



Bio-Resources Development Centre

(A Government of Meghalaya R & D Institution under Science & Technology, Planning Department)

5½ Mile, Upper Shillong, Shillong – 793009, Meghalaya.



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REQUEST FOR PROPOSAL

ENGAGEMENT OF SERVICE PROVIDER TO SUPPORT IN SETUP, OPERATION & MAINTENANCE, ACCREDITATION OF THE QUALITY CONTROL AND ANALYTICAL LABORATORY, BRDC EXPERIMENTAL FARM LAITMYNSAW, UPPER SHILLONG

RFP Reference No.: BRD4/2024/Pt.III/79

Date: 25th August, 2026

**Bio-Resources Development Centre,
5½ Mile, Upper Shillong, Opp. Indo-Danish Project,
Department of Animal Husbandry & Veterinary, Govt. of Meghalaya,
Meghalaya- 793009**

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1. Executive Summary

1.1 Objective

This document is a Request for Proposal (RFP) for engagement of Service Provider to support in setup, operation and maintenance, accreditation of the Quality Control and Analytical Laboratory at BRDC, Shillong and to transform the Laboratory into a fully operational, accredited, commercially ready analytical testing facility aligned with national and international standards. This engagement is structured to deliver:

- Fully functional analytical testing laboratory
- NABL ISO/IEC 17025:2017 implementation
- APEDA & FSSAI readiness accreditation
- Technical capability building of Laboratory Personnel
- Commercial operation and Scope extension readiness

2. Terms of Reference (TOR)

I. BACKGROUND

The Bio-Resources Development Centre (BRDC), Shillong, Government of Meghalaya, is a premier research and development Institution registered institution under the Meghalaya Society Registration Act XII of 1983 under the Department of Planning, Govt. of Meghalaya. It became operational during the year 2003. The registered office of the BRDC is located at 5½ Mile, Upper Shillong. The Centre is mandated to conserve, sustainably utilize, and add value to the State's rich biological resources. BRDC plays a critical role in promotion of sustainable agriculture, organic certification, documentation and validation of traditional knowledge (including medicinal plants), development of green technologies, and livelihood enhancement through bio-resource-based enterprises.

In accordance of this mandate, BRDC is establishing a state-of-the-art Quality Control & Analytical Laboratory (QCAL) equipped with advanced analytical and molecular biology facilities. The Laboratory is envisaged to perform testing of samples- matrices involving fruits, spices, vegetables, water and soil for parameter such as Proximate, Nutritional profiling, Chemicals, Heavy metals, Pesticide residue, Minerals, etc in compliance to Organic Certifications and marketing.

This laboratory will represent a strategic public investment aimed at strengthening scientific validation, quality assurance, and market credibility of bio-resources from Meghalaya and the wider North Eastern Region (NER). Additionally, the facility will support and synchronize biotechnological research potential to promote bio-manufacturing in the State.

2. Existing Infrastructure and Technical Capability

The QCAL is equipped with state-of-the-art infrastructure and sophisticated analytical instruments, including:

- High Performance Liquid Chromatography (HPLC)
- Ultra Performance Liquid Chromatography (UPLC-MS)
- Liquid Chromatography–Tandem Mass Spectrometry (LC-MS/MS)
- Gas Chromatography–Tandem Mass Spectrometry (GC-MS/MS)
- High Resolution Mass Spectrometry (HRMS)
- Inductively Coupled Plasma–Mass Spectrometry (ICP-MS)
- Microbiological testing facility
- Molecular testing facility using RT-PCR.

Details of the Quality Control and Analytical Laboratory (QCAL) is enclosed as ***Annexure-I***

II. Detail Scope of Works

A. Responsibilities of the Service Provider:

1. Human Capital Management and Managerial Augmentation: Under the supervision of the Lead Technical Expert, the Service Provider should depute at least **4 (Four)** qualified & competent Manpower to be to support the existing Technical Personnel in the following components of the Laboratory with the objective to establish technical command, system discipline, and excellence in execution:

Sl. No.	Section	Key Deliverables
1.	High-End Sections (LC-MS,GC-MS, HR-MS,ICP MS)	• Method development & validation (ISO/IEC 17025) • Multi-residue analysis (pesticides, heavy metals) • Instrument calibration & maintenance • SOP development • Troubleshooting & performance optimization
2.	Proximate Testing Section	• Standardization of moisture, ash, protein, fat, fiber. etc., • Equipment calibration • Sample preparation SOPs • Routine QC checks
3.	Microbiological Section	• Pathogen testing (<i>E. coli</i>, <i>Salmonella</i>, etc.) • Sterile lab protocols & biosafety • Culture media preparation

		• Environmental monitoring • Hygiene & contamination control
4.	HPLC Section	• Method development (vitamins, toxins, additives) • System suitability testing (SST) • Detector calibration (UV/FLD) • Chromatographic data analysis
5.	GLP & Data Integrity	• Implementation of GLP • ALCOA+ data integrity principles • LIMS integration • Audit trail & documentation control • Internal audits & gap analysis

Key Deliverable:

Availability of qualified technical and quality professionals under the supervision of the Lead Technical Expert to strengthen laboratory capabilities through method development and validation, advanced analytical testing, instrument calibration and maintenance, SOP development, quality control, microbiological testing and biosafety practices, HPLC method optimisation, implementation of Good Laboratory Practices (GLP), ALCOA+ data integrity principles, LIMS integration, documentation control, and internal audits to establish technical excellence, operational discipline, and compliance with ISO/IEC 17025 requirements.

2. Training of existing Technical Personnel: To facilitate hands-on Trainings in APEDA recognized NABL accredited laboratories across the Country.

- **Participants:** 17 Analyst

Sl. No.	Training Component	Key Deliverables (Per Staff Competency)
1.	Advanced Instrument Operation (LC-MS/MS, GC-MS/MS, HRMS, ICP-MS, IC, HPLC)	• Independent operation of instruments • Routine calibration & system suitability testing • Basic troubleshooting capability
2.	Sample Preparation & Contamination Control	• Correct sample extraction & cleanup techniques • Matrix handling (food, water, biological samples) • Cross-contamination prevention practices
3.	Method	• Hands-on method development

	Development & Validation	• Validation parameters: accuracy, precision, LOD, LOQ, linearity • Documentation of validation reports
4.	IQ/OQ/PQ Documentation & Execution	• Understanding of installation, operational & performance qualification • Ability to execute IQ/OQ/PQ protocols • Documentation compliance
5.	Data Integrity & ALCOA+ Principles	• Proper data recording practices • Audit trail review & compliance • Error-free documentation culture
6.	NABL Documentation & Record Control	• SOP writing & implementation • Record maintenance (logs, reports, formats) • Internal audit participation
7.	PT/ILC Participation & Interpretation	• Participation in proficiency testing • Interpretation of z-scores/results • Corrective action implementation
8.	Commercial Lab Discipline & TAT Management	• Time-bound sample analysis • Workflow management • Client-oriented reporting practices

Key Deliverables:

Facilitate comprehensive hands-on training of 17 existing analysts at APEDA/FSSAI/EIC -recognized NABL-accredited laboratories across the country to develop competency in advanced instrument operation, sample preparation and contamination control, method development and validation, IQ/OQ/PQ execution and documentation, data integrity following ALCOA+ principles, NABL documentation and record management, proficiency testing/inter-laboratory comparison (PT/ILC) participation and interpretation, and commercial laboratory practices including workflow management, turnaround time (TAT), and client-oriented reporting.

3. QMS Design & Implementation:

Standards to be covered:

- NABL ISO/IEC 17025:2017
- FSSAI
- APEDA – Organic

Scope

- Quality Manual
- SOPs & technical procedures

- Risk registers & decision rules
- Data integrity & traceability systems
- Internal audit & MRM framework

Key deliverables: A fully documented and implemented Quality Management System (QMS) aligned with NABL ISO/IEC 17025:2017, FSSAI, and APEDA (Organic) requirements, ensuring technical competence, data integrity, traceability, and audit readiness for accreditation and regulatory compliance.

4. NABL ISO/IEC 17025:2017 Implementation: Implementation aligned to ISO/IEC 17025:2017 clause sequence:

- Clause 4 – General Requirements
- Clause 5 – Structural Requirements
- Clause 6 – Resource Requirements
- Clause 7 – Process Requirements
- Clause 8 – Management System Requirements

Detailed Scope of Activities

- Scope finalisation (test & matrix-wise)
- Completion of remaining equipment installation
- IQ, OQ & PQ for all instruments
- Method development & selection
- Method validation as per ICH Q3D principles:
 - Specificity
 - Linearity
 - Accuracy
 - Precision
 - LOD / LOQ
 - Robustness
- Method optimisation & matrix extension
- Measurement uncertainty calculations
- Range establishment & corrections
- Record formats & document control
- Annual calibration plan
- Organisation structure & job descriptions

- Authorisation & competency matrix
- Vendor qualification & evaluation
- Risk management & decision rule implementation
- Result interpretation protocols
- Appointment & authorisation of Technical & Quality Managers
- Internal audits & Management Review Meetings (MRM)
- QMS training to all staff
- NABL application (The detailed timeline is provided in the table below)
- Audit preparation:
 - Document review
 - Pre-assessment
 - Final assessment
- Closure of non-conformities (if any)

Key Deliverables:

Ensure successful implementation of NABL ISO/IEC 17025:2017 by establishing a compliant Quality Management System (QMS) covering all applicable clauses, including finalisation of testing scope, completion of equipment qualification (IQ/OQ/PQ), method development, validation and optimisation, measurement uncertainty estimation, calibration and document control systems, competency and authorisation framework, vendor qualification, risk management, staff training, and preparation and submission of NABL application, including audit readiness, pre-assessment, final assessment, and closure of non-conformities to achieve NABL accreditation.

NABL Application Submission Schedule:

Sl. No.	Section	Timeline
1.	Proximate Testing Unit Parameters	Within 6 months from the date of Award of Contract
2.	Remaining Units- High End and Biological (Microbiological & Molecular Testing) parameters	Within 8 months from the date of Award of Contract

5. Microbiology & Molecular Biology Lab Setup & Operationalization

Detailed Scope:

- Finalisation of microbiology & Molecular Biology laboratory personnel/material flow
- Area validation including clean zoning, pressure differentials and environmental monitoring
- Implementation of microbiology-specific SOPs (pathogens, indicators, hygiene parameters)
- Biosafety practices, contamination control and waste management
- Method validation for food, water, environmental microbiology & GMO parameters
- Media preparation, sterility checks and growth promotion testing
- Training of microbiology analysts on aseptic techniques and result interpretation
- Participation in PT/ILC programs
- Integration of microbiology tests into NABL scope
- Operationalisation and commercial readiness

Key deliverables: Establishment of a fully compliant, NABL-ready, and commercially operational Microbiology & Molecular Biology laboratory with validated systems, trained personnel, and accredited testing capabilities.

6. The Service Provider shall ensure timely procurement of chemicals, consumables, reagents, Certified Reference Materials (CRMs), microbial cultures, and other items, as applicable, on an actual-cost reimbursement basis. The total reimbursement for such procurement shall be subject to an overall ceiling of **₹1 crore**. Any procurement requirement exceeding this ceiling shall be undertaken only with the prior approval of the Committee of the Centre.

Table. NABL Application (Timeline 2026)

Sl. No.	Activities/ Months→ ↓	1	2	3	4	5	6	7	8	9	10	11	12	Remarks
1.	Common (All section)													
	Scope Finalisation													Scope finalisation to be completed in consultation with all sections to ensure alignment with NABL requirements.
	QMS Documentation & SOPs													QMS documentation, SOP development, and implementation will be undertaken concurrently across all sections.
	Training & Competency													Personnel training, competency assessment, and authorization will be carried out in a phased manner to ensure operational readiness.
	Internal Audit & MRM													Internal Audits and Management Review Meetings (MRM) will be conducted periodically to evaluate compliance and preparedness for accreditation.
	NABL Application Submission													• Application submission to be initiated with the Proximate Testing and Microbiology Units by November, 2026 and remaining sections-High end & Molecular by 2027. • Priority will be accorded to Microbiological units to ensure parallel readiness. • This phased and concurrent approach will facilitate achievement of NABL accreditation within the stipulated timeline.
	Pre-Assessment Audit & Final Assessment													Pre-assessment and final assessment activities will be scheduled in accordance with NABL timelines and laboratory readiness.

	NC Closure & Accreditation													All Non-Conformities (NCs) identified during assessments will be addressed promptly to ensure successful grant of NABL accreditation.
2.	Proximate testing section													Calibration awaiting.
	Equipment Verification													
	IQ/OQ/PQ													
	Method Standardisation													
	Method Validation													
	Measurement Uncertainty													
	PT/ILC Participation													
3.	HPLC													- IQ & OQ Completed in April 2026. - Extended timeline due to complex instrumentation & validation Critical path: Method Development → Validation → PT/ILC
	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	PT/ILC Participation													
4.	ICP-MS													IQ & OQ Completed in October 2025.

	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
	PT/ILC Participation													
5.	GC-MS/MS													• IQ & OQ Completed in November 2025. • PT/ILC by 2027.
	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
	PT/ILC Participation													

6.	LC-MS/MS													• IQ & OQ Completed in July, 2026 • Extended timeline due to complex instrumentation & validation - Critical path: Method Development → Validation → PT/ILC • PT/ILC by 2027.
	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
7.	HR-MS													• Extended timeline due to complex instrumentation & validation - Critical path: Method Development → Validation → PT/ILC - PT/ILC by 2027.
	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
8.	GC-FID													• Extended timeline due to complex

	Equipment Installation													instrumentation & validation Critical path: Method Development → Validation → PT/ILC PT/ILC by 2027.
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
9.	IC 6000													Extended timeline due to complex instrumentation & validation Critical path: Method Development → Validation → PT/ILC
	Equipment Installation													
	IQ (Installation Qual.)													
	OQ (Operational Qual.)													
	PQ (Performance Qual.)													
	Method Development													
	Method Validation													
	Measurement Uncertainty													
	Contamination Control SOPs													
10.	Microbiological & Molecular Section													- Requires strict contamination control - Additional SOPs for biosafety & aseptic
	Equipment													

Installation														handling • Requires strict contamination control • Additional SOPs for biosafety & aseptic handling
IQ (Installation Qual.)														
OQ (Operational Qual.)														
PQ (Performance Qual.)														
Method Development														
Method Verification														
Measurement Uncertainty														
Contamination Control SOPs														
PT/ILC Participation														

B. Responsibilities of the Quality Control & Analytical Laboratory, BRDC

QCAL, BRDC shall ensure the following:

1. Availability of adequate Infrastructure (Laboratory Layout is enclosed as *Annexure-IIA*) and equipment (List of available equipment is enclosed at *Annexure-IIB*)
2. Availability of qualified manpower for laboratory testing activities (List of existing Manpower is enclosed at *Annexure-III*).
3. Provision of uninterrupted power supply and Grade I laboratory water.
4. Maintenance of Annual/Comprehensive Maintenance Contracts (AMC/CMC) for major equipment and timely external calibrations.
5. Cost for training & capacity building of Technical & Administrative Staff.
6. Financial support for participation in ILC/PT programs, regulatory compliance requirements, and external audits.
7. Maintaining compliance with Environment, Health & Safety (EHS) standards.
8. Adequate administrative and technical support staff for sample handling, analysis, booking, reporting, invoicing, and marketing activities.
9. Availability of ancillary equipment, temperature monitoring/control systems, and access control mechanisms.

Terms & Conditions:

1. The agreement shall remain valid for a period of **36 (Thirty-Six) months**, renewable every **12 (Twelve) months** based on satisfactory performance.
2. The financial implications for performing the above scope of work shall be **quoted clearly with specific timelines against each activities**.
3. Applicable government taxes (currently **GST @ 18%**) shall be charged extra, as per prevailing regulations.
4. Any services rendered beyond the defined scope of work shall be treated as additional assignments and billed separately upon mutual agreement.

3. Invitation for the Proposal

The Invitation of the Proposal is to identify a competent Organization/Agency to support in the setup, operation, maintenance and accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmysaw, upper shillong.

The Organizations/Agencies advised to study this RFP document carefully. submission of proposals shall be deemed to have been done after careful study and examination of this RFP document with full understanding of its implications.

3.1 Issuer

Bio- Resources Development Centre (BRDC) invites proposals for selection of Organizations/Agencies to support in the setup, operation, maintenance and accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm Laitmysaw, upper shillong, as per the Terms of Reference.

3.2 Address for Submission of Proposals & Correspondence

Director
Bio-Resources Development Centre (BRDC)
5 ½ Mile, Upper Shillong – 793009

3.3 Key Events, Dates and Important Information

Sl. No	Event/Information	Details
1	RFP Reference No.	BRD4/2024/Pt.III/79
2	Tender Publication Detail	The Proposal document can be seen and downloaded from the website https://megbrdc.nic.in/
3	Date of Publishing of Proposals	25 th August, 2026
4	Last Date & Time of Receiving Queries	1 st September, 2026 before 3:00 PM IST
5	Pre-Proposal Meeting	1 st September ,2026, 3:00 PM IST Bidder are required to email brdcshillong@gmail.com for meeting link
6	Last Date and Time for Submission of proposals	9 th September, 2026 Before 5:00 PM IST
7	Date and Time of Opening of Pre-Qualification & Technical Proposals	To be notified
8	Date & Time for opening of Financial Proposals	To be notified later only to technically qualified agencies/firms
9	Proposal Validity Period	120 days
11	Performance Bid Security (PBG) Amount	3% of the contract value

12	Contact email	brdeshillong@gmail.com
13	Telephone No.	03642522077

3.4 Distribution of RFP Document

The proposal document can be downloaded from <https://megbrdc.nic.in/> portal free of cost.

3.5 Pre-Proposal Conference

Bio- Resources Development Centre (BRDC) shall organize a Pre-Bid Conference on the scheduled date and time in the Conference Hall of BRDC. The BRDC may incorporate any changes in the RFP based on acceptable suggestions received during the interactive Pre-Proposal Conference. The decision of the BRDC regarding acceptability of any suggestion shall be final and shall not be called upon to question under any circumstances. The prospective agencies/firms shall submit their questions in writing not later than date and time indicated under section 2.3 above. It may not be possible at the Pre-Proposal Conference to answer questions which are received late. However, prospective organizations/agencies are free to raise their queries during the meeting and responses will be conveyed to all the prospective organizations/societies (by way of hosting amendments/clarifications on the website i.e., at <https://megbrdc.nic.in/> The prospective participants have to inform the BRDC on the email id mentioned in Section 3.3 for attending the pre-bid conference

3.6 Amendment of RFP Document

At any time before the deadline for submission of Proposals, the BRDC may, for any reason, whether at own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP document by amendment. All the amendments made in the document would be published on the website <https://megbrdc.nic.in/>. The Organizations/Agencies are also advised to visit the website on regular basis for checking necessary updates. The BRDC also reserves the right to amend the dates mentioned in clause 3.3 of this RFP document

3.7 Deadline for submission of Proposal

The Proposal response shall be submitted in hard copy, not later than date and time specified in Section 3.3 of this document

4. Eligibility Criteria

The organization/agency must possess the requisite experience, strength and capabilities in providing the services necessary to meet the requirements as described in the RFP document. Keeping in view the complexity and volume of the work involved, the following criteria are prescribed as pre-qualification criteria for bidder interested in undertaking the project. The bidder must also possess the technical know-how and the financial wherewithal that would be required to successfully provide the required support services sought by BRDC. The bids must be complete in all respect and should cover the entire terms of references as stipulated in the RFP document. The invitation for the proposal is open to all organizations/societies who qualify the eligibility criteria as given below:

The **Lead Technical Expert** of the Organization should meet the following requirements:

1. Minimum 30 years of professional experience and empaneled Lead Assessor for ISO/IEC 17025:2017.
2. Must be a full-time employee of the consulting organization
3. Minimum 4 years' experience in supervisory/managerial role in an operational food laboratory
4. Demonstrated in-depth knowledge of ISO/IEC 17025:2017, with proven experience in delivering official training programmes on Laboratory quality management systems, internal audits, method validation, measurement uncertainty, and NABL accreditation requirements. Experience in implementing and maintaining accredited laboratory management systems and providing guidance during accreditation assessments will be an added advantage.
5. Hands-on expertise in operation, calibration/intermediate Checks, trouble shooting and maintenance of advanced instruments such as HPLC, GC-FID, LC-MS/MS, HR-MS, GC-MS/MS, ICP-MS, RT-PCR and Microbiology Techniques.
6. Proven experience in consulting and training government and private food/analytical laboratories.

4.1 Pre-Qualification Criteria

Sl. No.	PQ Criteria	Documents required
1	The Bidder should be a Company registered under the Companies Act, 1956/ Proprietary Firm / Partnership Firm	(Certificate of incorporation/ certificate for commencement of business/valid trading license/ other relevant documentary proof should be submitted)
2	Attested copy of Company's PAN, GST and ITR details	Documentary proofs should be submitted
3	Average Annual Turnover of the Bidder during last three financial years 2022-23, 2023-24 and 2024-25 should be at least ₹ 2 crores	Copies of the audited balance sheet of the company showing the same should be submitted
4	Experience in operating similar facilities	Certificates to be furnished
5	The Bidder should not be blacklisted by any Government department /PSUs/ Private sector	Self-declaration of the same to be furnished

5. Evaluation of Bids

The Agency shall be selected through a Quality cum Cost Based Selection (QCBS) process. The weightage of the Technical and Financial scores will be in the ratio of 80:20, respectively. A two-stage selection process will be adopted in evaluating the proposals. In the first stage, a technical evaluation will be carried followed by financial evaluation in the second stage. Post-evaluation, both Bids will be assigned an aggregate financial score.

5.1 Technical Evaluation Criteria

Only organizations/agencies meeting the above minimum eligibility criteria shall be considered for technical evaluation.

Technical Proposal Evaluation

The evaluation of Technical Proposal will be based on marking out of the total of 80 marks. In the first stage, the Technical Proposal will be evaluated based on Bidder's experience in similar projects, resource qualification & experience, modalities of operation and financial competency.

The scoring criteria for the Technical Bid to be used for evaluation shall be as follows:

Sl. No.	Evaluation Parameter	Marks	Details
1	Technical Competency of the Bidder: Past experience in establishing and accrediting analytical laboratories and operating similar facilities	15	Highest mark will be awarded to most experience Bidder. Marking for the remaining will be done on <i>pro rata</i> basis.
2	Availability of competent skilled manpower for performing the services	20	Highest mark will be awarded to Bidder with best skilled manpower and the remaining will be done on <i>pro rata</i> basis.
3	Proposal on modalities of operating the Facility (based on Presentation outlining the project implementation plans, value addition and innovative solutions)	35	Highest mark will be awarded to Bidder offering the most comprehensive Plan. Marking for the remaining will be done on <i>pro rata</i> basis.
4	Financial competency of the Bidder: Certificate from a practicing CA certifying the audited average turnover during the last three financial years ending 31st March 2025 should be at least ₹ 2 crores	10	Highest mark will be awarded to the Bidder with highest turnover. Marking for the remaining will be done on <i>pro rata</i> basis.
Total		80	

Shortlisting of Bidders

All the bidder having scored more than 35 marks shall be considered for financial evaluation in the second stage.

5.2 Financial Evaluation Criteria

Financial Proposal

The evaluation of Financial Proposal will be based on marking out of the total of 20 marks. The Financial Proposal will be evaluated based on Financial Parameter Marks Evaluation Method.

The scoring criteria for the Financial Bid to be used for evaluation shall be as follows:

Sl. No.	Evaluation Parameter	Marks	Details
1	Consultancy Fee and Management Fee	20	Highest mark will be awarded to the Lowest Bidder.
Total		20	

Step 1: Evaluate Consultancy fee and Management fee (20 Marks)

Management Fee- The management fee quoted by the service provider shall cover deployment of the required technical experts throughout the implementation period.

Since this is a consultancy and management assignment, lowest cost should receive the highest score.

Formula:

$$FS = 10 \times \frac{\{L\} \{C\}}{\{L\} \{M \&O\}}$$

Where:

- * L = Lowest consultancy fee quoted
- * C = Consultancy fee quoted by the bidder
- * L = Lowest Management and operation fee quoted
- * M &O = Management and operation fee quoted by the bidder

Step 2: Final Evaluation Using QCBS

Final evaluation shall be done on “Quality & Cost Based Selection” method (QCBS). The weightage for the composite evaluation shall be awarded as below: -

$$\text{Final Score} = TS + FS$$

Bids shall be ranked according to their combined scores, calculated using the technical score (TS) and financial score (FS), the bidder with the highest final score is ranked first. In case of a tie in the final score, the Bidder having highest technical score will be selected

6. Instruction to the Agencies/firms

6.1 Procedure for Submission of Proposals

Technical Proposal (Envelope 1): The documents comprising of the pre-qualification documents and technical documents need to be enclosed in a separate envelope which is properly sealed and inscribed as *“Technical Proposal for Engagement of Service Provider to support in setup, operation, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong”*

Financial Proposal (Envelope 2): The documents comprising of the financial Proposal need to be enclosed in a separate envelope which is properly sealed and inscribed as *“Financial Proposal for Engagement of Service Provider to support in setup, operation, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong”* Do not open before date and time of opening of financial Proposal

Main Envelope: The technical envelope (envelope 1) and financial envelope (envelope 2) should be put into a single envelope which is properly sealed and marked as **“Engagement of Service Provider to support in setup, operation, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong”** – *Do not open before date and time of opening of Technical Proposal*

The proposal should be submitted to the office of the:

Director
Bio-Resources Development Centre (BRDC)
5 ½ Mile, Upper Shillong – 793009

Sd/-
(Mitali Chandra), IAS,
Director,
Bio-Resources Development Centre,
Shillong.

6.2 Site visit and verification of Information

Bidders are encouraged to submit their respective applications after visiting the site and ascertaining for themselves the site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for any other matter considered relevant by them.

6.3 Authentication of Proposal

The response proposal shall be signed by the bidder or a person or persons duly authorized to bind the agency/firm to the contract. A letter of authorization shall be supported by a written Power-of-Attorney accompanying the Proposal. All pages of the Proposal, except for un-amended printed literature, shall be initialed and stamped by the person or persons signing the Proposal.

6.4 Validation of interlineations in Proposal

The Proposal shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the agency/firm, in which case such corrections shall be initialed by the person or persons signing the Proposal.

6.5 Cost of Bidding

The agency/firm shall bear all costs associated with the preparation and submission of its proposal including cost of presentation for the purposes of clarification of the proposal, if so desired by the BRDC. The BRDC will in no case be responsible or liable for those costs, regardless of the outcome of the tendering process.

6.6 Language of Proposals

The Proposals prepared by the agency/firm and all correspondence and documents relating to the Proposals exchanged by the agency/firm and BRDC, shall be written in English language. Any printed literature furnished by the bidder may be written in another language so long the same is accompanied by a duly attested English translation in which case, for purposes of interpretation of the bid, the English translation shall govern

6.7 Documents Comprising the Proposals

The Proposal prepared by the agency/firm shall comprise the following components. The Proposals not conforming to the requirements shall be summarily rejected

Pre-Qualification Proposal

In support of eligibility, agency/firm must submit the following documents (besides the other requirements in Section 3.1), original copies or attested copies, as the case may be, in the absence of which the bid will be rejected.

6.7.1 Section 8 – Format 1: Pre-qualification Proposal Letter

6.7.2 Section 8 – Format 2: General information about the Organization/Agency

6.7.3 Section 8 – Format 3: Declaration regarding Clean Track Record

All required document for eligibility criteria mentioned at Section 3.1

Technical Proposal

The Technical Bid, besides the other requirements of the Tender, shall comprise the following:

6.7.4 Section 9 – Format 1: Technical Proposal Letter

6.7.5 Section 9 – Format 2: Deviations from the Tender Terms & Conditions

6.7.6 Section 9 – Format 3: Project Experience Details

All necessary data sheets and any other documents

Financial Proposal

The Financial Proposal, besides the other requirements of the Tender, shall comprise the following:

6.7.7 Filled Bill of Quantity with price quotation – Section 10 - Format for Response to Tender:
Financial Proposals

6.8 Proposal Prices

The Bidder shall prepare the proposal based on details provided in the tender document. It must be clearly understood that the terms of references is intended to give the bidder an idea about the order and magnitude of the work and is not in any way exhaustive and guaranteed by the BRDC. The bidder shall carry out all the tasks in accordance & due diligence and it shall be the responsibility of the bidder to fully meet all the requirements of the tender document.

6.9 Firm Prices

Prices quoted in the proposal must be firm and final and shall not be subject to any upward modifications on any account whatsoever. However, the BRDC reserves the right to negotiate the prices quoted in the proposal to effect downward modification.

6.10 Proposal Currency

Prices shall be quoted in Indian Rupees (INR)

6.11 Performance Security

The successful organization/agency should submit 3% of the contract value as a performance security valid for a period of 8 months.

6.12 Proposal Validity Period

Period of validity of Proposals shall remain valid for 120 days after the date of opening of Proposals prescribed by the BRDC. A Proposal valid for a shorter period may be rejected as non- responsive. However, the prices finalized after opening the tenders shall not increase throughout the period of implementation and operation. The prices of components quoted in the Financial Proposal by the agency/firm shall remain valid for the project period. Extension of period of validity in exceptional circumstances, BRDC may request the agency/firm for an extension of the period of validity. The request and the responses thereto shall be made in writing.

6.13 Opening of Proposals

As specified in Section 2.3 of the RFP document

6.14 Rectification of Errors

Arithmetical errors in the Financial Proposal will be rectified on the following basis.

6.14.1 If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and will be considered for future calculations.

6.14.2 If there is a discrepancy between words and figures, the amount in words shall prevail. Note: In any other case of discrepancy, BRDC reserves the right to pick the value which it considers as beneficial to the Government.

6.15 Contacting the BRDC

Contact by Writing: No Bidder shall contact BRDC on any matter relating to its Proposal, from the time of Proposal opening to the time the Contract is awarded. If the Bidder wishes to bring additional information to the notice of BRDC, it should be done in writing.

Rejection of Proposal: Any effort by a Bidder to influence the BRDC in its decisions on Proposal evaluation, Proposal comparison or contract award may result in rejection of the Bidder's Bid.

6.16 Rejection Criteria

Besides other conditions and terms highlighted in the tender document, Proposals may be rejected under following circumstances:

Pre- Qualification Rejection Criteria:

- 6.16.1 Proposals which do not conform to unconditional validity of the Proposal as prescribed in the Tender.
- 6.16.2 Pre-Qualification Proposal containing commercial details
- 6.16.3 If the information provided by the bidder is found to be incorrect / misleading at any stage / time during the tendering process.
- 6.16.4 Any effort on the part of a bidder to influence the bid evaluation, bid comparison or contract award decisions.
- 6.16.5 Proposals received by BRDC after the last date prescribed for receipt of Proposals
- 6.16.6 Proposals without signature of person (s) duly authorized on required pages of the bid
- 6.16.7 Proposals without power of authorization and any other document consisting of adequate proof of the ability of the signatory to bind the Bidder.
- 6.16.8 Failure to furnish proofs for information provided.

Technical Rejection Criteria:

- 6.16.9 Technical bid containing commercial details.
- 6.16.10 Revelation of prices in any form or by any reason before opening the commercial bid
- 6.16.11 Failure to furnish all information required by the RFP document or submission of a bid not substantially responsive to the tender document in every respect
- 6.16.12 Failure to furnish proofs for information provided
- 6.16.13 Organizations/Agencies not quoting for the complete scope of work as indicated in the tender documents, addendum (if any) and any subsequent information given to the bidder.
- 6.16.14 Agencies/firms not complying with the technical and general terms and conditions as stated in the RFP Document other than the deviations
- 6.16.15 The bidder not conforming to unconditional acceptance of full responsibility of providing services in accordance with the scope of work of this tender
- 6.16.16 If the bid does not confirm to the timelines indicated in the bid

Commercial Rejection Criteria:

- 6.16.17 Incomplete price bid
- 6.16.18 Price Proposals that do not conform to the tender's price bid format
- 6.16.19 Total price quoted by the bidder does not include all statutory taxes and levies applicable.

Important: -

Rejection of Proposals: BRDC reserves the right to reject any or all proposals or cancel/withdraw the invitation of RFP without assigning any reasons whatsoever thereof. The applicants are cautioned that not giving complete information called for in the RFP or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the applicant being rejected.

6.17 Concessions permissible under statutes

Bidder, while quoting against this tender, must take cognizance of all concessions permissible under the statutes including the benefit under Central Sale Tax Act, 1956, failing which it will have to bear extra cost where Bidder does not avail concessional rates of levies like customs duty, excise duty, sales tax, etc. BRDC will not take any responsibility towards this. However, BRDC may provide necessary assistance, wherever possible, in this regard.

6.18 Income Tax Liability

The Bidder will have to bear all Income Tax liability both corporate and personal tax.

6.19 GST Liability

The Bidder will have to bear all GST.

7. General Conditions of Contract

1.12 Ownership of Equipment

The BRDC shall own all the equipment, Licenses and any solution supplied by the Bidder arising out of or in connection with this Contract.

1.13 Payment

The fee amount will be equal to the amount specified in format for Tender Response – Commercial Bid

1.14 Payment Terms

Payments shall be released subject to acceptance of deliverable by the client as per the following terms:

Sl.No.	Payment Milestone	Payment
1	Mobilization Advance: After signing of Contract Agreement- To facilitate deputation of Technical Manpower to support the existing Technical Personnel of the QCAL	20%
2	Training of Technical Staff: Upon submission of Training Modules and mobilizing Trainings at APEDA recognized NABL accredited Laboratories	10%
3	External Calibration: Upon completion of external calibration of equipment	10%
4	Method Development: Upon completion of Method validation /method verification and submission of detailed Reports	20%
5	Proficiency Testing (PT) & Inter Laboratory Comparison (ILC): Upon completion of PT/ILC and submission of Reports	10%
6	NABL Accreditation: After receipt of NABL accreditation for all Sections- Proximate, High End and Biological Testing	30%

- Payment will be made to successful bidder as per above mentioned schedule
- Performance Incentive: A Performance incentive equivalent to 5% of the total contract value shall be payable upon successful achievement of NABL accreditation before completion of the stipulated 12-month implementation period.
- Penalty as per the RFP terms and conditions will be calculated and adjusted from the bill.
- All payments to successful bidder will be made subject to deduction of TDS (Tax deduction at Source) as per the income Tax Act, 1961, applicable penalty and other taxes, if any, as per

Government of India rules.

- e) If there is any deficiency in the performance of contractual obligations on the part of the Bidder, the Bidder shall be liable for imposition of appropriate penalties as specified in the RFP and BRDC shall be entitled to deduct such penalties at source while making payment to the Bidder for the services provided as mentioned & forfeit the guarantee submitted (if required)

1.15 Penalty

- a) Failure to execute the entire contract within the project period from the date of signing of the contract will attract a penalty of 1% of the Contract amount during the first month, 2 % during the second month, 3 % during the third month and 5 % thereafter in accordance with contract conditions. Delays beyond that period will be viewed as violation of the contract terms and will be dealt accordingly.
- b) Any delay on the part of BRDC should be intimated and sorted out immediately without affecting the progress of works

1.16 Force Majeure

Force Majeure shall not include any events caused due to acts/omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Bid and/or the Tender. It shall also not include any default on the part of a Party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Contract.

The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. BRDC will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the bidder in performing any obligation as is necessary and proper to negate the damage due to projected force majeure events or to mitigate the damage that may be caused due to the above-mentioned events or the failure to provide adequate disaster management/recovery or any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.

In case of a Force Majeure, all Parties will endeavour to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure.

8. Format for Response to the Tender: Pre-Qualification Proposal

This section provides the outline, content and the formats that the Organizations/ Agencies are required to follow in the preparation of the Pre-Qualification Proposal.

Format 1 – Pre-Qualification Proposal Letter

To

.....,

.....,

.....,

Subject: “Engagement of Service Provider to support in setup, technical operation and maintenance, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong”

Reference: RFP No: <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY>

Sir,

We, the undersigned Agencies/firms, having read and examined in detail all the Tender documents, do hereby propose to provide the services as specified in the Tender document number <RFP REFERENCE NUMBER> Dated <DD/MM/YYYY> along with the following:

1. CONTRACT PERFORMANCE GUARANTEE BOND

We hereby declare that in case the contract is awarded to us, we shall submit the contract performance guarantee bond in the form prescribed in Annexure II of Section 10.

We hereby declare that our Proposal is made in good faith, without collusion or fraud and the information contained in the Proposal is true and correct to the best of our knowledge and belief.

We understand that our Proposal is binding on us and that you are not bound to accept a Proposal you receive.

Yours faithfully,

(Signature of the Bidder)

Printed Name:

Designation:

Seal:

Date:

Business Address:

Format 2 - General Information about the Organizations/Agency

Details of the Agency/Firm (Company)				
1	Name of the Organizations/Agency			
2	Address of the Organizations/Agency			
3	Status of the Company (Public Ltd/ Pvt. Ltd)			
4	Details of Incorporation of the Company	Date:		
		Ref. #		
5	Details of Commencement of Business	Date:		
		Ref. #		
6	Valid Goods and Service Tax (GST) registration no.			
7	Permanent Account Number (PAN)			
8	Name & Designation of the contact person to whom all references shall be made regarding this tender			
9	Telephone No. (with STD Code)			
10	E-Mail of the contact person:			
11	Fax No. (with STD Code)			
12	Website			
13	Financial Details (as per audited Balance Sheets) (in crore)			
14	Year	2022-2023	2023-2024	2024-2025
15	Net Worth			
16	Turn Over in INR			

Format 3 - Declaration Regarding Clean Track Record

To

.....,

.....,

.....,

.....,

Sir,

I have carefully gone through the Terms & Conditions contained in the RFP Document [No. _____] regarding engagement of Service Provider to support in setup, technical operation, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong. I hereby declare that my company has not been debarred/black listed by any Government/Semi-Government organizations in India. I further certify that I am competent officer in my company to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Printed Name

Designation

Seal Date:

Business Address:

9. Format for Response to Tender: Technical Proposal

Format 1 – Technical Proposal Letter

To

.....,
.....,
.....,
.....,

Subject: “Engagement of Service Provider to support in setup, technical operation and maintenance, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm laitmynsaw, upper shillong on Mode Public Private Partnership (PPP)”

Reference: RFP No:<RFP Reference Number>Dated <dd/mm/yyyy> Sir,

We, the undersigned Agency/Firm, having read and examined in detail all the Tender documents do hereby propose to provide the services as specified in the Tender document number <Tender Reference Number>Dated <dd/mm/yyyy>along with the following:

1. Deviations

We declare that all the services shall be performed strictly in accordance with the Tender documents except for the variations, assumptions and deviations, all of which have been detailed out exhaustively in the following statements, irrespective of whatever has been stated to the contrary anywhere else in our Tender:

- Statement of Deviations from Tender Terms and Conditions is as specified in General Terms and Conditions

Further, we agree that additional conditions or assumptions, if any, found in the Tender documents other than those stated in deviation schedule shall not be given effect to.

2. Contract Performance Guarantee Bond

We hereby declare that in case the contract is awarded to us, we shall submit the Contract Performance Guarantee Bond in the form prescribed in the RFP.

3. Proposal Validity Period

We agree to abide by this Bid for a period of 120 days after the date fixed for Proposal opening or for any further period for which Proposal validity has been extended and it shall remain binding upon us and Proposal may be accepted at any time before the expiration of that period.

We hereby declare that our Proposal is made in good faith, without collusion or fraud and the information contained in the Proposal is true and correct to the best of our knowledge and belief.

We understand that our Proposal is binding on us and that you are not bound to accept a Proposal you receive.

Yours faithfully,

(Signature of the Bidder)

Printed Name

Designation

Seal Date:

Business Address:

Format 2 - Project Experience Details

Sl. No.	Item	Details
General Information		
1	Customer Name/Government Department	
2	Name of the Contact Person and Contact details for the project	
Brief description of scope of project		
Size of the project		
3	Contract Value of the project (in crore)	
4	Capital Expenditure involved (by the govt./ client)	
5	Total cost of the services provided (by the Bidder)	
6	Please provide copies of Work Order or Certificate of Completion.	
Project Details		
8	Name of the project	
9	Start Date and End Date	
10	Current Status (work in progress, completed)	
11	Contract Tenure	
12	No. of locations	
13	Man-month effort involved	
14	Type of Project	
15	Solution architecture deployed & core Components	
16	Scope	
17	Any other necessary information	

10. Financial Proposal: Standard Forms

{Notes to Consultant shown in brackets { } provide guidance to the Consultant to prepare the Financial Proposals; they should not appear on the Financial Proposals to be submitted.}

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal according to the instructions provided below:

Form FIN-1 - Financial Proposal Form Form

FIN-2 - Breakdown of Costs

Form FIN-3 – Breakdown of Remuneration

Form FIN - 1 FINANCIAL PROPOSAL SUBMISSION FORM

Date

To: [Name and address of Client]

Subject: “Engagement of Service Provider to support in setup, technical operation and maintenance, accreditation of the Quality Control and Analytical Laboratory, BRDC experimental farm Laitmynsaw, upper shillong on Mode Public Private Partnership (PPP)”

Dear Madam:

We, the undersigned, offer to provide the consulting services for [Insert title of assignment] in accordance with your Request for Proposal dated [Insert Date] and our Technical Proposal.

Our attached Financial Proposal is for the amount of {Indicate the corresponding to the amount(s) currency(ies)} {Insert amount(s) in words and figures}, [Insert “including” or “excluding”] of all indirect local. The estimated amount of local indirect taxes is {Insert currency} {Insert amount in words and figures} which shall be confirmed or adjusted, if needed, during negotiations. {Please note that all amounts shall be the same as in Form FIN-2}. Our Financial Proposal shall be valid and remain binding upon us, subject to the modifications resulting from Contract negotiations, for the period of time specified

Commissions and gratuities paid or to be paid by us to an agent or any third party relating to preparation or submission of this Proposal and Contract execution, paid if we are awarded the Contract, are listed below:

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity
_____	_____	_____

{If no payments are made or promised, add the following statement: “No commissions or gratuities have been or are to be paid by us to agents or any third party relating to this Proposal and Contract execution.”}

We understand you are not bound to accept any Proposal you receive.

We remain, Yours

sincerely,

Signature (of Consultant's authorized representative) {In full and initials}: Full
name: {insert full name of authorized representative}
Title: {insert title/position of authorized representative}
Name of Consultant (company's name or JV's name):
Capacity: {insert the person's capacity to sign for the Consultant} Address:
{insert the authorized representative's address}
Phone/fax: {insert the authorized representative's phone and fax number, if
applicable}
Email: {insert the authorized representative's email address}_____

{For a joint venture, either all members shall sign or only the lead member/consultant,
in which case the power of attorney to sign on behalf of all members shall be attached}

FORM FIN-2

Item	BREAKDOWN OF COSTS
	The Consultant must state the proposed Costs of the financial proposal in the client's country currency (Local currency) Indian National Rupees; INR
Cost of the Financial Proposal	
(1) Remuneration	
(2) Reimbursable	
Total Cost of the Financial Proposal:	
Indirect Local Tax Estimates – to be discussed and finalized at the negotiations if the Contract is awarded	
(i) {insert type of tax: e.g., GST tax}	
(ii) {insert type of tax}	
Total Estimate for Indirect Local Tax:	

Footnote: Payments will be made in the currency (ies) expressed above.

FORM FIN - 3 BREAKDOWN OF REMUNERATION

When used for Lump-Sum contract assignment, information to be provided in this Form shall only be used to demonstrate the basis for the calculation of the Contract's ceiling amount; to calculate applicable taxes at contract negotiations; and, if needed, to establish payments to the Consultant for possible additional services requested by the Client. This Form shall not be used as a basis for payments under Lump-Sum contracts

A. Remuneration					
No.	Name	Position	Person-month Remunerat ion Rate	Time Input in Person/Month	{in INR}
—	Key Experts				
K-1			[Home]		
			[Field]		
K-2					
K-3					
K-4					
—	Non-Key Experts				
N-1			[Home]		
N-2			[Field]		
	Total Costs				

Annexure

11.1 Annexure - A: Bidding Document Acknowledgement Form

To

Dated:

.....,
.....,
.....,
.....,

Dear Sir,

We hereby acknowledge receipt of a complete set of Bidding Documents consisting of Annexure (along with their Appendices) enclosed to the "Invitation for Bid" pertaining to providing of _____services against tender no..... .

We have noted that the closing date for the receipt of the tender by the BRDC is _____at < > hrs. (IST) and opening at < > hrs. (IST) on the same day.

We guarantee that the contents of the above said Bidding Documents will be kept confidential within our organization and text of the said documents shall remain the property of the BRDC and that the said documents are to be used only for the purpose intended by the BRDC.

Our address for further correspondence on this tender will be as under: Tel.

No:

Fax. no: Telephone n o :

Personal attention of:

..... (if required)

Yours faithfully,

(Bidder)

Note: This form should be returned along with offer duly signed

11.2 Annexure – B: Proforma of Bank Guarantee towards Performance Security

PERFORMANCE GUARANTEE

Ref. No. _____ Bank Guarantee No _____

Dated _____

To

.....,
.....,
.....,
.....,

Dear Sir,

11.2.1 In consideration of Bio- Resources Development Centre (BRDC), having its office at 5th Mile Upper Shillong-793009 (hereinafter referred to as ` BRDC`, which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and assignees) after receipt of the work order dated with M/s _____ having its _____ registered/head office at _____ (Hereinafter referred to as the 'CONTRACTOR') which expression shall, unless repugnant to the context or meaning thereof include all its successors, administrators, executors and assignees) and BRDC having agreed that the CONTRACTOR shall furnish to BRDC a performance guarantee for Indian Rupees for the faithful performance of the entire CONTRACT.

11.2.2 We (name of the bank) registered under the laws of having head/registered office at (hereinafter referred to as "the Bank", which expression shall, unless repugnant to the context or meaning thereof, include all its successors, administrators, executors and permitted assignees) do hereby guarantee and undertake to pay immediately on first demand in writing any /all moneys to the extent of Indian Rupees. (in figures) (Indian Rupees (in words)) without any demur, reservation, contest or protest and/or without any reference to the CONTRACTOR. Any such demand made by BRDC on the Bank by serving a written notice shall be conclusive and binding, without any proof, on the bank as regards the amount due and payable, notwithstanding any dispute(s) pending before any Court, Tribunal, Arbitrator or any other authority and/or any other matter or thing whatsoever, as liability under these presents being absolute and unequivocal. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable until it is discharged by BRDC in writing.

This guarantee shall not be determined, discharged or affected by the liquidation, winding up, dissolution or insolvency of the CONTRACTOR and shall remain valid, binding and operative against the bank.

- 11.2.3 The Bank also agrees that BRDC at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the CONTRACTOR and notwithstanding any security or other guarantee that BRDC may have in relation to the CONTRACTOR's liabilities.
- 11.2.4 The Bank further agrees that BRDC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said CONTRACT or to extend time of performance by the said CONTRACTOR(s) from time to time or to postpone for any time or from time-to-time exercise of any of the powers vested in BRDC against the said CONTRACTOR(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said CONTRACTOR(s) or for any forbearance, act or omission on the part of BRDC or any indulgence by BRDC to the said CONTRACTOR(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
- 11.2.5 The Bank further agrees that the Guarantee herein contained shall remain in full force during the period that is taken for the performance of the CONTRACT and all dues of BRDC under or by virtue of this CONTRACT have been fully paid and its claim satisfied or discharged or till BRDC discharges this guarantee in writing, whichever is earlier.
- 11.2.6 This Guarantee shall not be discharged by any change in our constitution, in the constitution of BRDC or that of the CONTRACTOR.
- 11.2.7 The Bank confirms that this guarantee has been issued with observance of appropriate laws of the country of issue.
- 11.2.8 The Bank also agrees that this guarantee shall be governed and construed in accordance with Indian Laws and subject to the exclusive jurisdiction of Indian Courts of the place from where the purchase CONTRACT has been placed.
- 11.2.9 Notwithstanding anything contained herein above, our liability under this Guarantee is limited to Indian Rupees (in figures) (Indian Rupees(in words))and our guarantee shall remain in force until . (Indicate the date of expiry of bank guarantee) Any claim under this Guarantee must be received by us before the expiry of this Bank Guarantee. If no such claim has been received by us by the said date, the rights of BRDC under this Guarantee will cease. However, if such a

claim has been received by us within the said date, all the rights of BRDC under this Guarantee shall be valid and shall not cease until we have satisfied that claim.

In witness whereof, the Bank through its authorized officer has set its hand and stamp on this.....day of20 at.....

WITNESS NO. 1

(Signature)

Full name and official

Address (in legible letters)

(Signature)

Full name, designation and

address (in legible letters)

with Bank stamp

Attorney as per power of

Attorney No.....

WITNESS NO. 2

Dated.....

(Signature)

Full name and

official

Address (in legible letters)

STATUS REPORT OF QUALITY CONTROL & ANALYTICAL LABORATORY (QCAL), BRDC, SHILLONG

Background

The Bio-Resources Development Centre (BRDC), Shillong, Government of Meghalaya, is a premier research and development institution mandated to conserve, sustainably utilize, and add value to the State's rich biological resources. BRDC plays a critical role in promotion of sustainable agriculture, organic certification, documentation and validation of traditional knowledge (including medicinal plants), development of green technologies, and livelihood enhancement through bio-resource-based enterprises.

In accordance of this mandate, BRDC is establishing a state-of-the-art Quality Control & Analytical Laboratory (QCAL) equipped with advanced analytical and molecular biology facilities. The Laboratory is envisaged to perform testing of samples- matrices involving fruits, spices, vegetables, water and soil for parameter such as Proximate, Nutritional profiling, Chemicals, Heavy metals, Pesticide residue, Minerals, etc., in compliance to Organic Certifications and marketing.

This laboratory will represent a strategic public investment aimed at strengthening scientific validation, quality assurance, and market credibility of bio-resources from Meghalaya and the wider North Eastern Region (NER). Additionally, the facility will support and synchronize biotechnological research potential to promote biomanufacturing in the State.

Scope of Testing:

Matrix (Fresh and Processed)- Fruits (Khasi mandarin, Pineapple, Banana, Jack fruit, Strawberry, Citrus *sp.*) Vegetables (Tomato, Potato, Carrot, Chilli, etc.,) Spices (Turmeric, Ginger, Black Pepper, Long pepper, Bay leaf, Cardamon,) Food grains (Local rice, Millets), Plantation (Coffee, Cashew nut) Soil (Micro and Macro nutrients, Pesticides and heavy metals a and other parameters) and Water.

1. Proximate Testing Unit

Food and Nutrition	Water Quality Analyses	Soil Analyses
Total Moisture content	Colour	Water content
pH	Odour	pH Value
Total Ash Content	pH	Nitrogen

Ash Insoluble Acid	Turbidity	Phosphorus
Total Soluble Solids	Conductivity	Potassium
Acidity	Total Dissolved Solids (TDS)	Soil Organic Carbon
Total Fat content	Calcium	
Protein content	Total Hardness	
Crude & Dietary fibres content	Total Alkalinity	
Cholesterol	Total Chloride	
Vitamins	Iron	
Carbohydrates content	Nitrate	
Trace Elements	Nitrite	
Energy Value		
Fatty Acid Composition		
Trans Fatty Acids		
Curcumin content in Turmeric		
Oleoresin in ginger		
Artificial colours		

2. High-End Unit

Gas Chromatography-Mass Spectrometry (GC-MS) and GC-Flame Ionization Detector (FID)	High-Performance Liquid Chromatography (HPLC), Liquid Chromatography-Mass Spectrometry (LC-MS) and High Resolution-Mass Spectrometry	Inductively Coupled Mass Spectrometry and ION Chromatography
Pesticides residues	Artificial Colours	Trace Elements
Aromatic compounds	Antioxidants	Heavy Metals
Phyto Chemicals etc.,	Mycotoxins/Aflatoxins	
Fatty Acids	Pesticides residues	
	Amino acids	
	Common food adulterants	
	Phyto-chemicals etc.,	
	Preservatives	

	Artificial Sweeteners	
--	-----------------------	--

3. Biological Testing Unit

Microbiological	Molecular
Total plate count, Total Coliform, Aerobic count, Anaerobic count, Yeast and Mold count, Flat sour organisms, <i>Staphylococcus aureus</i> , Salmonella, Shigella, <i>Clostridium botulinum</i> , <i>E. Coli</i> , <i>Vibrio cholera</i> , <i>Listeria monocytogenes</i>	GMOs and Allergens

Construction of Laboratory:

Following the gap assessment conducted by the consultant, the laboratory requirements were reviewed and the detailed layout plans for both the Chemical and Biological sections were finalized in accordance with workflow, biosafety, utility, and accreditation requirements. Based on the approved layouts, construction activities commenced in 2024. The scope of work included civil modifications, partitioning, electrical and plumbing installations, HVAC provisions, drainage systems, Effluent Treatment Plant (ETP) and other essential infrastructure to meet laboratory standards. The construction of the Chemical Laboratory has been completed, including the installation of major utilities and functional areas as per the approved design. **Biological Laboratory Construction:** Construction of the Biological Laboratory has been successfully completed, and the initial structural validation has also been completed. A final validation will be undertaken upon completion of the installation and commissioning of all laboratory equipment to ensure full compliance with the applicable technical and operational requirements.



Fig. Chemical Testing Section of the Laboratory.

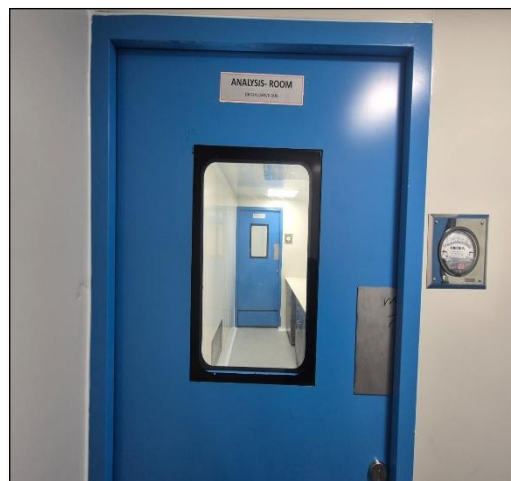


Fig. Biological Testing Section of the Laboratory.

Recruitment:

An official recruitment advertisement was published on the BRDC website to invite applications for the positions of Analysts, Microbiologists, Molecular Biologists, and Laboratory Attendants. Following the application period, a structured selection process was conducted, which included written examinations to assess technical knowledge and aptitude, followed by personal interviews to evaluate professional competence, practical skills, and suitability for the respective roles. This rigorous process ensured the selection of qualified and competent personnel to support the operations and research activities of the laboratory.



Fig. Written Examination and Personal Interview for the Posts of Analysts and Molecular Biologists

Training of Technical Personnel:

- 6-month Technical Training on Basic, High End, Microbiological and Molecular Testing conducted by AKD Consultant India Pvt. Ltd., New Delhi (February- July, 2023).
- Training on Uncertainty of Measurement and Decision Rule as per ISO/IEC 17025:2017 conducted by AKD Consultant India Pvt. Ltd., New Delhi (20th – 21st January, 2024)
- On-site Training on Quality Management System as per ISO 17025:2017 conducted by AKD CONSULTANT INDIA Pvt. Ltd., New Delhi & Avon Food lab Pvt. Ltd. (NABL Accredited Laboratory)- March, 2024.
- Training on Methods and Techniques of Sampling as per Clause 7.3: Sampling Techniques; Expert: Dr. Abhay Ekbote, Director (Technical), Avon Food Lab, New Delhi (April, 2024).
- Training on Uncertainty of Measurement and Decision Rule as per ISO/IEC 17025:2017), Conducted by Quality Council of India (QCI), Training and Capacity Building (TCB) Cell at National Productivity Council (NPC)', New Delhi, Delhi 110003. Expert: Shri Vivek Ghodke (9th- 10th May, 2024)
- Thirty Days hands-on training on “Analysis of Safety Parameters (Heavy Metals, Mycotoxins, Pesticides and Microbiology) in Food Commodities” organized by CFRA in collaboration with AKD Consultant India Pvt. Ltd, at NIFTEM-Kundli, Sonapat, Haryana (19th Nov -17th Dec 2024).
- 5-day Hands-On training and workshop on application of HPLC in Life sciences funded by DBT, Govt. of India conducted by Technology Incubation Centre, Bodoland University, Assam (8th – 12th Nov, 2025).
- Technical training program on Analysis of Neonicotinoid pesticide in fruits by LC-MS/MS at NIPHM, Hyderabad in Collaboration with NABL, India (10th – 12th December, 2025).
Hands on Workshop on Food & Nutrition with special emphasis on Genotoxicology Assays conducted by Department of Health Research, Ministry of Health & Family Welfare, GoI held at Tocklai Tea Research Institute, Jorhat, Assam, Experiment conducted: Cell culture, COMET assay, RNA extraction, cDNA synthesis, qPCR, CBMN Assay ((16th – 18th February, 2026). **(Attached at ANNEXURE-VI).**
- 3-Day Application Training on Liquid Chromatography-Quadrupole Time of Flight-High Resolution Mass Spectrometry (LC-QTOF-HRMS), 15th – 17th May 2026.



Fig. Training on Documentation as per ISO 17025:2017



Fig. Training on Sampling as per Clause 7.3 of ISO 17025:2017



Fig. Group photo on Training of Uncertainty of Measurement and Decision Rule as per ISO/IEC 17025: 2017



Fig. Group photo on 30 Days Training at NIFTEM, Kundli, Sonipat, Haryana



Fig. 3-Day Application Training on Liquid Chromatography-Quadrupole Time of Flight-High Resolution Mass Spectrometry (LC-QTOF-HRMS), 15th – 17th May 2026.



Fig. Days Hands on Training and Workshop on Application of HPLC in Life Science



Fig. Training on Analysis of Neonicotinoid Pesticides in Fruits by LC-MS/MS in NIPHM, Hyderabad.



Fig. Workshop on Food and Nutrition with Special Focus on Genotoxicology assay at Tocklai Tea Research Institute, Jorhat Assam

QCAL Laboratory Components

The QCAL facility is organized into two major divisions to ensure efficient management, analytical accuracy, and compliance with regulatory and NABL requirements:

A. Administration & Accounts

Responsible for managing all laboratory administrative, financial, and client-related activities to maintain operational efficiency and traceability:

- **Sample Receiving & Verification:** Accepting incoming samples, checking integrity, and ensuring proper labelling.
- **Sample Coding & Registration:** Assigning unique identification numbers for full traceability throughout analysis.
- **Contract Review & Test Scope Confirmation:** Reviewing client requests to confirm testing requirements, standards, and methods.
- **Report Preparation & Issuance:** Drafting, technical review, and approval of test reports before client release.
- **Record Keeping:** Maintaining documentation of samples, reports, and laboratory processes for audit and regulatory compliance.
- **Billing & Accounts Management:** Generating quotations, invoices, and tracking payments efficiently.
- **Customer Complaints & Feedback Handling:** Receiving and addressing client concerns, implementing corrective actions when needed.

B. Laboratory Operations

Structured into specialized units to cover a wide spectrum of chemical testing, instrumentation and biological testing:

I. Proximate Testing Unit

Focuses on routine analytical tests and basic instrumentation:

- Standard chemical analyses of samples.
- Basic instrumentation for quantitative and qualitative testing (e.g., pH, moisture content, titrations).

II. High-End Instrumentation & Advanced Testing Unit

Handles specialized, high-resolution, and confirmatory analyses:

- **High-Resolution Mass Spectrometer (HR-MS/UPLC-MS):** For precise molecular analysis.
- **Gas Chromatography-Tandem Mass Spectrometry (GC-MS/MS):** For volatile and semi-volatile compound detection.
- **Inductively Coupled Plasma-Mass Spectrometry (ICP-MS):** For trace elemental analysis.
- **Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS):** For complex mixture analysis.
- **High Performance Liquid Chromatography (HPLC):** For routine and advanced liquid-phase separation.

III. Biological Testing Unit

Handles microbiological and molecular biological analysis:

- **Microbiological Testing:** Culture-based assays, sterility testing, and microbial enumeration.
- **Molecular Biological Testing:** DNA/RNA extraction, PCR-based assays, and other molecular diagnostic techniques.

CURRENT STATUS OF THE LABORATORY:

The Proximate Testing Unit of the Laboratory is now fully operational following the successful installation and commissioning of all required equipment. The unit is equipped to conduct the following analyses:

✓ **Food and Nutritional Analysis**

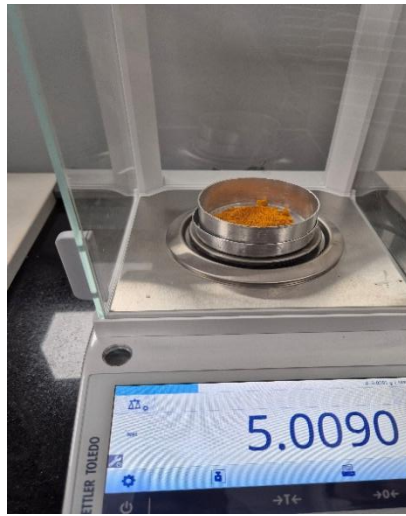
- Moisture Content
- pH
- Total Ash
- Acid Insoluble Ash
- Salt Content
- Total Soluble Solids
- Acidity
- Total Fat
- Protein Content
- Crude and Dietary Fiber
- Cholesterol
- Vitamins
- Trace Elements
- Energy Value
- Fatty Acid Composition
- Trans Fatty Acids
- **Soil Analysis**
- Water Content
- pH Value
- Nitrogen
- Phosphorus
- Potassium
- Soil Organic Carbon (SOC)

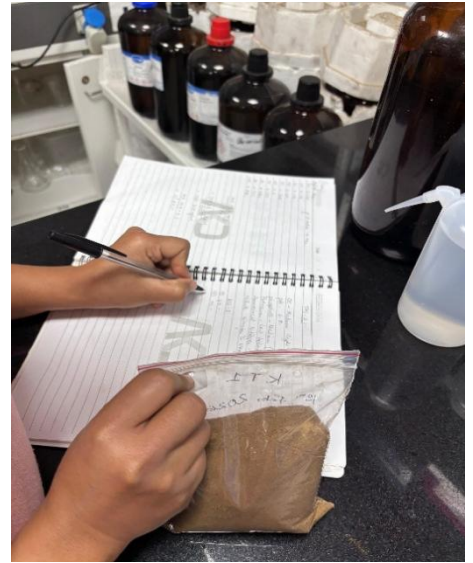
✓ **Water Quality Analysis**

- Colour
- Odour
- pH
- Turbidity

- Conductivity
- Total Dissolved Solids (TDS)
- Calcium
- Total Hardness
- Total Alkalinity
- Total Chloride
- Iron
- Nitrate
- Nitrite

The unit is prepared to deliver accurate and reliable analytical services in accordance with standard laboratory practices.





Key NABL Requirements (As per ISO/IEC 17025)

1. Management System

- Quality Manual and SOPs
- Internal Audit & Management Review
- Corrective Action & Risk Management procedures
- Control of documents and records

2. Technical Requirements

- Method validation/verification for each matrix–parameter
- Measurement Uncertainty (mandatory for quantitative tests)
- Equipment calibration with traceability
- Participation in Proficiency Testing (PT)
- Use of Certified Reference Materials (where applicable)
- Personnel competency records
- Environmental monitoring and sample handling system

Prior to submitting the application to the National Accreditation Board for Testing and Calibration Laboratories (NABL), the following must be ensured:

- Completion of method validation and Measurement Uncertainty (MU) calculations
- Participation in at least one Proficiency Testing (PT) round
- Conduct of internal audit and management review
- Availability of adequate and traceable testing records

These requirements will establish the foundation for applying under the Food & Agricultural Products category with NABL.

INSTALLATION OF HIGH-END EQUIPMENT- STATUS:

- Procurement of consumables, chemicals, and analytical standards is in progress to support method validation and routine operations.
- IQ and OQ for the ICP-MS have been completed, and the system is currently awaiting PQ by the Application Specialist from Thermofisher Scientific because the Injector of the IC is not supplied by Thermofisher.
- IQ, OQ, and PQ for the GC-MS/MS have been completed; however, software configuration is still pending. IQ, OQ, and PQ activities for the GC-FID are currently in progress.
- IQ and OQ for the LC-MS/MS, HPLC, systems have been completed, while HR-MS (Orbitrap) not yet installed.



Fig. LC-MS/MS, HPLC & HR-MS Room



Fig. GC-MS/MS & GC-FID Room



Fig. ICP-MS Room

FURNISHING OF BIOLOGICAL- MICROBIOLOGICAL AND MOLECULAR TESTING UNITS

- Interior laboratory partitions and the fire alarm system have been installed; installation of ceilings and doors has been completed.
- Interior and exterior ducting works for the AHU completed.
- Installation of the AHU has been completed.
- HVAC ceiling installation completed.
- Epoxy flooring, laboratory furniture installation, and associated electrical and plumbing works has been completed.



Fig. Biological Laboratory

PREPARATION FOR COMPLIANCE TO REQUIRED STANDARDS

- The installation of the **General Effluent Treatment Plant (ETP) Pesticide Residues Effluent Treatment Plant** has been successfully completed, and the system is now ready for commissioning.
- Draft quality management documentation has been prepared to support laboratory operations. This includes the **Quality Manual**, detailed **Quality System Procedures (QSPs)** and **Standard Operating Procedures (SOPs)**, as well as associated templates and quality formats in alignment with applicable standards and best practices for testing laboratories.
- Procurement activities are in progress to acquire all necessary **standard methods and reference materials**, including international, national, and industry-accepted methodologies (e.g., ISO, IS, AOAC, FSSAI, APHA/AWWA/WEF), along with chemicals, consumables, certified reference materials (CRMs), and appropriate plasticware and glassware for analytical workflows.
- The process for **empanelment of external calibration laboratories** for independent calibration and verification of laboratory instrumentation is underway. This will ensure

traceability and compliance with recognized calibration standards, supporting data integrity and measurement accuracy in all testing activities.

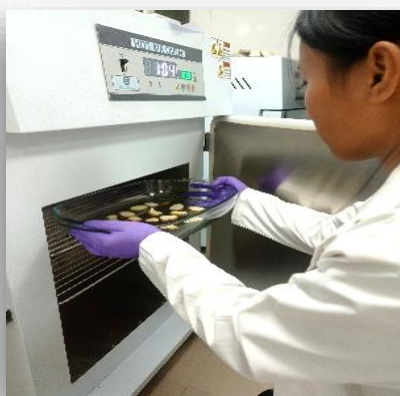
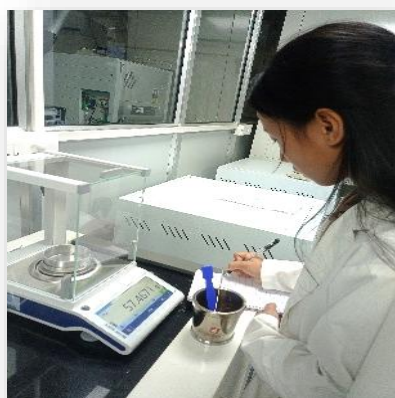


Fig. Effluent Treatment Plant (ETP)

INTERNSHIP TRAINING PROGRAMME & TESTINGS

Sl. No.	Name of Student/s	Department /College/University	Topic	Date
1	Miss Jasula	Department of Biotechnology, St. Joseph University, Nagaland	Proximate Analysis and Phytochemical Screening of tissue culture raised Banana	22 nd September to 24 th September, 2025.
2	Miss Hotoli Sumi		Proximate Analysis and Phytochemical Screening of Tissue cultured raised Local Potato	
3	Miss Bansara Kharphuli	Department of Biochemistry, University of Hyderabad, Telangana	Preliminary Phytochemical Screening of Mango Ginger (<i>Curcuma amada</i>)	15 th December, 2025 to 8 th January, 2026
4	Miss Elanam Giri Ronghang	Department of Biotechnology, St. Edmunds College, Shillong	Phytochemical screening and Biochemical analysis of <i>Tricyrtis pillosa</i> (Local Name: Sohkhia Blei)	5 th January- 4 th February, 2026
5	Miss Philaaijingtngen Thabah		Phytochemical screening and Biochemical analysis of <i>Mahonia napaulensis</i>	

6	Miss Carissa Evelyne Swer	Department of Biochemistry, St. Edmunds College, Shillong	Phytochemical Screening of <i>Latuca indica</i>	1 st July-24 th July 2026.
7	Miss Dakarisa Mylliempdah		Phytochemical Screening of <i>Plantago erosa</i>	
8	Shri Rapmeki Khongkai		Phytochemical Screening of <i>Ixeris gracillus</i>	
9	Shri Donbok Nongbak		Proximate analysis of Cherry Plum (Soh Plum Snam)	
10	Shri Donryngkat Kurbah		Phytochemical Screening of <i>Hypochaeris radicata</i>	
11	Miss Neggeruth M Kalwing		Phytochemical Screening of <i>Oenanthe javinca</i>	
12	Shri Simeon V Lyngdoh		Proximate Analysis of Wild Pineapple	



TECHNOLOGY INCUBATION

Fruit Juice Powder Enriched with Microencapsulated Polyherbal Extracts

Product Concept

- Meghalaya, though major producer of seasonal fruits has limited profitability due to high post-harvest losses (25–40% spoilage), poor market connectivity, and minimal value addition.
- Freeze-drying fruits or juices into powder can mitigate losses, improve storability and transportability, expand market access, and ensure higher, year-round returns.
- Microencapsulation of polyherbal extracts enhances product performance by protecting bioactives, improving stability and shelf life, enabling controlled release, masking undesirable taste and odour, and increasing solubility and bioavailability.

Scope of the Product

- The product targets all age groups by preserving the sensory and nutritional qualities of seasonal fruits for year-round consumption.
- Enrichment with medicinal plant-derived bioactives enhances functional value, offering potential health-promoting and immunomodulatory benefits, particularly for health-conscious consumers, fitness enthusiasts, and individuals seeking immune support.
- It meets demand for convenient functional foods while integrating traditional medicinal knowledge with modern food technology.



Progress of the Project

Formulation of the Product (Completed)

Quality Check Analysis (In Progress)

Proximate analysis

Phytochemical screening

Thermal Properties

Antioxidant Profile

Cytotoxicity (Normal cell, Cancer cell)

Packaging in oxygen & moisture barrier – Stand up pouch

FSSAI Licencing, Market Launch

INTERNAL AUDITING & GAP ASSESSMENT- ONSITE VISIT

Objective:

To assess the laboratory's current level of preparedness and outline the strategic direction for upcoming phases, as evaluated by the Consulting Agency.

Consultation Engagement: The preparedness review was conducted by Sh. Manoj Kumar Singh, Consultant, AKD Holding Pvt. Ltd., New Delhi, from 1st to 5th September 2025.

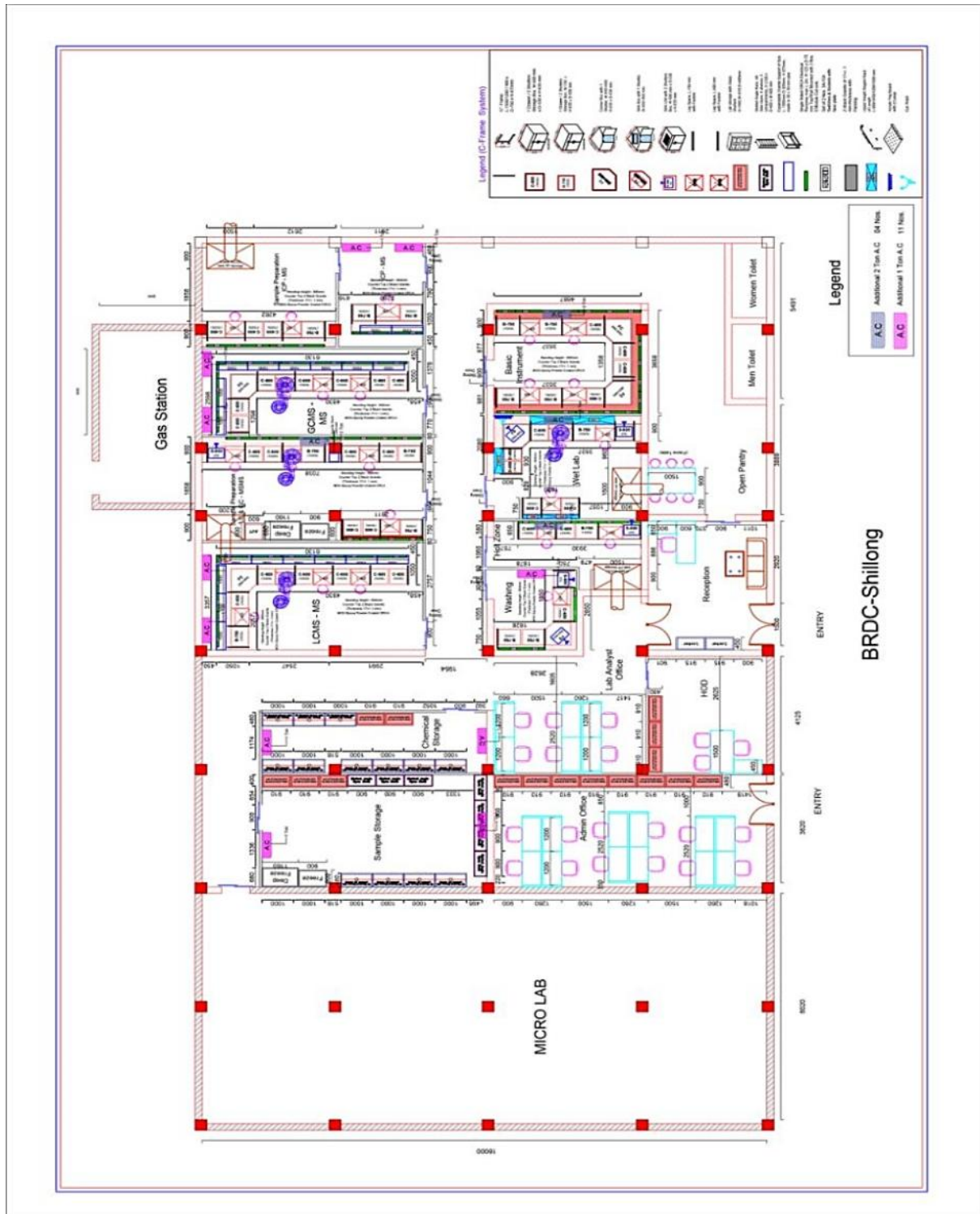
Key Activities and Findings:

- **Finalization of Quality Documentation:** Comprehensive review and completion of core quality management documents, including the *Quality Manual*, *Quality System Procedures*, and *Standard Operating Procedures*, ensuring alignment with best practices and regulatory expectations.
- **Assessment of Reagents, Materials, and Calibration Status:** Evaluation of the availability and status of laboratory chemicals, consumables, certified reference materials (CRMs), plasticware, and glassware, as well as the current calibration status of instruments essential for reliable analytical performance.
- **Section-Wise Technical Review:** Detailed, section-by-section discussions with technical staff to evaluate readiness, identify gaps in procedures or resources, and gather feedback on operational challenges and needs.
- **Equipment Installation and Qualification Planning:** Development of a structured checklist for conducting *Installation Qualification (IQ)*, *Operational Qualification (OQ)*, and *Performance Qualification (PQ)* for laboratory instruments, consistent with established validation practices to verify correct installation, function, and performance prior to routine use.
- **Finalization of Test Matrices and Methods:** Review and confirmation of test matrices, analytical parameters, and standardized methods to be implemented across laboratory sections, ensuring comprehensive coverage and methodological readiness.
- **Review of Microbiological and Molecular Testing Units:** Evaluation of the progress, equipment readiness, and procedural frameworks for the microbiological and molecular testing units, identifying outstanding actions required to bring these capabilities to operational status.



Fig. QCAL Team with Shri Manoj Kumar Singh, AKD Consultant during and after Internal Audit and Gap Assessment

Layout of the Laboratory Annexure IIA



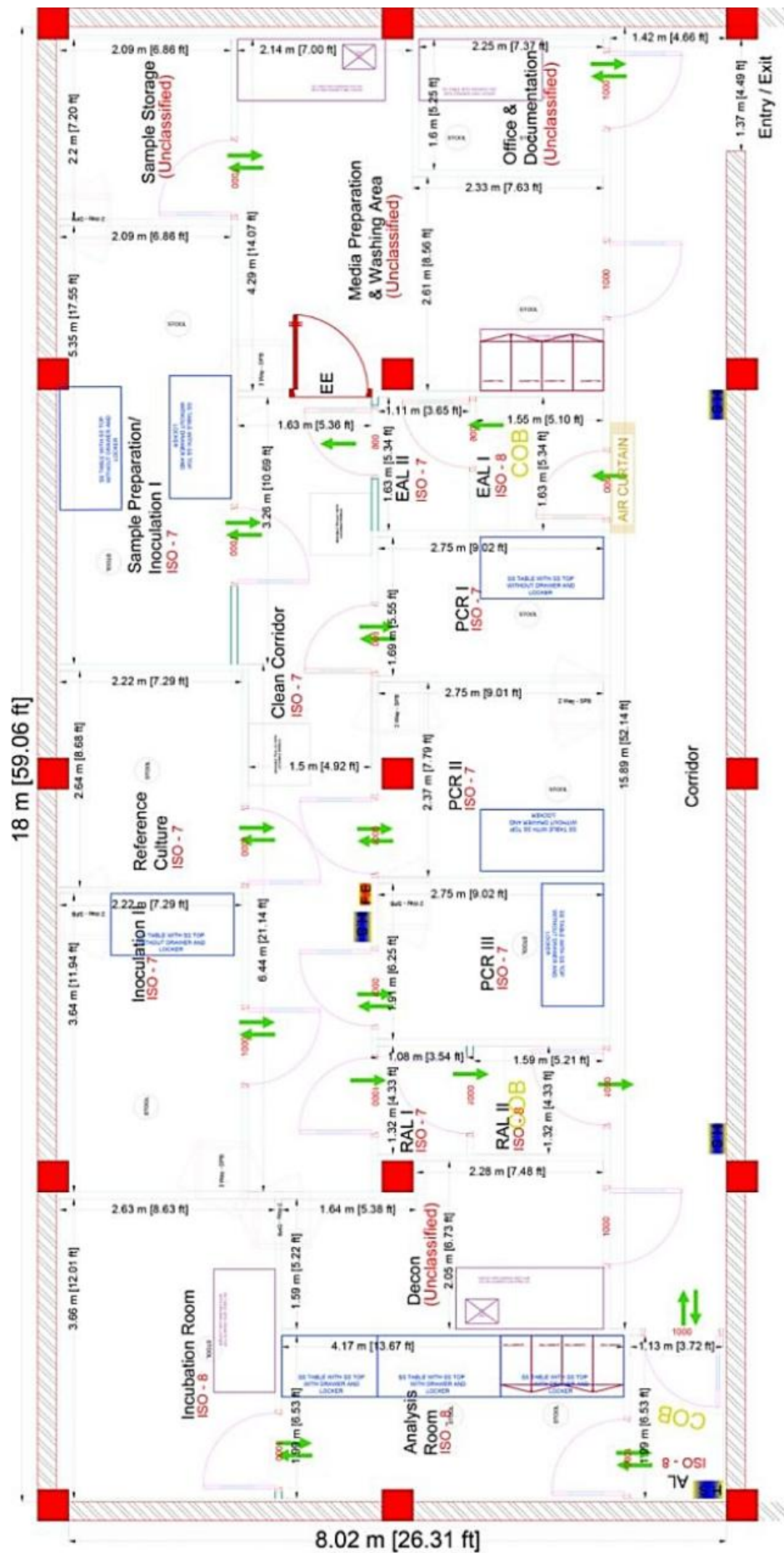


Table: List of Available Manpower.***Annexure III***

SL. NO.	NAME	DESIGNATION	QUALIFICATION
A. QUALITY ASSURANCE			
1.	Shri Aibanjiedlang Laso	Quality Manager	MSc. Biotechnology
2.	Miss Risuklin Mawthoh	Quality Executive	MSc. Biochemistry
B. PROXIMATE TESTING			
3.	Shri Larikupar Iangrai	Senior Analyst	MSc. Biochemistry
4.	Miss Mayvaricia Chympa	Senior Analyst	MSc. Chemistry
5.	Miss Bernadeth Syiem	Junior Analyst	MSc. Chemistry
6.	Miss Jackno Merry T Sangma	Junior Analyst	MSc. Chemistry
7.	Shri Pyntngenlang Kharshandi	Junior Analyst	MSc. Chemistry
8.	Miss Dafeny Marwein	Laboratory attendant	BSc. Chemistry
9.	Miss Mun Mun Makri	Laboratory attendant	MSc. Plant Molecular Biology
C. HIGH-END INSTRUMENTATION AND TESTING			
1. HIGH RESOLUTION MASS SPECTROMETER (HR-MS/UPLC-MS)			
10	Dr. Daiahun Thabah	Senior Analyst	PhD. Biochemistry
10.			
11	Miss Ilaweibaphyrnai Myrthong	Junior Analyst	M. Pharm
11.			
1. GAS CHROMATOGRAPHY –TANDEM MASS SPECTROMETRY (GC-MS/MS)			
12.	Dr. Carey Vana Rynjah	Senior Analyst	PhD. Biotechnology
13.	Miss Gabriella T Mawlong	Junior Analyst	MSc. Biotechnology
14.	Shri Lebinson Lyngdoh	Laboratory attendant	MSc. Chemistry
2. INDUCTIVELY COUPLED PLASMA- MASS SPECTROMETRY (ICP-MS)			
15.	Dr. Balakyntiewshisha Lyngdoh Kynshi	Senior Analyst	PhD. Biochemistry
16.	Miss Laphidalin Kurkalang	Laboratory attendant	MSc. Biochemistry

3. LIQUID CHROMATOGRAPHY –TANDEM MASS SPECTROMETRY (LC-MS/MS)			
17.	Miss Juliana Lyngdoh M	Senior Analyst	MSc. Microbiology
18.	Shri Richmond Marboh	Junior Analyst	MSc. Horticulture
5. HIGH PERFORMANCE LIQUID CHROMATOGRAPHY			
19.	Miss Anita Kumari Rai	Senior Analyst	Thesis Submitted for PhD. Biochemistry
20.	Miss Larima Sten	Junior Analyst	MSc. Biochemistry
D. MICROBIOLOGICAL TESTING			
21.	Shri Aibanroi Mynsong	Senior Microbiologist	MSc. Microbiology
22.	Shri Daminot Pyngrope	Junior Microbiologist	MSc. Microbiology
23.	Miss Risianbha Rani	Junior Microbiologist	MSc. Microbiology
24.	Smt. Wandahun Mawiong	Laboratory attendant	BSc. Lab Technician
E. MOLECULAR BIOLOGICAL TESTING			
25.	Shri Marshall Sten	Laboratory attendant	MSc. Plant Molecular Biology
F. HOUSEKEEPING			
26.	Smt. Lawandashisha Dkhar	Housekeeping	Class 8th Pass
27.	Miss Diana Lyngdoh Nongkhlaw	Housekeeping	B.A Passed

Table 1: List of Equipment in Quality Control and Analytical Laboratory (QCAL)***Annexure-IIB***

Sl. No	Item Name	Qty.	Use / Capacity	Make/ Fabricated by	Present Status
1	High-Performance Liquid Chromatography	1Nos	For analysis of Artificial colours, Vitamins, Preservatives, etc.	Thermofisher Scientific	IQ, OQ Completed
2	Automated Nitrogen evaporators (N-Vap)	1Nos	Sample preparation	Turbo Vap	Not yet installed
3	Butyro Refractometer Reading System with temperature control	1Nos	For analysis of Total Soluble Solids (TSS) and Refractive index of juice, liquids & oils	Make– Rudolph Research Analytical USA Model– J257EP	Installed and operational
4	Clavenger Apparatus	1Nos	Volatile oil determination	Make – Borosil Model– Borosil	Operational
5	COD Digestion Unit	1Nos	Cod determination of water	Make– Tempo Model– TI103	Installed
6	Conductivity Meter- Bench top	1Nos	Conductivity determination	Make – Eutech Model– CON700	Installed
7	Gas Chromatography- Mass Spectrometer/MS	1Nos	Determination of pesticides	Make–ThermoFisher Scientific Model–Thermo TSQ 9610	Installed

8	Inductively Coupled Plasma-Mass Spectrometer	1Nos	Determination of heavy metals	Make – Thermo Fisher Scientific Model – I Cap RQ (C2)	Installed
9	Microwave Sample Digester	1Nos	Sample preparation of heavy metal	Make – Anton Parr Model – Multiwave 5000	Installed and operational
10	BOD Incubator (Fungi, Bacteria, Mycorrhiza)	3Nos	For incubating Microorganisms at 25 °C	Ettore Darvi	Installed
11	Fully automated Fiber analyser	1Nos	Determination of fibre	Make – Pelican EquipmentsModel– FES6:FIBRAPLUSSix	Installed and Operational
12	Fully automated Kjeldahl system	1Nos	Determination of protein	Make – Pelican Equipments Model – KES 06 L KEL PLUS	Installed and Operational
13	Hot plate with Energy Regulator (Temperature range 100°C)	1Nos	Heating of different samples	Make – Amaze Instruments Model – AI 141	Installed Operational
14	Vacuum Pressure Pump	1Nos	Sample preparation	Make – Rocker Model – Rocker 300	Installed and Operational
15	BOD Incubator	1Nos	For incubating Microorganisms at 25 °C	Ettore Darvi	Installed
16	Ultrapure Water Purification System	1Nos	For Sample preparation	Genpure Pro + Pacific II	Installed and operational
17	Micropipettes	6Nos	For Sample preparation	F2 Range- 1-10ul-4642040 (2Pcs) 10-100ul-4642070 (1Pcs)	Installed

				100-1000ul-4642090 (1pcs)	
				1-10ml-4642110	
18	Rotatory Vacuum Evaporator (5L)	1Nos	Large volume evaporations	Buchi	Installed and operational
19	Variable Volume Macropipette	10Nos	For sample preparation	F2 Range- 0.2-2 UI-4642010 (2Pcs) 1-10UI-4642040 (2Pcs) 10-100ul-4642070 (3pcs) 100-1000 UI-4642090 (3pcs)	Installed
20	Variable Volume Micropipette	10Nos	For sample preparation	F2 Range- 1-10ml-4642110	Installed
21	Auto pipettes- (1-5ml Range)	2Nos	For sample preparation	FINN Pipettes F2 Range0.5- 5ml-4642100	Installed
22	BOD Analyser	1Nos	Used for B.O.D. Determinations.	BD 600	Not Yet Installed
23	Accelerated Solvent Extractor (ASE)	1Nos	Sample preparation	Make – ThermoFisher Scientific Model – ASE 350	Installed
24	Electronic pH meter	3Nos	To measure the pH of solutions	Make – Eutech Model – EcpH 70042S	Installed and Operational
25	Flame Photometer	1Nos	Minerals in soil samples	381	Not yet Installed
26	High Speed Blender	2Nos	Sample preparation	Blixer 4VV	Installed and Operational

27	Kjeldahl for Nitrogen	1Nos	Determination of protein	KES 06 L KEL PLUS	Installed and Operational
28	Soxhlet Apparatus	1Nos	Determination of fat	Make – Borosil Model – 3840020	Installed and Operational
29	Vacuum Dessicator	1Nos	For Sample preparation	Make – Borosil Model – 3082044	
30	Ultrasonic Water Bath	1Nos	For mixing and degassing of mobile phase	GT Sonic, Model- GT-1860QTS	Installed
31	Heating Mantle with Energy Regulator (500ml)	1Nos	Sample preparation	Make – Glassco Model – 1000.DNEU.03	Installed and Operational
32	Automated Culture Media Preparator with pourer Stacker	1Nos	For preparation of media in Biological Laboratory	Biomeriux- Masterclave	Not yet installed
33	Solvent Dispensers - Organic & Acids	4Nos	For dispensing acids and solvents	Glassco, Range: 10-100ml	Installed and Operational
34	TDS meter	1Nos	Determination of TDS of water	TDS 6 Plus	Installed
35	Waring Blender/grinding mill	2Nos	For Sample preparation	Mixer Grinder	Installed and operational
36	uC Turbidity Meter	1Nos	Turbidity of liquids and water	Make – EU tech Model – TN100	Installed
37	Anaerobic Jars	10Nos	For incubation of anaerobic bacteria	HiMedia	Installed
38	Analytical Balance (Macro)	2Nos	For weighing sample	Make – Mettler Toledo Model – ME 204	Installed and Operational
39	Binocular Microscope	1Nos	For viewing biological samples	MLX-B Plus	Installed and Operational

40	Digital pH Meter	1Nos	For measuring the pH of solutions	Make – Eutech Model – pH700	Installed Operational
41	Fumigator	1Nos	For fumigation of Biological Laboratory	MHC 10	Installed
42	Micro Filtration Assembly	1Nos	For filtration of solution	Make – Borosil Model – 5350030	Installed and Operational
43	Vortex Mixers	2Nos	For mixing solutions	Lab Dancer	Installed and operational
44	Water Bath Shaker	1Nos	For sample preparation	ED-SW-CUS	Installed
45	Vertical Autoclave	4Nos	For sterilizing media and decontamination biological media	ED-SW-CUS	Installed
46	Gas Chromatography-FID	1Nos	Determination of fatty acids	Make – Thermo Fisher Scientific	Not yet Installed
47	Dessicator (300MM)	6Nos	For sample preparation	Make – Borosil Model – 3082045	Installed and operational
48	Standard Weight	2Nos	For calibration of weighing and analytical balances	MPT-E2-01	Not yet calibrated
49	Analytical Balances (0.01, 0.001 & 0.0001g accuracy)	2Nos	For sample preparation	MS 204TS	Installed
50	Laboratory Blender	2Nos	For sample preparation	Mixer Grinder	Installed and operational
51	Weighing Balance	2Nos	For sample preparation	MS12002TS	Installed and Operational
52	Hot Plate cum stirrers	4Nos	For sample preparation	AREX Digital Pro	Installed and Operational
53	Water purification system (Element analysis grade)	1Nos	For sample preparation	Smart 2 Pure 12 Ltrs	Installed and operational
54	Laminar Airflow	2Nos	For inoculation of biological samples	AS-LAF-4V-S	Installed and Operational

55	Hot Air Oven	1Nos	For moisture content determination	ED-OH-094E-I I	Installed and Operational
56	Bio Safety Cabinet Class II Type B2 (Total	1Nos	For working with pathogens	AS-BSC-4E-I	Installed and Operational
57	UV-Visible Spectrophotometer	3Nos	For checking the absorbance of different samples	UV-1900i	Installed and operational
58	Oven- Moisture -100°C for glassware drying	1Nos	For drying of glasswares	ED-OH-094E-II	Installed and Operational
59	Muffle Furnace- 450°C	2Nos	For ash determination	ED-MF7-11K	Installed and Operational
60	Fume Exhaust Hood	4Nos	For exhausting fumes from the Laboratory	AS-FH-6V	Installed and operational
61	Spectro-fluorometer	1Nos	For analysis of food quality	RF-6000	Installed and operational
62	Hot Air Oven	1Nos	For drying of glasswares in biological laboratory	ED-OH-094E-II	Installed and Operational
63	Centrifuges	1Nos	For sample preparation	Make – Thermo Scientific Model – Sorvall LYNX 6000	Installed and Operational
64	Refrigerated Centrifuge	1Nos	For sample preparation	Make – Thermo Scientific Model – Sorvall LYNX 6000	
65	Table top microfuge	1Nos	For sample preparation	Make – Thermo Scientific Model – Sorvall LYNX 6000	
66	Refrigerator (264 L)	4Nos	For storage of chemicals, Samples etc.	Trufrost	Installed and Operational
67	Frost free Double Door Refrigerators	1Nos	For storage of chemicals, Samples etc.	Trufrost	Installed and Operational
68	Automated glassware washer	1Nos	For washing of glasswares	Biobase Biometch Co. Ltd., Model: BK-LW220	Not yet Installed

69	Carbon di oxide incubator	1Nos	For incubation of Anaerobic bacteria	ACMAS Technology, Model: ACM-WJ-303	Not yet Installed
70	Colony Counter	1Nos	For counting of bacterial colonies	ACMAS Technology, Model: ACM 20908-T	Installed
71	Frost Free Double door (side by side) Refrigerator	2Nos	For storage of chemicals, Samples etc.	Trufrost	Installed and Operational
72	Howard Mold Counter	10Nos	For counting of yeast and mold	Make- Thermofisher Scientific Model- HausserScientific5080	
73	Orbital shaker	2Nos	For shaking of solutions	Make-RemiModel-VDS300	Installed and Operational
74	Upright Frost Free Vertical Deep Freezer (-25 °C)	1Nos	For storage of chemicals, Samples etc.	Trufrost	Installed and Operational
75	Centrifuge-Micro	1Nos	For sample preparation	Thermofisher	
76	Liquid Chromatography-Mass Spectrometer/MS	1Nos	For analysis of pesticides	Make – Thermo scientific Model – VANQUISH FLEX	IQ/OQ Completed
77	UPLC-MS/MS	1Nos	For analysis of plants, foods matrices etc.	Make – Thermo Fisher Scientific Model – Orbitrap Exploris 120	Not yet Installed