qualitative
		Fat/ Oil	IS 6287	0.5 % to 80%
		Peroxidase Test	FSSAI Manual of Fruit & Vegetable products 2016 (Method 17.5)	Qualitative
		Energy	IS 13285	10 kcal to 2000 kcal
		Carbohydrates	IS 1656	10 % to 75%
5.	Nuts & Nuts	Description	ASPL/SOP/C/11	Qualitative

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 13 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	products - Dry Fruits	Moisture	AOAC 925.40 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 (Method 20.1)	1 % to 15%
		Fat	AOAC 948.22 (20 th Edition) IS 3579	5 % to 60 %
		Protein	IS 7219	1.0 % to 25%
		Carbohydrate	IS 1656	5 % to 80%
		Energy	IS 13285	10 Kcal to 2000 Kcal
		Ash	AOAC 950.49 (20 th Edition)	0.1 % to 15%
		Acid Insoluble ash	GAFTA (Method 13.0)	0.01 % to 5 %
		Free Fatty acid/ Acidity of extracted fat	IS 4684 FSSAI Manual of Oils and Fats products 2016 (Method 11) IS 548 (Part 1)	0.05% to 10%
		Peroxide Value	IS 4684 IS 548 (Part 1)	0.1 meq/kg to 50 meq/kg
	Extraneous matter	IS 3579	0.1 to 10.0 %	
6.	Milk and Dairy Products - Milk powder, Whey powders, condensed milk, flavored milk, butter, curd, chakka, Shrikhand, Ice-cream, Dairy based Instant mixes Yoghurt, Paneer, cheese, khoya, all sweet meats, milk based	Description	ASPL/SOP/C/11	Qualitative
		Moisture	IS 1479 (Part 2) IS 3507 AOAC 920.116 (20 th Edition) IS 12333 IS 2785 AOAC 926.08 (20 th Edition) IS 10484 IS 16072	0.1 % to 90 %
	cereal foods,	Total Solids	IS 1479 (Part 2)	10 % to 99.5 %

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 14 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Energy Drink, partly skimmed and skimmed milk		IS 12333 IS 2802 AOAC 941.08 (20 th Edition) AOAC 925.23 (20 th Edition)	
		Titration Acidity as Lactic acid	IS 1166 IS 10484 IS 11765 IS 3509 IS 2802 IS 3507 IS 11766 IS 1165 IS 1479 (Part 1) AOAC 947.05 (20 th Edition)	0.1% to 3%
		Milk Fat/ Fat	IS 3507 AOAC 938.06 (20 th Edition) IS 12758 IS 2785 AOAC 933.05 (20 th Edition) AOAC 974.09 (20 th Edition) IS 10484 IS 1656 IS 3509 AOAC 995.19 (20 th Edition) IS 2802 AOAC 952.06 (20 th Edition) IS 11721 IS 1479 (Part 2) AOAC 905.02 (20 th Edition), AOAC 989.05 (20 th Edition), AOAC 932.06 (20 th Edition) IS 1224 (Part 2) AOAC 920.111 (20 th Edition)	0.1% to 85%

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 15 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Salt as NaCl	IS 2785 IS 3507	0.1 % to 5%
		Total Ash	IS 1165 IS 14433 IS 1479 (Part 2) AOAC 930.30, 945.46, 935.42 (20 th Edition)	0.1 % to 8 %
		Milk Protein/ Total Protein	IS 1479 (Part 2) AOAC 991, 991.20 (20 th Edition) IS 10484	0.1% to 90%
		Added Starch	FSSAI Manual of Milk and Milk Products (Method 1.2.2.1), IS 1479 (Part 1)	Qualitative
		Added Sugar	FSSAI Manual of Milk and Milk Products (Method 1.2.1.1), IS 1479 (Part1)	Qualitative
		Urea	FSSAI Manual of Milk and Milk Products (Method 1.2.4.1), IS 1479 (Part 1)	Qualitative
		Carbonates	FSSAI Manual of Milk and Milk Products (Method 1.2.11) IS 1479 (Part 1)	Qualitative
		pH	IS 12711 FSSAI Manual of Milk and Milk Products, IS 1479 (Part 2)	2 to 10
		Total Solid Not Fat	FSSAI Manual of Milk and Milk Products IS 1479 (Part 1)	0.1% to 90%

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 16 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
7.	Jams, Juices, Sauces & Concentrates - Sauces, Syrups, Sharbats, Nectars, Squashes, Ketchup	Description	ASPL/SOP/C/11	Qualitative
		pH	IS 2860 FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.3)	2 to 10
		Moisture	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 IS 6287	1 % to 90%
		Total Solids	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 IS 6287	20 % to 90%
		Ash	IS 6287 AOAC 940.26 (20 th Edition)	0.1 % to 25%
		Acidity	FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.4)	0.1% to 5%
		Protein/ Nitrogen	IS 7219 IS 6287	0.1 % to 50 %
		Ash insoluble in HCl	FSSAI Manual of Fruit & Vegetable products 2016 (Method 5.3) IS 6287	0.01 % to 2%
		Presence of Mineral Acid	FSSAI Manual of Fruit & Vegetable products 2016 (Method 14.6)	Qualitative
		Fat/ Oil	IS 6287	0.5 % to 80%
		Salt as NaCl	FSSAI Manual of Fruit & Vegetable products 2016 (Method 1.7)	0 to 10%
		Peroxidase Test	FSSAI Manual of Fruit & Vegetable products 2016 (Method 17.5)	Qualitative

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 17 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Insect & Fungal Growth	ASPL/SOP/C/11 FSSAI Manual of Fruit & Vegetable products 2016	Qualitative
		Energy	IS 13285	10 Kcal to 2000 Kcal
		Carbohydrates	IS 1656	10 % to 75%
8.	Others - Culinary pastes, pickles, Ketchup, chutneys, Soups, soup powders, Snacks, Convenience Products, Ready to eat products, Ready to cook products and ready to eat products.	Description	ASPL/SOP/C/11	Qualitative
		pH	IS 2860 FSSAI Manual of Fruit & Vegetable products 2016 (Method 2.3); IS 12711	2 to 10
		Moisture	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 (Method 4.1), IS 6287 IS 15271	0.1 % to 90%
		Total Solids	AOAC 934.06 (20 th Edition) FSSAI Manual of Fruit & Vegetable products 2016 (Method 14.3), IS 6287	20 % to 90%
		Ash	IS 6287 AOAC 940.26 (20 th Edition) IS 15271	0.1 % to 25%
		Acid Value/ Acidity of Extracted Fat	FSSAI Manual of Oils and Fats products 2016 (Method 11) IS 15271	0.01% to 50%
		Protein/ Nitrogen	IS 7219 IS 6287	0.1 % to 50 %
		Ash insoluble in HCl	FSSAI Manual of Fruit & Vegetable products 2016 (Method 5.3) IS 6287	0.01 % to 2%

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 18 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Fat/ Oil	IS 6287	0.5 % to 80%
		Salt as NaCl	FSSAI Manual of Fruit & Vegetable products 2016 (Method 1.7), IS 1797	0 to 10%
		Peroxidase Test	FSSAI Manual of Fruit & Vegetable products 2016 (Method 17.5)	Qualitative
		Energy	IS 13285	10 Kcal to 2000 Kcal
		Carbohydrates	IS 1656	5 % to 80%
9.	Oil Seeds & by products	Moisture	AOAC 925.40 (20 th Edition) FSSAI Manual of Oils and Fats products 2016 (Method 3)	1 % to 15%
		Fat	AOAC 948.22 (20 th Edition) IS 3579	5 % to 60%
		Protein	IS 7219	1.0 % to 25%
		Carbohydrate	IS 1656	5 % to 80%
		Energy	IS 13285	10 Kcal to 2000 Kcal
		Ash	AOAC 950.49 (20 th Edition)	0.1 % to 15%
		Acid Insoluble ash	GAFTA (Method 13.0)	0.01 % to 5 %
		Free Fatty acid/ Acidity of extracted fat	IS 4684 FSSAI Manual of Oils and Fats products 2016 (Method 11) IS 548 (Part 1)	0.05% to 10%
		Peroxide Value	IS 548 (Part 1)	0.1 meq /kg to 50 meq /kg
		Extraneous matter	IS 3579	0.1 % to 10.0 %
III.	WATER			
1.	Surface Water, Ground Water, Drinking Water, Packaged	Color	APHA 2120 B, D (23 rd Edition) IS 3025 (Part 4)	(1 to 100) Hazen or CU

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 19 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
	Drinking Water, Water from purifier, Industrial Water (Water for Food Processing Industry)	Taste	IS 3025 (Part 8)	Qualitative (Agreeable/ Disagreeable)
		Odor	IS 3025 (Part 5)	Qualitative (Agreeable/ Disagreeable)
		Turbidity	APHA 2130 B (23 rd Edition) IS 3025 (Part 10)	0.1 NTU to 50 NTU
		Electrical Conductivity	APHA 2510 B (23 rd Edition) IS 3025 (Part 14)	1µS/cm to 1000 µS/cm
		TDS	APHA 2540 C (23 rd Edition) IS 3025 (Part 16)	2 mg/l to 2000 mg/l
		pH	APHA 4500 H ⁺ B (23 rd Edition) IS 3025 (Part 11)	2 to 12
		Alkalinity as HCO ₃	APHA 2320 B (23 rd Edition) IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Alkalinity as CaCO ₃	APHA 2320 B (23 rd Edition) IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Chloride as Cl	APHA 4500 Cl B (23 rd Edition) IS 3025 (Part 32) APHA 4110 B (22 nd Edition)	2 mg/l to 5000 mg/l
		Total Solids	APHA 2540 B (23 rd Edition) IS 3025 (Part 15)	1 mg/l to 2000 mg/l
		Total Hardness	APHA 2340 C (23 rd Edition) IS 3025 (Part 21)	2 mg/l to 1000 mg/l
		Calcium as Ca	APHA 3500 Ca B (23 rd Edition) IS 3025 (Part 40) IS 3025 (Part 2)	1 mg/l to 500 mg/l
		Magnesium as Mg	APHA 3500 Mg B (23 rd Edition) IS 3025 (Part 46)	1 mg/l to 500 mg/l

Laboratory **Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra**

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

Certificate Number **TC-7933**

Page **20** of **24**

Validity **26.09.2018 to 25.09.2020**

Last Amended on **--**

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	APHA 4500 SO ₄ E (23 rd Edition) IS 3025 (Part 24)	5 mg/l to 500 mg/l,
		Silica as SiO ₂	IS 3025 (Part 35) APHA 4500 SiO ₂ C (23 rd Edition)	0.1 mg/l to 25 mg/l 25 mg/l to 50 mg/l
		Residual Free Chlorine	APHA 4500 Cl G (23 rd Edition) IS 3025 (Part 26)	0.05 mg/l to 4.0 mg/l
		Fluoride as F	APHA 4500 F D (23 rd Edition) IS 3025 (Part 60)	0.1 mg/l to 1.5 mg/l, 1.5 mg/l to 5.0 mg/l
		Nitrate as NO ₃	APHA 4500 NO ₃ B (23 rd Edition) IS 3025 (Part 34)	0.1 mg/l to 25 mg/l, 25 mg/l to 50 mg/l 50 mg/l to 100 mg/l
		Nitrite as NO ₂	APHA 4500 NO ₂ B (23 rd Edition) IS 3025 (Part 34) APHA 4110 B (22 nd Edition)	0.005 mg/l to 0.1 mg/l, 0.1 mg/l to 1.0 mg/l 1.0 mg/l to 10 mg/l
		Permanganate value/ Oxygen absorbed In 4 hrs at 27°C	IS 3025 (Part 63)	0.1 mg/l to 5.0 mg/l
		Color retention of KMnO ₄ at 27°C ± 2°C	IS 1070	Qualitative (Visual)
		Total Ammonical nitrogen/ Ammonia	IS 3025 (Part 34) APHA 4500 NH ₃ C (23 rd Edition)	0.1 mg/l to 25 mg/l 25 mg/l to 50 mg/l 50 mg/l to 100 mg/l
2.	Construction Water	pH	APHA 4500 H ⁺ B (23 rd Edition) IS 3025 (Part 11)	2 to 12
		Organic Content	IS 3025 (Part 18)	1 mg/l to 500 mg/l
		Inorganic Content	IS 3025 (Part 18)	1 mg/l to 5000 mg/l
		Sulphate as SO ₄	APHA 4500 SO ₄ E (23 rd Edition) IS 3025 (Part 24)	5 mg/l to 1000 mg/l

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 21 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Alkalinity as CaCO ₃	APHA 2320 B (23 rd Edition) IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Acidity	IS 3025 (Part 22)	1 mg/l to 500 mg/l
		Suspended Matter	IS 3025 (Part 17)	1 mg/l to 3000 mg/l
3.	Swimming Pool Water	Color	APHA 2120 B, D (23 rd Edition) IS 3025 (Part 4)	(1 to 100) Hazen or CU
		Taste	IS 3025 (Part 8)	Qualitative (Palatable/ Not Palatable)
		Odor	IS 3025 (Part 5)	Qualitative (Odorless/ Disagreeable)
		Turbidity	APHA 2130 B (23 rd Edition) IS 3025 (Part 10)	0.1 NTU to 50 NTU
		TDS	APHA 2540 C (23 rd Edition) IS 3025 (Part 16)	1 mg/l to 2000 mg/l
		pH	APHA 4500 H ⁺ B (23 rd Edition) IS 3025 (Part 11)	2 to 12
		Total Alkalinity as (CaCO ₃)	APHA 2320 B (23 rd Edition) IS 3025 (Part 23)	1 mg/l to 500 mg/l
		Chloride as Cl	APHA 4500 Cl B (23 rd Edition) IS 3025 (Part 32) APHA 4110 B (22 nd Edition)	2 mg/l to 5000 mg/l
		Oxygen absorbed In 4 hrs at 27°C	IS 3025 (Part 63)	0.1 mg/l to 5.0 mg/l
		Residual Free Chlorine	APHA 4500 Cl G (23 rd Edition) IS 3025 (Part 26)	0.05 mg/l to 4.0 mg/l

Laboratory **Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150, Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra**

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

Certificate Number **TC-7933**

Page 22 of 24

Validity **26.09.2018 to 25.09.2020**

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
IV.	POLLUTION AND ENVIRONMENT			
1.	Liquid Effluent and Waste Water	pH	APHA 4500 H ⁺ B (23 rd Edition) IS 3025 (Part 11)	2 to 12
		Conductivity	APHA 2510 B (23 rd Edition) IS 3025 (Part 14)	5 µS/cm to 20000 µS/cm
		Total Solids	APHA 2540 B (23 rd Edition)	5 mg/l to 25000 mg/l
		Total Dissolved Solids	APHA 2540 C (23 rd Edition) IS 3025 (Part 16)	5 mg/l to 25000 mg/l
		Total Suspended Solids	APHA 2540 D (23 rd Edition) IS 3025 (Part 17)	5 mg/l to 10000 mg/l
		Dissolved Oxygen	APHA 4500 O C (23 rd Edition)	1.0 mg/l to 10 mg/l
		COD	APHA 5220 B, D (23 rd Edition)	4 mg/l to 50000 mg/l
		BOD (3 days @ 27°C)	IS 3025 (Part 44)	2 mg/l to 25000 mg/l
		BOD (5 days @ 20°C)	APHA 5210 B (23 rd Edition)	2 mg/l to 25000 mg/l
		Oil and Grease	APHA 5520 B (23 rd Edition) IS 3025 (Part 39)	5 mg/l to 20 mg/l 20 mg/l to 1000 mg/l
		Total Ammonical nitrogen	IS 3025 (Part 34) APHA 4500 NH ₃ C (23 rd Edition)	0.5 mg/l to 50 mg/l 50 mg/l to 200 mg/l
		Residual free Chlorine	IS 3025 (Part 26)	0.05 mg/l to 4.0 mg/l
		Sulphate	APHA 4500 SO ₄ E (23 rd Edition)	5 mg/l to 5000 mg/l
		Total Phosphate as PO ₄	APHA 4500 P B, C & D (23 rd Edition)	0.5 mg/l to 25 mg/l
		Total Phosphorus as P	APHA 4500 P B, C & D (23 rd Edition)	0.1 mg/l to 10 mg/l
	Total Nitrogen as N	APHA 4500 N _{org} & 4500 NO ₃ , (23 rd Edition)	1.0 mg/l to 100 mg/l 100 mg/l to 500 mg/l	

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 23 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Nitrate	IS 3025 (Part 34)	0.1 mg/l to 100 mg/l
		Toxicity Test/ Bioassay	APHA 8010 B (23 rd Edition) IS 6582 (Part 2)	5 % to 100 %

Laboratory Autocal Solutions Pvt. Ltd.-Testing Division, PAP-R-149 & 150,
Rebale MIDC, TTC Industrial Area, Navi Mumbai, Maharashtra

Accreditation Standard ISO/IEC 17025: 2005

Certificate Number TC-7933

Page 24 of 24

Validity 26.09.2018 to 25.09.2020

Last Amended on --

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
<u>CHEMICAL TESTING</u>				
AT- SITE				
1.	ATMOSPHERIC POLLUTION			
a.	Source Sound Level	Sound level	IS 4758	30 dB(A) to 130 dB(A)
	Ambient Sound Level	Sound level Leq	IS 9989	30 dB(A) to 130 dB(A)