Accreditation No: LAB 002

Awarded to

PCSIR LABORATORIES COMPLEX,
Shahrah Dr. Saleem-uz-Zaman Road, off University Road
KARACHI, PAKISTAN.

The scope of accreditation is in accordance with the standard specifications outlined in the following page(s) of this document. The accredited scope shall be visible and legible in areas such as customer service, sample-receiving section etc and shall not mislead its users.

The accreditation was first time granted on **31-01-2004** by Pakistan National Accreditation Council.

The laboratory complies with the requirements of **ISO/IEC 17025:2017.**

The accreditation requires regular surveillance, and is valid until **01-01-2025.**

The decision of accreditation made by Pakistan National Accreditation Council implies that the organization has been found to fulfill the requirements for accreditation within the scope.

The organization however, itself is responsible for the results of performed measurements/tests.

PAKISTAN NATIONAL ACCREDITATION COUNCIL

08-10-2024
Date

SD
Director General

Testing Laboratory.

Accreditation Scope of PCSIR laboratories complex, Shahrah Dr. Saleem-uz-Zaman Road, off University Road, Karachi-75280, Pakistan

Permanent laboratory premises X

Laboratory Name: **Chemical-Environment**

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Legumes, beans and seeds	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019), 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 980.19
Fruit	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019), 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 980.19

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Director

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Oil and fats	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 935.51, 979.17, 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Baked goods/ Biscuit/cakes	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 990.05, 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Coffee, tea/Herbal tea	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 971.20, 984.27, 6.999.11, 2013.06, 7.930.34, 930.34, 939.09

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Milk , infant formula, and dairy products	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 973.35, 974.13, 979.17, 985.35, 971.21, 980.19, 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Eggs	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019), 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Vegetables	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019), 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 980.19

08-10-2024
Date

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Director

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Fish and Sea food	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition 977. 15, 972.23, 980.19, 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Plant and pet foods	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 975.03, 985.01, 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09
Sugar, syrup and enteral products	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 997.15, 985.35, 984.27,985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Raw and processed foods	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Nuts	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Culinary and herbs	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food additives	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Food supplements	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Taboo food and drink	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Cooked and roasted foods	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Seasoning food	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Staple foods/ cereals (wheat, barley, rye, maize, or rice, or starchy tubers or root vegetables such as potatoes, yams, taro, and cassava)	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Prepared foods (Appetizers, Condiments/ preserved foods, Confectionery, Convenience foods, Desserts, Dips, pastes and spreads, Dried foods, Fast food, Fermented foods, . Noodles, Pies, Salads, Sandwiches, Sauces, Snack foods, Soups, Stews)	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Flesh meat and Processed meat	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Savory/Sauces	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
White roots and tubers (Dark green leafy vegetables)	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16
Spices, Condiments, Beverages	Food Testing	1. Aluminum 2. Arsenic 3. Cadmium 4. Calcium 5. Chromium 6. Copper 7. Iron 8. Lead 9. Mercury 10. Manganese 11. Selenium 12. Tin 13. Zinc	AOAC Official Method 21st Edition (2019) 984.27, 999.11, 2013.06, 930.34, 930.34, 939.09, 985.16

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Sea food spices, vegetable, fruits, cereals, Beverages, condiments, and food supplement	Environmental Testing	Sodium	Standard Method AOAC Official method
Sea food spices, vegetable, fruits, cereals, Beverages, condiments, and food supplement	Environmental Testing	Potassium	Standard Method AOAC Official method
Drinking water	Environmental Testing	Electrical Conductance	Standard Method for the Examination of Water and Waste Water 20th Edition, American Public Health Association, 1998
Drinking water	Environmental Testing	Total Dissolved Solids	
Drinking water	Environmental Testing	Hardness	
Drinking water	Environmental Testing	Alkalinity	
Waste Water	Environmental Testing	Total Dissolved Solids	TDS Meter Hanna (HI 8734)
Municipal Wastewater/ Industrial Liquid Effluent	Environmental Testing	Chemical Oxygen Demand	5220-B: Standard Methods for the Examination of Water and Wastewater23rd Edition,2017
Municipal Wastewater/ Industrial Liquid Effluent	Environmental Testing	Biological Oxygen Demand	5210-B: Standard Methods for the Examination of Water and Wastewater 23rd Edition,2017

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Municipal Wastewater/ Industrial Liquid Effluent	Environmental Testing	pH	4500-H-B:Standard Methods for the Examination of Water and Wastewater 23rd Edition,2017
Food	Environmental testing	Pesticide residue: 1. Tecnazene 2. HCB 3. Quintozene 4. BHC-Alpha 5. BHC-beta 6. BHC-gama 7. Heptachlor 8. Aldrin 9. Heptachlor exo-epoxide 10. Heptachlor endo-epoxide 11. Transchlordane 12. cis-chlordane 13. Dieldrin 14. Alpha endosulfan 15. Beta endosulfan 16. Endrin 17. Endrin Aldehyde 18. DDE (o,p-DDE + p,p-DDE) 19. DDD (o,p-DDD + p,p-DDD) 20. Endosulfan sulfate 21. DDT (o,p-DDT + p,p-DDT) 22. Methoxychlor 23. Bifenthrin 24. Fipronil 25. Lambda cyhalothrin 26. Trifloxystrobin	AOAC Official Method 2007.01 Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate (AOAC 2019).

		27. Chlorpyrifos 28. Difenconazole 29. Tebuconazole 30. Cypermethrin 31. Permethrin 32. Deltamethrin 33. Chlorpyrifos-methyl 34. Diazinon 35. Melathion 36. Dichlorvos 37. Primiphos-methyl 38. Fenitrothion 39. Methamidophos	
Food	Environmental testing	1. Tecnazene 2. HCB 3. Quintozene 4. BHC-Alpha 5. BHC-beta 6. BHC-gama 7. Heptachlor 8. Aldrin 9. Heptachlor exo-epoxide 10. Heptachlor endo-epoxide 11. Transchlordane 12. cis-chlordane 13. Dieldrin 14. Alpha endosulfan 15. Beta endosulfan 16. Endrin 17. Endrin Aldehyde 18. DDE (o,p-DDE + p,p-DDE) 19. DDD (o,p-DDD + p,p-DDD) 20. Endosulfan sulfate 21. DDT (o,p-DDT + p,p-DDT) 22. Methoxychlor 23. Bifenthrin 24. Fipronil	AOAC Official Methods 970.52. Organochlorine and organophosphorus pesticide residues (AOAC 2019)

		25. Lambda cyhalothrin 26. Trifloxystrobin 27. Chlorpyrifos 28. Difenconazole 29. Tebuconazole 30. Cypermethrin 31. Permethrin 32. Deltamethrin 33. Chlorpyrifos-methyl 34. Diazinon 35. Melathion 36. Dichlorvos 37. Primiphos-methyl 38. Fenitrothion 39. Methamidophos	
Agriculture products	Environmental testing	Pesticide residues: 1. Bifenthrin 2. Cypermethrin 3. Permethrin 4. Deltamethrin 5. Fenpropathrin 6. Fenvelerate	AOAC official method 998.01, Synthetic Pyrithroids in Agriculture products. (AOAC 2019).
Fish	Environmental Testing	PAH as Naphthalene, Acenaphthylen, Acenaphthene, Fluorene, Phenanthrene	Gas Chromatography (Validated) Pena, A.,Morales, J., et al. (2003) Optimization of clean-up procedures by column chromatography and solid phase extraction for the PAH determination by GC: Application to fish. Revistar International de Contamination Ambiental, 19(12). 13-23.
Fish	Environmental Testing	PCBs: 1. PCB-28 2. PCB-52 3. PCB-101 4. PCB-138 5. PCB-153 6. PCB-180	Gas Chromatography EPA-1668-Revision-A for PCBs in Fisheries
Fish	Environmental Testing	Dibenzo dioxin	Gas Chromatography Modified EPA- 8290

Laboratory Name: **Textile**

Materials/ Products Tested	Testing Field (e.g. Environmental Testing or Mechanical Testing)	Types of Test/ Properties Measured	Reference to Standardized Method (e. g. ISO-14577-1: 2003)/ Internal Method Reference
Fabric	Textile	Colour fastness to water	ISO 105 EO1
Fabric	Textile	Colour fastness to sea water	ISO 105 EO2
Fabric	Textile	Colour Fastness to Rubbing organic solvent	ISO 105 DO2
Fabric	Textile	Angle of Crease Wrinkle Recovery Tester	AATCC 66–2003
Fabric	Textile	Tear Strength	ISO-13937-2
Fabric	Textile	Blend Ratio (Polyester / Cotton)	ISO1833, Section 10 (Mixture of Cellulose & polyester)
Fabric	Textile	Ends & Picks	ISO-7211-2
Fabric	Textile	Abrasion (Martindale)	ISO-12947-2
Fabric	Textile	Spray Rating	AATCC-22
Fabric	Textile	Count of yarn	ISO-7211-5
Fabric	Textile	Tensile Strength	ISO-13934-1
Fabric	Textile	Weight of fabric	ISO-3801

Chemical Testing (ACRC)

Edible Oils	Chemical Testing	Free Fatty acids	Titration Method
Edible Oils	Chemical Testing	Moisture and Volatiles	Drying in vacuum oven

Laboratory Name: **Chemical-Pharmaceutical**

Materials/ Products Tested	Testing Field (e.g. Environmental Testing or Mechanical Testing)	Types of Test/ Properties Measured	Reference to Standardized Method (e. g. ISO-14577-1: 2003)/ Internal Method Reference
Edible Oil and Products Containing Edible Oil	Food	Erucic Acid	Validated self-developed method KL/PRC/Erucic Acid/03 Gas Chromatograph
Chilli Products containing: 1. Chilli Whole 2. Chilli Crushed 3. Chilli Powder 4. Chilli Sauces 5. Chilli Paste 6. Pickles 7. Food Colors 8. Spices containing Chilli	Food & Spices	Sudan I, II, III and IV	AOAC, 920.208B (2012) UV Visible Spectrophotometer
Canned food, Pickles & dates	Food	Water Activity	AOAC 978.18 (2019) Hygrometer
Non Sterile pharmaceutical Product	Pharmaceutical	Water activity	USP 1112 - 2020
Chilli Products containing: 1. Chilli Whole 2. Chilli Crushed 3. Chilli Powder 4. Chilli Sauces 5. Chilli Paste 6. Chilli Oleoresins 7. Pickles 8. Food Colors 9. Spices containing Chilli	Food & Spices	Para red	HPLC J.Chem.Soc.Pak., 31(1), 151-155, 2009
Herbal Products 1. Tablets 2. Capsules 3. Creams/Lotion 4. Supplements 5. Energizers	Food and Medicine	Cortisone Acetate	BP/TLC (Lab Validated Method)

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Nutraceutical Product 1. Tablets 2. Capsules 3. Creams/Lotions 4. Supplements 5. Energizers	Food and Medicine	Cortisone Acetate	BP/TLC (Lab Validated Method)

Laboratory Name: **Food Technology and Nutrition Laboratory**

Materials/ Products Tested	Testing Field (e.g. Environmental Testing or Mechanical Testing)	Types of Test/ Properties Measured	Reference to Standardized Method (e. g. ISO-14577-1: 2003)/ Internal Method Reference
Cereal foods	Food testing	Moisture	AOAC 21st edition (2019) Method No. 925.10 (32.1.03)
Cereal foods	Food testing	Protein	AOAC 21st edition (2019) Method No. 920.87 (32.1.22)
Cereal foods	Food testing	Fat	AOAC 21st edition (2019) Method No. 920.39 (4.5.01)
Cereal foods	Food testing	Ash	AOAC 21st edition (2019) Method No. 923.03 (32.1.05)
Cereal foods	Food testing	Carbohydrates(by difference)/ Nitrogen Free Extract (NFE)	By difference/nitrogen free extract Modern food Analysis by Hart & fisher 1971
Cereal foods	Food testing	Calorific value/ Energy value	By calculation MacCane & Widdowson's The composition of Food by Paul & Southgate 4th ed.1988

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Materials/ Products Tested	Testing Field (e.g. Environmental Testing or Mechanical Testing)	Types of Test/ Properties Measured	Reference to Standardized Method (e. g. ISO-14577-1: 2003)/ Internal Method Reference
Cereal foods	Food testing	Fat	Acid Hydrolysis method AOAC 21st edition (2019) Method No. 922.06 (32.1.14)
Cereal foods	Food testing	Vitamin C	AOAC 21st edition (2019) Method No. 967.21 (45.1.14)
Raw/ Processed Food	Food testing	Vitamin A	Pearson's Composition & analysis of Food 9th edition, page 646 Food analysis, by S.Suzanne Neilsen., 4th edition, page 188 The Essential Chromatography and Spectroscopy Catalog. (Agilent Technologies) 2007-2008 edition page 656
Raw/ Processed Food	Food testing	Vitamin C	ASEAN Manual of Food Analysis, 2011. Regional Centre of ASEAN Network of Food Data System, Thailand pp.141-144
Food Products	Food testing	Saturated Fat Mono-unsaturates Poly-unsaturates Total trans fatty acids	J. Anim. Sci., 85: 1511-1521. Gas Chromatography

Laboratory Name: **Food & Feed Safety Laboratory**

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food & Feed Commodities 1. Rice & Rice Protein 2. Wheat 3. Maize or Corn 4. Red Chili (Spices) 5. Guar gum 6. Sesame seed 7. Black and Green Tea 8. Dates 9. Dried Fruits and Edible Nuts 10. Lentils and Pulses 11. Licorice roots (Herbs) 12. Animal Feed (Cattle & Poultry Feed & their ingredients)	Food and Feed Safety; Mycotoxins	Determination of Aflatoxin B_1	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 975.36 (49.2.05), 968.22 (49.2.08), 970.43 (49.1.01), 999.07 (49.2.29), 971.22 (49.2.03), 970.44 (49.2.02).
Food & Feed Commodities 1. Rice & Rice Protein 2. Wheat 3. Maize or Corn 4. Red Chili (Spices) 5. Guar gum 6. Sesame seed 7. Black and Green Tea 8. Dates 9. Dried Fruits and Edible Nuts 10. Lentils and Pulses 11. Licorice roots (Herbs) 12. Animal Feed (Cattle & Poultry Feed & their ingredients)	Food and Feed Safety; Mycotoxins	Determination of Aflatoxin B_2	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 975.36 (49.2.05), 968.22 (49.2.08), 970.43 (49.1.01), 999.07 (49.2.29), 971.22 (49.2.03), 970.44 (49.2.02).

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Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food & Feed Commodities 1. Rice & Rice Protein 2. Wheat 3. Maize or Corn 4. Red Chili (Spices) 5. Guar gum 6. Sesame seed 7. Black and Green Tea 8. Dates 9. Dried Fruits and Edible Nuts 10. Lentils and Pulses 11. Licorice Roots (Herbs) 12. Animal Feed (Cattle & Poultry Feed & their ingredients)	Food and Feed Safety; Mycotoxins	Determination of Aflatoxin G_1	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 975.36 (49.2.05), 968.22 (49.2.08), 970.43 (49.1.01), 999.07 (49.2.29), 971.22 (49.2.03), 970.44 (49.2.02).
Food & Feed Commodities 1. Rice & Rice Protein 2. Wheat 3. Maize or Corn 4. Red Chili (Spices) 5. Guar gum 6. Sesame seed 7. Black and Green Tea 8. Dates 9. Dried Fruits and Edible Nuts 10. Lentils and Pulses 11. Licorice Roots (Herbs) 12. Animal Feed (Cattle & Poultry Feed & their ingredients)	Food and Feed Safety; Mycotoxins	Determination of Aflatoxin G_2	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 975.36 (49.2.05), 968.22 (49.2.08), 970.43 (49.1.01), 999.07 (49.2.29), 971.22 (49.2.03), 970.44 (49.2.02).

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food & Feed Commodities 1. Rice & Rice Protein 2. Wheat 3. Maize or Corn 4. Red Chili (Spices) 5. Guar gum 6. Sesame seed 7. Black and Green Tea 8. Dates 9. Dried Fruits and Edible Nuts 10. Lentils and Pulses 11. Licorice roots (Herbs) 12. Animal Feed (Cattle & Poultry Feed & their ingredients)	Food and Feed Safety; Mycotoxins	Determination of Total Aflatoxins	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 975.36 (49.2.05), 968.22 (49.2.08), 970.43 (49.1.01), 999.07 (49.2.29), 971.22 (49.2.03), 970.44 (49.2.02).
Milk and Dairy Products 1. Liquid & Dried Milk 2. Butter 3. Cheese	Food and Feed Safety; Mycotoxins	Determination of Aflatoxin M_1	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 980.21 (49.3.02), 974.17 (49.3.01), 970.43 (49.1.01), 978.15 (49.2.21), 970.44 (49.2.02), 968.22 (49.2.08), 2000.08 (49.3.07)
Food & Feed Commodities 1. Rice 2. Wheat 3. Maize or Corn 4. Raisins 5. Licorice roots 6. Animal Feed (Cattle & Poultry Feed etc.)	Food and Feed Safety; Mycotoxins	Determination of Ochratoxin 'A'	Official Methods of Analysis of AOAC International, 22nd Edition (2023) Chapter # 49, AOAC Official Method (Adapted) # 973.37 (49.6.01), 2000.09 (49.6.02A).

Laboratory Name: **Microbiology**

Materials/ Products Tested	Testing Field (e.g. Environmental Testing or Mechanical Testing)	Types of Test/ Properties Measured	Reference to Standardized Method (e. g. ISO-14577-1: 2003)/ Internal Method Reference
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	Aerobic Plate Count	Bacteriological Analytical Manual, Online USFDA, Chapter # 03 (January 2001), (By Pour Plate method)
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	Total Coliforms	Bacteriological Analytical Manual, Online USFDA, Chapter # 04 (Oct, 2020), (By MPN Multiple tube method)
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	Faecal Coliforms	Bacteriological Analytical Manual, Online USFDA, Chapter # 04 (Oct, 2020), (MPN Multiple tube method)

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	Mould & Yeast Count	Bacteriological Analytical Manual, Online USFDA, Chapter # 18 (April 2001), (Spread plate/pour plate method)
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	*Salmonella* Detection	Bacteriological Analytical Manual, Online USFDA, Chapter # 05 (Nov 2022), (Selective enrichment method)
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	*Staphylococcus aureus* Enumeration	Bacteriological Analytical Manual, Online USFDA, Chapter # 12 (March 2016), (Spread plate method)

Materials /Products tested	Testing field(e.g. environmental testing or mechanical testing	Types of test/properties measured	Reference to standardized method (e.g. ISO 14577-1:2003)/Internal method reference
Food **1.**Milk& Milk products. **2.** Cereal and Cereal based foods. **3.** Meat, Fish, Poultry, Eggs and their products. **4.** Vegetables, spices, herb & their products. **5.** Fruits & Fruit products. **6.** Confectionary items. **7.** Guar gum, guar splits.	Food Microbiology	*E.coli* in food	Bacteriological Analytical Manual, Online USFDA, Chapter # 04 (Oct, 2020), (MPN Multiple tube method)
Drinking Water	Water Microbiology	Heterotrophic Plate Count	Standard Method for the examination of water & wastewater, 23rd Edition 2017, (Pour plate method).
Drinking Water	Water Microbiology	Total Coliforms Count	-ISO-9308-1, Part 1: Membrane filtration Method 2014, (Membrane filtration Method) -ISO-9308-2, Part 2: Multiple Tube Method 1st Edition, 1990, (MPN Multiple tube method) -ISO-9308-2, Part 2: Multiple Tube Method 2nd Edition, 2012, (IDEXX)
Drinking Water	Water Microbiology	Faecal Coliforms Count	-ISO-9308-1, Part 1: Membrane filtration Method 2014, (Membrane filtration Method) -ISO-9308-2, Part 2: Multiple Tube Method 1st Edition, 1990, (MPN Multiple tube method)
Drinking Water	Water Microbiology	*E. coli* in Water	-ISO-9308-1, Part 1: Membrane filtration Method 2014, (Membrane filtration Method) -ISO-9308-2, Part 2: Multiple Tube Method 1st Edition, 1990, (MPN Multiple tube method) -ISO-9308-2, Part 2: Multiple Tube Method 2nd Edition, 2012, (IDEXX)

Calibration Laboratory.

Permanent laboratory premises X

Field of measurement: MASS METROLOGY			
Measured quantity	**Range**	***Expanded Uncertainty (±)**	**Technique, Reference Standard, Equipment**
Balance/Weighing Machine **	2.0 mg to 220 g	0.020 mg – 2.0 mg	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses) **OIML R76**
	2.0 mg to 610 g	0.020 mg – 10.0 mg	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses) **OIML R76**
	2.0 mg to 6.1 kg	0.20 mg – 50.0 mg	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses) **OIML R76**
	100 mg to 20 kg	0.010 g – 5.0 g	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses) **OIML R76**
Masses/Weights	10 mg to 200 g	0.10 mg-0.2 g	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses) and Analytical Balance, Mettler Toledo AX 205 **OIML R111**
	500 g to 5 kg	1.0 mg-0.3 mg	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses (Equivalent To F1 Class Masses) and Mass Comparator, Mettler Toledo XP 5003, **OIML R111**

Measured quantity	Range	*Expanded Uncertainty (±)	Technique, Reference Standard, Equipment
Masses/Weights	10 kg to 20 kg	2.0 mg-0.05 kg	Ultra Class Masses (Equivalent To E2 Class Masses), ASTM 1 Class Masses(Equivalent To F1 Class Masses)Mass Comparator Mettler Toledo KA 30-3/P and Top Loading Balance, AND GP-40K, **OIML R111**
Field of measurement: THERMAL METROLOGY			
Liquid in Glass Thermometer	0 ºC to 200 ºC 300 ºC to 400 ºC	0.20 ºC – 0.70 ºC 0.70 ºC – 0.90 ºC	Digital Thermometer DIGI Sense Temperature Controller, with (K Type Temperature Probe) and Dry Block Calibrators ISOTECH 650B KL/MSRC/Cal/T-01, KL/MSRC/Cal-M/T-01
Dial Gauge Thermometer (**)	0 ºC to 200 ºC 300 ºC to 400 ºC	0.20 ºC – 0.70 ºC 0.70 ºC – 0.90 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) and Dry Block Calibrators ISOTECH 650B KL/MSRC/Cal/T-01, KL/MSRC/Cal-M/T-01
Oven (**)	50 ºC to 200 ºC	0.20 ºC – 0.70 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) **KL/MSRC/Cal-M/T-01**
Dry Block Calibrator	50 ºC to 200 ºC 300 ºC to 400 ºC 400 ºC to 500 ºC	0.20 ºC – 0.70 ºC 0.70 ºC – 0.90 ºC 0.90 ºC – 1.1 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) **KL/MSRC/Cal-M/T-03**
Digital Thermometer with T/K/S Type thermocouple, PRT, PT 100	0 ºC to 200 ºC 300 ºC to 400 ºC 400 ºC to 700 ºC 800 ºC to 1000 ºC	0.20 ºC – 0.70 ºC 0.70 ºC – 0.90 ºC 0.90 ºC – 1.1 ºC 1.1 ºC – 1.6 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) and Dry Block Calibrators ISOTECH 650B **KL/MSRC/Cal/T-01 KL/MSRC/Cal-M/T-03**

Measured quantity	Range	*Expanded Uncertainty (±)	Technique, Reference Standard, Equipment
Furnace (**)	50 ºC to 200 ºC 300 ºC to 400 ºC 400 ºC to 700 ºC 800 ºC to 1000 ºC	0.20 ºC – 0.70 ºC 0.70 ºC – 0.90 ºC 0.90 ºC – 1.1 ºC 1.1 ºC – 1.6 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) **KL/MSRC/Cal-M/T-01**
Temperature indicators (**) (Dryer/ Lander-o meter, Hygrometer, Refrigerator, Bath, Wascator, Incubator, Washer)	0 ºC to 100 ºC	0.20 ºC – 0.70 ºC	Digital Thermometer, DIGI Sense Temperature Controller with (K Type Temperature Probe) and Dry Block Calibrators ISOTECH 650B **KL/MSRC/Cal-M/T-03**
Field of measurement: DIMENSION METROLOGY (LENGTH)			
Micrometer (external)	0.01 mm to100 mm	0.50 µm – 50.0 µm	Gauge Block Set Grade 0 and 1 JISB 7502 micrometer
Calliper (external, internal and depth)	0.01 mm to300 mm	0.50 µm – 50.0 µm	Gauge Block Set Grade 0 and 1 JISB 7507 Calipers
Dial Indicator	0.01 mm to 25mm	2.0 µm – 50.0 µm	Dial Indicator Calibrator JISB 7503 Dial Indicator
Measuring scale, measuring tape, templates, (length interval marked on equipment **)	0.01 mm to 1000 mm	0.20 mm – 0.50 mm	Length comparator 0.1 µm Digital Caliper 300 and 600 mm R35-1 Measures of length for general use
Field of measurement: PRESSURE METROLOGY			
Pressure Gauges Transmitters and Recorders	100 psi to 5000 psi (Hydraulic)	0.010 % - 0.030 % of reading 0.030 of full-scale deflection	Dead weight Tester Pressure Calibrator DKD-R6-1, OIML R-110 (Guide for the uncertainty analysis in Pressure when using Deadweight Tester 2170TN13
Pressure Gauges Transmitters and recorders	100 psi to 2000 psi (Pneumatic)	0.030 to 0.050 % (of full scale deflection)	Pressure Calibrator DKD-R6-1

08-10-2024
Date

Sd
Director

Measured quantity	Range	*Expanded Uncertainty (±)	Technique, Reference Standard, Equipment
Field of measurement: ELECTRICAL METROLOGY			
DC Voltage (Source & measurement)	1 mV-300 mV 1 V-10 V 10 V-300 V 300 V-1000 V	0.010 mV- 0.020 mV 0.050 mV – 0.090 mV 0.090 mV – 5.0 mV 5.0 mV – 0.3 V	Universal Calibration System Model: 9100 Keithley Multimeter Model: 2002 DMM Agilent Multimeter Model: 344401 KL/MSRC/CAL-M/E-01 KL/MSRC/CAL-M/E-02 **Euramet cg-15**
AC Voltage @ 50 Hz (Source & measurement)	1 mV-300 mV 1 V-10 V 10 V-300 V 300 V-1000 V	0.040 mV- 0.70 mV 0.90 mV – 7.0 mV 7.0 mV – 60.0 mV 0.060 V – 0.30 V	
Resistance (Source & measurement)	1 Ω-100 Ω 1 KΩ-100 kΩ 1 MΩ-10 MΩ	8.0 mΩ – 20.0 mΩ 0.10 Ω – 3.0 Ω 0.10 kΩ – 9.0 kΩ	
Field of measurement: TIME METROLOGY			
Stop Watch/ Timers **	30 s - 30 min	0.20s – 0.48 s	Digital Stop watch (Q & Q) KL/MSRC/CAL-M/TF-01
Field of measurement: RPM MEASUREMENT			
Tachometers / RPM Measurements (**) (Source & measurement)	50 rpm - 40000 rpm	0.10 rpm to 2.0 rpm	Tachometer, Model:TM-5010 Signal Generator with Photo tachometer Calibrator Circuit Model: DD-S271 Fluke KL/MSRC/CAL-M/TF-02
Field of measurement: VOLUME METROLOGY			
Pipette	1 mL to 50 mL	10.0 µL – 30.0 µL	Analytical Balance Model: GX 6100 Analytical balance Model: ME-414 ASTM E542
Burette	1 mL to 100 mL	10.0 µL – 50.0 µL	
Measuring Cylinder	5 mL to 2000 mL	50.0 µL – 5.80 mL	
Measuring Beakers	25 mL to 1000 mL	0.20 mL – 6.0 mL	
Volumetric Flask	1 mL to 2000 mL	10.0 µL – 0.36 mL	
Phycnometer	10 mL 25 mL/50 mL	2.0 µL – 20.0 µL	
Density Bottle	50 mL100 mL/250 mL	5.0 µL – 50.0 µL	

* **Expanded Uncertainty:**

- Expanded Uncertainty is the measurement uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of k = 2. This measurement uncertainty is a value for which the laboratory has been accredited using the procedure that was the subject of assessment. In certificates issued under its accreditation scope an accredited laboratory is not permitted to quote an uncertainty that is smaller than the published uncertainty for respective ranges as given above.

** On Site Accreditation (as well)

08-10-2024
Date

Sd
Director