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SI.		Specific Test Performed			-
	of Test		against which tests are	Limits of Detection	
			performed		

CHEMICAL TESTING

FOODS & AGRICULTURAL PRODUCTS			
Cereals & Pulses, and by-Products			
Chana (Bengal	Moisture	IS 4333 (Part 2)	5% to 20%
Gram),Maize, Bajra,Wheat,	Foreign matter	IS 4333 (Part 1)	0.1% to 20%
Barley	Damaged Seeds	IS 4333 (Part 1)	0.1% to 15%
	Broken, Splits	IS 4333 (Part 1)	0.1% to 15%
	Green, Immature, Shrunken, Shrivelled seeds	IS 4333 (Part 1)	0.1% to 15%
	Weeviled Seeds / Insect damaged	IS 4333 (Part 1)	0.1% to 15%
	Varietal admixture	IS 4333 (Part 1)	0.1% to 15%
	Slightly Damaged or touched	IS 4333 (Part 1)	0.5% to 15%
	Count Per 100g	IS 4333 (Part 4)	325 to 800
	Shrivelled or Immature	IS 4333 (Part 1)	0.1% to 15%
	Other edible grains	IS 4333(Part 1)	0.1% to 15%
	Cereals & Pulses, and by-Products Chana (Bengal Gram),Maize, Bajra,Wheat,	Cereals & Pulses, and by-Products Chana (Bengal Gram),Maize, Bajra,Wheat, Barley Damaged Seeds Broken, Splits Green, Immature, Shrunken, Shrivelled seeds Weeviled Seeds / Insect damaged Varietal admixture Slightly Damaged or touched Count Per 100g Shrivelled or Immature	Cereals & Pulses, and by-Products Chana (Bengal Gram),Maize, Bajra,Wheat, Barley Foreign matter Damaged Seeds IS 4333 (Part 1) Broken, Splits IS 4333 (Part 1) Broken, Splits IS 4333 (Part 1) Green, Immature, Shrivelled seeds Weeviled Seeds / Insect damaged Varietal admixture IS 4333 (Part 1) Varietal admixture IS 4333 (Part 1) Slightly Damaged or touched Count Per 100g IS 4333 (Part 4) Shrivelled or Immature IS 4333 (Part 1)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Total defects [foreign matter, other edible grains, damaged kernel (other than infestation damaged), shrivelled/broken grains]	IS 4333(Part 1)	By Calculation
		Hectolitre Weight	IS 4333(Part3)	60 kg/HL to 90 kg/HL
		Damaged Discoloured	IS 4333(Part 1)	0.1% to 20 %
		TCW (weight of thousand grains)	IS 4333(Part4)	30 g to 60 g
b.	Atta	Moisture	IS 1155	5 to 15%
		Total Ash	IS 1155	0.1 %to 2.5 %
		Acid insoluble ash	IS 1155	0.02% to 2 %
		Protein (N X 5.70)	IS 7219	5 %to 16%
		Dry Gluten	IS 1155	4% to 14%
		Alcoholic Acidity	IS 1155	0.01% to 5%
		Crude fiber	IS 10226 (Part 1) IS 1155	0.1 %to 10%
		Carbohydrates	IS 1656	By Calculation
		Fat	AOAC 922.06, 20th Edition	0.1% to 5%
		Energy	IS 14433	By Calculation

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
C.	Maida, Besan	Moisture	IS 1009	5% to 15%
		Total Ash	IS 1009	0.1% to 2%
		Acid insoluble ash	IS 1009	0.02% to 2%
		Protein (N X 5.70)	IS 7219	5% to 30%
		Dry Gluten	IS 1009	3 %to 17%
		Crude fiber	IS 10226 (Part 1)	0.1% to 10%
		Carbohydrates	IS 1656	By Calculation
		Fat	AOAC 922.06, 20th Edition	0.1 %to 5%
		Alcoholic Acidity	IS 1009	0.05% to 0.5%
d.	Bombay Rawa,	Moisture	IS 1010	5% to 15%
	Suji	Total Ash	IS 1010	0.5% to 2.5%
		Acid insoluble ash	IS 1010	0.02% to 0.5%
		Protein	IS 7219	4% to 13%
		Dry Gluten	IS 1010	3% to 12%
		Crude fiber	IS 10226 (Part 1)	0. %1 to 10%
		Carbohydrates	IS 1656	By Calculation
		Fat	AOAC 20 th edition 922.06	0.1% to 5%
		Alcoholic Acidity	IS 1010	0.05% to 0.5%
		Energy	IS 14433	1 Kcal per100g to 1000 Kcal per 100g

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
2	Guar Seed and Products			
a.	Guar Seed	Whitish seeds	IS 2813	20 %to 100 %
		Volatile matter/ Moisture	IS 7437	2 g/100g to 15 g/100g
		Foreign matter	IS 2813	0.1% to 10 %
		Damaged seeds	IS 2813	0.1% to 10 %
b.	Guar gum	Moisture/ Volatile matter	IS 7437	2 %to 15 %
		Foreign Particles (All non gum particles)	IS 2813	0.1% to 5%
		Particle Size (pass through 14 mesh / 20 mesh	IS 2813	0.01% to 10 %
		Black, dark red and brown coloured splits	IS 2813	0.1% to 3 %
		Undehusked Splits	IS 2813	0.1% to 20 %
		Protein (Nx6.25)	IS 7437 IS 7219	1% to 15 %
		Residue Insoluble in acid	IS 3988	0.1 %to 7 %
		Total ash	IS 10502/ IS 7437	0.1v to2. 5%
		Gum Content	IS 7437	By Calculation
		pH (1% Aqueous Solution)	IS 7437	1 to 14

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Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
Spices and Condiments			
Turmeric Fingers	Freedom from moulds and insect infestation	IS 3576	Qualitative (Visual)
	Moisture	IS 1797	5% to 20 %
	Defective Rhizomes	IS 3576	0.1% to 15%
	Extraneous Matter	IS 3576	0.01% to 10%
Turmeric Powder	Moisture	IS 1797	8% to 20%
	Total Ash	IS 1797	1% to 10%
	Acid insoluble ash	IS 1797	0.02% to 2.5%
	Chromate	IS 3576	Qualitative
	Curcumin	ASTA Analytical Method 18.0	0.1 % to 10 %
Cumin Seeds	Moisture	IS 1797	2 %to 15%
	Foreign matter	IS 2447	0.1% to 10 %
	Damaged Discoloured shriveled and Immature seeds	IS 2447	0.5% to 10%
	Insect damaged matter	IS 2447	0.1% to 20%
	Spices and Condiments Turmeric Fingers Turmeric Powder	Spices and Condiments Turmeric Fingers Freedom from moulds and insect infestation Moisture Defective Rhizomes Extraneous Matter Turmeric Powder Moisture Total Ash Acid insoluble ash Chromate Curcumin Cumin Seeds Moisture Foreign matter Damaged Discoloured shriveled and Immature seeds	Of Test against which tests are performed Spices and Condiments Freedom from moulds and insect infestation Is 3576 IS 1797 Defective Rhizomes IS 3576 Extraneous Matter IS 3576 Turmeric Powder Moisture IS 1797 Total Ash IS 1797 Acid insoluble ash IS 1797 Chromate IS 3576 Curcumin ASTA Analytical Method 18.0 Cumin Seeds Moisture IS 1797 Foreign matter IS 2447 Damaged Discoloured shriveled and Immature seeds IS 2447

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
d.	Chilli Whole	Moisture	IS 1797	1 %to 20%
	u. Chilli vviiole	Extraneous matter	IS 2322	0.1 %to 10 %
		Unriped and marked and broken fruits	IS 2322	0.1% to 50 %
		Insect Damaged Matter	IS 2322	1 %to 50 %
		Color	IS 2322	Qualitative (Visual)
		Free from Moulds, insects	IS 2322	Qualitative (Visual)
e.	Chilli and chilli	Moisture	IS 1797	6 %to 18%
	products	Total Ash	IS 1797	1 %to 10%
		Acid insoluble ash	IS 1797	0.02% to 2%
		Crude fibre	IS 1797	20 %to 40%
f.	Coriander Whole & Powder	Moisture	IS 2443	1 %to 20%
		Total Ash	IS 2443	2 %to 8%
		Acid insoluble ash	IS 2443	0.02% to 2%
		Crude fiber	IS 1797	20% to 40%
		Extraneous matter	IS 2443	0.1% to 10%
		Damaged Discolored & Shrivelled seeds	IS 2443	0.1% to 10%
		Weevilled seeds	IS 2443	0.1 to 10

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
g.	Pepper	Moisture	IS 1797	1 %to 20%
		Light berries	IS 1798	0.1% to 5%
		Foreign matter	IS 1797	0.05% to 10%
4.	Oil Seeds and by- products			
a.	Castor Seed	Oil content	IS 3579	30% to 60 %
		Fotri (Husk) and damaged Seeds	IS 3579	0.1% to 10 %
		Sand, Silica and Stones	IS 3579	0.1% to 10 %
		Moisture	IS 3579	1% to 10%
b.	Soyabean	Foreign matter/ Impurities	IS 3579	0.1% to 10 %
		Green seeds	STP No. NCML- ATC/STP/001 Issue No.01; Issue date 25.11.2016	0.1% to 20 %
		Damaged Seeds	IS 3579	0.1% to 20 %
		Protein (N x 6.25)	IS 7219	5% to 50%
		Moisture	IS 3579	2 %to 15%
C.	Mustard Seeds	Moisture	IS 3579	1% to 10 %
		Oil Content	IS 3579	30% to 50 %
		Free fatty acid (as oleic acid)	IS 548 (Part-1)	0.1% to 3 %

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Impurities (Foreign matter)	IS 3579	0.1% to 10 %
		Damaged and shriveled	IS 3579	0.1% to 20 %
		Insect damaged matter	IS 3579	0.1% to 20 %
5.	Edible Oil and Fats	Moisture	IS 548(part 1)	0.01% to 2%
		Saponification value	IS 548 (Part 1)	100 to 250
		Refractive Index at 40°C	IS 548 (Part 1)	1.4220 to 1.4890
		lodine value	IS 548 (Part 1)	5 to 200
		Unsaponifiable matter	IS 548 (Part 1)	0.1% to 1%
		Acid value	IS 548 (Part 1)	0.1 to 10
		Free Fatty Acid	IS 548 (Part 1)	0.1% to 5%
		Peroxide value (meq /1000g)	IS 548 (Part 1)	1.1 meq/1000 g to 20 meq/1000 g
		Insoluble Impurities	IS 548 (Part 1)	0.01% to 5 %
		Specific gravity at 30/30 °C	IS 548 (Part 1)	0.6 to 1.4
		Baudouin Test	IS 548 (Part 2)	Qualitative (Positive/ Negetive)
		Mineral Oil test	IS 548 (Part 2)	Qualitative (Absent/ Present)

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
6	Milk and Dairy Products	Total solids	IS 1479 (Part 2)/ IS 11622	1 %to 100%
		Insolubility Index	IS 12759	0.1 ml to 1.0 ml
		Acidity of Milk	AOAC 33.2.06 (947.05) 20 th Edition	0.1 %to 5%
		Milk Protein	IS 7219-1973	1% to 40%
		Total ash	IS 14433	1% to 10 %
7.	Sugar and By Products			
a.	Sugar (Raw)	Dirt, Filth, Iron filings, and Added Colouring matter	IS 15279 /IS 5982	Qualitative (visual)
		Extraneous matter	IS 15279 /IS 5982	0.01% to 5%
		Moisture /Loss on drying	IS 15279 /IS 5982	0.01% to 15%
		Grain size retained on sieves (600 Micron & 425 Micron)	IS 498	60% to 100%
II.	ANIMAL FOOD & FE	EDS		
1.	Animal Feeds	Total Ash	AOAC 942.05 20 th Edition , IS 7874 (Part 1)	0.1% to 10%
		Acid insoluble Ash	IS 7874 (Part 1)	0.02% to 10%
		Oil Content / Crude fat	IS 3579 : / IS 7874(Part I)	2 %to 10 %
		Protein (N x 6.25)	IS 7219	0.1% to 80%

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Crude Fiber	AOAC 20 th edition, 4.6.01 (962.09) / IS 10226 (Part 1)	0.1% to 15%
		pH of aqueous extract (10%)	AOAC 20 th edition, (940.20)	1 to 14
2.	Oil Seed Meal/ Cake	Crude fibre	IS 7874 (Part I)	5 %to 35%
		Oil Content	IS 7874 (Part I)	0.05% to 10%
		Protein (N x 6.25)	IS 7874 (Part I)	15 %to 50%
		Total Ash	IS 7874- (Part I)	0.5 %to 10%
		Sand and Silica or Acid insoluble ash	IS 7874 (Part I)	0.02% to 10%
		Moisture	IS 7874(Part 1)	5 %to 15%
III.	WATER			
1.	Drinking Water, Borewell Water	рН	IS 3025(Part 11)	1 to 13
	and RO Water	Total Dissolved Solids	IS 3025(Part 16)	1 mg/l to 2000 mg/l
		Conductivity	IS 3025(Part 14)	1 μS/cm to 10000 μS/cm
		Chloride	IS 3025-(Part 32)	1 mg/l to 500 mg/l
		Alkalinity	IS 3025(Part 23)	1 mg/l to 1000 mg/l
		Total hardness	IS 3025(Part 21)	1 .0 mg/L to 1000 mg/l

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SI.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
		Fluoride	IS 3025(Part 60)	0.1 mg/L to 5 mg/L
		Sulphate	IS 3025(Part 24)	1 mg/L to 500 mg/L
		Calcium	IS 3025(Part 40)	1.0 mg/L to 500 mg/L
		Magnesium	IS 3025(Part 46)	1.0 mg/L to 500 mg/L
		Sodium	IS 3025(part 45)	1.0 mg/L to 500 mg/L
		Potassium	IS 3025(part 45)	1.0 mg/L to 500 mg/L