

	ACCREDITATION DOCUMENT	F-06/02 Issue Date: 18/08/2020 Rev. No: 09 LAB 019
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Accreditation No: LAB. 019

Awarded to

Pakistan Council of Scientific & Industrial Research (PCSIR)
Laboratories Complex, Jamrud Road
Peshawar, 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 **27-11-2014** 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 **25-11-2023**.

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

16-06-2021
Date

Sd

Director General



ACCREDITATION DOCUMENT

F-06/02
Issue Date: 18/08/2020
Rev. No: 09
LAB 019

Testing Laboratory:-

Accreditation Scope of *Chemical Testing Laboratory (Water, Fats/Oil, Honey and Herbal)*, of PCSIR Laboratories Complex, Peshawar - Pakistan

Permanent Laboratory Premises

Materials/ Products Tested	Testing field (e.g. Environmental Testing or Mechanical Testing) Testing Field	Types of test/ Properties Measured	Reference to Standardized Method (e.g. ISO 14577-1:2003)/ Internal Method Reference
Water	Chemical Testing Laboratory Water,(FTC)	1. pH	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 4500- H ⁺ . B
		2. Sodium (Na)	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 3500 – Na.
		3. Potassium (K)	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 3500-K.
		4. Total Hardness as CaCO ₃	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 2340.C.
		5. Calcium Hardness as CaCO ₃	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 3500-Ca.B
		6. Total Alkalinity as CaCO ₃	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 2320. B
		7. Chloride (Cl)	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 4500 Cl. B.
		8. Total Dissolved Solids	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 2540. C.
		9. Electrical Conductivity	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017, Method No. 2510. B.
		10. Sulphate as SO ₄	Standard Methods for the Examination of Water and Waste water APHA/AWWA 23 rd Edition, 2017

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		11. Magnesium as CaCO ₃	Standard Methods for the Examination of Water and Waste water APHA/AWWA 23 rd Edition, 2017
		12. Carbonates	Standard Methods for the Examination of Water and Waste water APHA/AWWA 23 rd Edition, 2017
		13. Bicarbonates	Standard Methods for the Examination of Water and Waste water APHA/AWWA 23 rd Edition, 2017
Waste Water	Chemical Testing Laboratory Waste Water (FTC)	i). COD	HACH 8000 USEPA Approved Method.
Fats/Oil	Chemical Testing Laboratory, (FTC)	Determination of Moisture Content	AOAC 29 th Edition 2019, Official Method No. 981.11
		Determination of Refractive Index	AOAC 29 th Edition 2019, Official Method No. 921.08
		Determination of Free Fatty Acid	AOAC 29 th Edition 2019, Official Method No. 940.28
		Determination of Peroxide Value	AOAC 29 th Edition 2019, Official Method No. 965.33
		Determination of Specification Value	AOAC 29 th Edition 2019, Official Method No. 920.160
Honey (Food)	Chemical Testing Laboratory, (FTC)	i). Moisture	AOAC 2019, 969.38 (B), Chap-44, P-26, (44.4.04)
		ii). Ash	AOAC 2019, 920.181, Chap-44, P-26, (44.4.05) Pearson's Chemical Analysis of Foods, 8 th Edition 1981.
		iii). Total Sugars	AOAC 2019, 962.19, Chap-44, P-28, (44.4.20)
		iv). Reducing Sugars	

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		v). Non Reducing Sugars	Lane and Eynon Titration, Pearson's Chemical Analysis of Foods by 8 th Edition 1981. Ranganna S, 2012: Handbook of Analysis and Quality Control for Fruit and Vegetable Products, 2 nd Edition. Tata McGraw-Hill, New Delhi, India, 1112.
		vi). Free Acidity	AOAC 2019, 962.19, Chap-44, P-36, (44.4.20)
		vii). Hydroxy methyl furfural Content (HMF)	AOAC 2019, 980.23, Chap-44, P-34, (44.4.15)
		viii). Diastase Activity (Goothe)	Polska norma PN-88/A-77626 Miód pszczeli, Wyd. Normal, Alfa, Warszawa 1988.
		ix). Water Insoluble Solid Contents	IHC, 2009. Harmonised Methods of the International Honey Commission
Herbal Raw Materials	Chemical Testing Laboratory, Herbal ,(MBC)	i). Moisture/Water Content	AOAC 21 st Edition, 2019
		ii). Total Ash	AOAC 21 st Edition, 2019
		iii). Ash Acid Insoluble	AOAC 21 st Edition, 2019
Tobacco and Tobacco product	-do-	i). Ash Content ii). Moisture Content iii). Acid Insoluble Ash iv). Nicotine Content	AOAC 21 st Edition, 2019
Herbal raw materials and finished products	-do-	i). Volatile Oil Content	EuP, 10 th Edition, 2019
Plant materials (Powder and liquid form)	-do-	i). Melting Point	USP, Vol. 6, 2018
		ii). Density of Liquid	EuP, 10 th Edition, 2019
		iii). Water Soluble Extraction	BP Vol.-V, Appendix XIX,V-A 369
		iv). Alcohol Soluble Extraction	BP Vol.-V, Appendix XIX,V-A 369

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Testing Laboratory:-

Accreditation Scope of **Microbiology Testing Laboratory** of
PCSIR Laboratories Complex, Peshawar - Pakistan

Permanent Laboratory Premises

Materials/ Products Tested	Testing field (e.g. Environmental Testing or Mechanical Testing) Testing Field	Types of test/ Properties measured	Reference to Standardized Method (e.g. ISO 14577-1:2003)/ Internal Method Reference
Water	Microbiology Testing Laboratory	1. Total Plate Count (TPC)	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017 Method No. 9215 A-B
		2. Total Coliform and Fecal Coliform	Standard Methods for the Examination of water and wastewater, APHA/AWWA/WEF 23 rd Edition, 2017 Method No.9221 A-E
Water	Microbiology Testing Laboratory	3. Detection of E. Coli 4. Enumeration of E. Coli	Standard methods for the Examination of water and waste water, APHA/AWWA/WEF 23 rd Edition, 2017, Method No.9221 A-F
Juice	Microbiology Testing Laboratory	1. Total Plate Count (TPC) 2. Total Coliform and Fecal Coliform 3. Detection of E. Coli 4. Enumeration of E. Coli	Compendium of method for Microbiological examination of Food 5 th Edition, 2015 Edited by Frances Pouch Downes Keith ITO American Public Health Association Washington DC USA.
Milk	Microbiology Testing Laboratory	1. Total Plate Count (TPC) 2. Total Coliform and Fecal Coliform 3. Detection of E. Coli 4. Enumeration of E. Coli	Compendium of method for Microbiological examination of Food 5 th Edition, 2015 Edited by Frances Pouch Downes Keith ITO American Public Health Association Washington DC USA.
Milk Powder (Food)	Microbiology Testing Laboratory	1. Total plate count (TPC) 2. Total Coliform 3. Fecal Coliform 4. Detection of E. Coli 5. Enumeration of E. Coli	Compendium of method for Microbiological examination of Food 5 th Edition, 2015, Edited by Frances Pouch Downes Keith ITO American Public Health Association Washington DC USA
		6. Detection of Yeast 7. Enumeration of Yeast 8. Detection of Mould 9. Enumeration of Yeast	Manual of Food and Agriculture Organization of the United Nation 1992.

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Calibration Laboratory.

Accreditation Scope of *Calibration Laboratory* of PCSIR Laboratories Complex,
Peshawar - Pakistan

With in and out side Laboratory Premises

Measured Quantity	Range	*Expanded Uncertainty (±)	Technique, Reference Standard, Equipment
Mass:			
Mass/Weights	Class F2 and Lower classes (10 mg ~ 5kg)	0.02 mg ~ 0.040 g	OIMLRIII-I,2004(E)
Weighing	(10 mg ~ 6 kg)	0.09 mg ~ 0.08 g	OIMLR76-I,2006(E)
Temperature:			
Temperature (Liquid In Glass Thermometers)	-20 °C ~ 200 °C	0.12 °C ~ 2 °C	ASTM ,E77-07, 2008(E)
Volume:			
Micropipette	i). 0.5 µL ~ 10 µL ii). 10 µL ~ 100 µL iii). 100 µL ~ 1000µL	0.13 µL ~ 0.14 µL 0.20 µL ~ 1.67 µL 0.76 µL ~ 3.66 µL	BS EN ISO 8655-6:2002 <u>Analytical Balance, Sartorius</u> Hygrometer Digital, Model HTC-2
Pipettes	i). 1 mL, ii). 2 mL, iii). 5 mL, iv). 10 mL, v). 20 mL, vi). 25 mL	0.00077 mL 0.05778 mL 0.00092 mL 0.00126 mL 0.13 mL 0.12 mL	ASTM ,E542- 01,(Reapproved 2007),2008 (E) <u>Analytical Balance, Sartorius</u> Top Loading Balance, Adam Hygrometer Digital, Model HTC-2
Graduated Cylinder	i). 10 mL ii). 25 mL iii). 50 mL iv). 100 mL v). 250 mL vi). 500 mL vii). 1000 mL	0.17 mL 0.31 mL 0.59 mL 0.59 mL 0.59 mL 1.45 mL 2.90 mL	ASTM ,E542- 01,(Reapproved 2007),2008 (E) Top Loading Balance, Adam Hygrometer Digital, Model HTC-2
Volumetric Flasks	i) 25 mL ii) 50 mL iii) 100 mL iv. 250 mL v) 500 mL vi) 1000 mL vii) 2000 mL	0.12 mL 0.12 mL 0.12 mL 0.12 mL 0.12 mL 0.12 mL 0.12 mL	ASTM ,E542- 01,(Reapproved 2007),2008 (E) Top Loading Balance, Adam Hygrometer Digital, Model HTC-2
Burettes	i) 25 mL ii) 50 mL iii) 100 mL	0.13 mL 0.14 mL 0.17 mL	ASTM ,E542- 01,(Reapproved 2007),2008 (E) Top Loading Balance, Adam

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			Hygrometer Digital, Model HTC-2
Beakers	i) 50 mL ii) 100 mL iii) 250 mL iv) 500 mL v) 1000 mL	0.58 mL 1.16 mL 1.53 mL 2.94 mL 5.86 mL	ASTM ,E542-01,(Reapproved 2007),2008 (E) Top Loading Balance, Adam Hygrometer Digital, Model HTC-2
Pressure Gauge	0 ~ 10000 psi	1 psi	Direct measurement Dead Weight Tester
Electrical:			
AC Voltage (measurement)	200 mV ~ 1000 V	1 uV ~ 10 uV	Direct measurement Inmel 7000 Inmel 33 5500
DC Voltage (measurement)	200 mV ~ 1000 V	0.1 uV ~ 1 mV	Direct measurement Inmel 7000 5500
AC Current (measurement)	0.2 mA ~ 20 A	1 uA ~ 0.1 mA	Direct measurement Inmel 7000 Inmel 33 5500
DC Current (Measurement)	0.2 mA ~ 20 A	0.01 uA ~ 100 uA	Direct measurement Inmel 7000 5500
Electrical (Resistance)	1 Ω ~ 1 G Ω	--	Decade resistance block
Dimension:			
Caliper (Vernier/Digital)	1 mm ~ 200 mm	--	Gauge block set (Grade 1)

*** 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.

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