



ADMINISTRATIVE STAFF COLLEGE OF INDIA
Centre for Environment, Urban Governance & Infrastructure Development
Environmental Surveillance Laboratory (ESL)
Bellavista, Raj Bhavan Road, Hyderabad, Telangana 500082
Hyderabad – 500082, Telangana, India

TENDER DOCUMENT

**PROCUREMENT OF LABORATORY EQUIPMENT FOR
ENVIRONMENTAL SURVEILLANCE LABORATORY**

Tender Ref No	ASCI/ESL/PROC-LAB/2025-26/01
Date of Issue	23 December 2025
Pre-Bid Meeting	30 December 2025, 11:00 hrs (IST)
Tender Submission Deadline	08 January 2026, 17:00 hrs (IST)
Bid Opening Date	20 January 2026, 11:00 hrs (IST)
Submission Mode	Hard Copy Only (Sealed Covers)
Bid Submission addressed to	The Head, Environmental Surveillance Laboratory (ESL) Administrative Staff College of India, Bellavista, Raj Bhavan Road, Hyderabad, Telangana 500082.
Contact for Clarifications	Email: esl@asci.org.in Phone: +91 99852 57660

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1. INTRODUCTION

Administrative Staff College of India (ASCI), Hyderabad invites sealed tender quotations from qualified, reputed and technically competent Original Equipment Manufacturers (OEMs) / Authorized Distributors for the procurement, supply, installation, commissioning, calibration and training of advanced analytical laboratory equipment for the Environmental Surveillance Laboratory (ESL).

This procurement aims to strengthen analytical capacity to support environmental monitoring, water quality assessment, air pollution evaluation and ecosystem impact studies.

2. SCOPE OF SUPPLY

Bidders are required to supply equipment as per technical specifications below, including:

- Manufacturing
- Import (if applicable)
- Inland transit logistics
- Delivery: Within 4 weeks from the date of the Purchase Order
- Installation & Commissioning: End-to-end installation, calibration, verification, and commissioning of laboratory instruments and analytical systems and ensure accurate performance, adherence to quality protocols, and readiness for scientific and diagnostic operations.
- Calibration & Validation: Calibration certificates must be traceable to national/international standards like NABL/ISO/IEC 17025 wherever applicable. Mandatory annual calibration is to be performed by OEM-certified engineers for 3 years.
- Warranty Requirements: All equipment must have a minimum 3-year comprehensive onsite warranty.
- Spares: Assured spares availability for at least 5 years from commissioning.
- Reference Standards: Mention compliance with relevant BIS/ISO/IEC/CE standards for each of the equipment.
- Standardisation: All equipment should be with the conformity of applicable standards (e.g., "Conforms to ISO 8655" for pipettes, "CE Certified" for electrical equipment).
- Documentation: Operation and maintenance manuals must be provided in English.
- Demonstration Method: Conduct comprehensive demonstrations after equipment installation and commissioning, including step-by-step operation, calibration procedures, routine maintenance, troubleshooting techniques, and interpretation of test results.

- On-site Training : Minimum 5 days of onsite training, including operation, maintenance and troubleshooting to ensure all users are fully trained and confident in operating the equipment. Users shall be imparted practical training and provided Operation Manual.

3. LIST OF EQUIPMENT AND TECHNICAL SPECIFICATIONS

S.No	Equipment	Technical Specifications& Warranty Requirements
1	Microbalance	Purpose: ultra-micro weighing; Capacity/Range: 5–100 g; Resolution/Accuracy: 0.1 µg readability; ±0.2 µg repeatability; Key features: glass draft shield, internal calibration, anti-vibration feet; Power/Env: 230 V, 18–28 °C; Interfaces: USB/RS-232, GLP print; Calibration: internal & external weights, ISO 17025 traceable
2	Autoclave	Purpose: sterilization; Capacity: 100–300 L; Range: 121–134 °C; Accuracy: ±1 °C; Key features: SS316 chamber, safety interlocks, vacuum drying option; Power/Env: 3-phase 415 V; Interfaces: PLC, USB log; Calibration: Bowie-Dick, biological indicators
3	De-Ioniser Unit	Purpose: feed water polishing; Flow: 1–10 L/min; Output: 0.1–1 µS/cm; Key features: mixed bed resin, conductivity monitor; Power/Env: 230 V; Interfaces: analog output; Calibration: conductivity standard
4	Centrifuge	Purpose: sample separation; Range: 4,000–20,000 rpm; RCF: up to 40,000×g; Accuracy: ±10 rpm; Key features: refrigerated option, imbalance protection; Power: 230 V; Interfaces: digital program, RS-232; Calibration: tachometer/RCF verification
5	Total Suspended Solids Apparatus	Purpose: TSS filtration; Capacity: 47/90 mm filters; Key features: vacuum manifold, calibrated gauge; Power: 230 V (vacuum pump); Interfaces: none/analog; Calibration: vacuum gauge 6traceable
6	Turbidity Meter	Purpose: turbidity measurement; Range: 0–2000 NTU; Resolution/Accuracy: 0.01 NTU; ±2%; Key features: IR LED, multi-point cal; Power: battery/230 V; Interfaces: USB, data logging; Calibration: Formazin standards
7	Magnetic Stirrer	Purpose: mixing; Capacity: 0.5–10 L; Range: 50–1500 rpm; Accuracy: ±1% speed; Key features: PTFE top, hotplate option; Power: 230 V; Interfaces: analog/digital; Calibration: speed verification
8	pH Meter	Purpose: pH measurement; Range: 0–14 pH; Resolution/Accuracy: 0.001/±0.01 pH; Key features: ATC, 5-point cal; Power: battery/230 V; Interfaces: USB/RS-232; Calibration: NIST buffers
9	Hot Air Oven	Purpose: drying/sterilizing; Range: 50–300 °C; Accuracy: ±1 °C; Key features: forced-air, SS interior; Power: 230 V; Interfaces: timer; Calibration: temp mapping
10	Muffle Furnace	Purpose: ashing; Range: up to 1400 °C; Accuracy: ±1–3 °C; Key features: ceramic insulation, programmable ramp; Power: 3-phase; Interfaces: digital controller; Calibration: thermocouple traceable
11	Jar Test Apparatus	Purpose: coagulation testing; Stations: 6–8; Range: 0–200 rpm;

S.No	Equipment	Technical Specifications& Warranty Requirements
		Accuracy: ± 1 rpm; Key features: independent speed control, corrosion-resistant paddles; Power: 230 V; Interfaces: timer; Calibration: speed check
12	Ice Flaker Machine	Purpose: flake ice production; Capacity: 50–500 kg/day; Key features: SS evaporator, auto defrost; Power: 230/415 V; Interfaces: control panel; Calibration: performance test
13	Ultrapure Water Purification system	Purpose: reagent-grade water; Capacity: TOC <5 ppb; Resistivity: 18.2 M Ω -cm; Key features: UV, 0.2 μ m final filter, recirculation; Power: 230 V; Interfaces: digital display, LAN; Calibration: resistivity/TDS standards
14	High Vacuum Pump	Purpose: vacuum generation; Range: rotary <1 $\times 10^{-3}$ mbar; turbo combo <1 $\times 10^{-7}$ mbar; Key features: oil-sealed/dry options, inlet protection; Power: 230/415 V; Interfaces: analog; Calibration: leak test
15	Heating Mantle	Purpose: flask heating; Capacity: 50–5000 mL; Accuracy: ± 1 °C with PID; Key features: fiber glass insulation, overtemp cutout; Power: 230 V; Interfaces: controller; Calibration: temp probe check; Warranty/Cert: 12 months.
16	Sonicator	Purpose: cell disruption; Freq: 20–100 kHz; Key features: adjustable amplitude, pulsed mode, cooling option; Power: 230 V; Interfaces: digital timer; Calibration: amplitude verification
17	Bacteriological Incubator	Purpose: microbial growth; Range: 5–60 °C; Accuracy: ± 0.1 –0.5 °C; Key features: forced air, humidity control optional; Power: 230 V; Interfaces: digital controller, alarm; Calibration: temp mapping
18	Colony Counter	Purpose: plate counting; Resolution/Accuracy: 1 mm grid; Key features: LED backlight, digital tally, USB export; Power: 230 V/battery; Calibration: grid verification
19	COD Digestor	Purpose: COD digestion; Capacity: 6–24 tubes; Range: 150–170 °C; Key features: corrosion-resistant block, programmable profiles; Power: 230 V; Interfaces: digital timer; Calibration: temp check
20	UV-Vis Spectrophotometer	Purpose: absorbance measurement; Range: 190–1100 nm; Accuracy: ± 0.002 AU; Bandwidth: 1–2 nm; Key features: double-beam, deuterium/halogen lamps; Power: 230 V; Interfaces: USB/PC software; Calibration: wavelength & photometric standards
21	Orbital Shaker & Incubator	Purpose: culture shaking; Range: 25–300 rpm; Temp: 4–60 °C; Key features: 19 mm orbit, programmable; Power: 230 V; Interfaces: digital controller; Calibration: speed/temp mapping
22	Vortex shaker	Purpose: mixing small tubes; Range: 0–3000 rpm; Key features: touch/continuous modes, rubber cup; Power: 230 V; Interfaces: none/analog; Calibration: speed check
23	Fume Hood	Purpose: chemical ventilation; Face velocity: 0.4–0.6 m/s; Key features: sash interlock, HEPA/charcoal options, airflow alarm; Power: 230 V; Interfaces: airflow monitor; Calibration: face velocity test; local safety certification.
24	Electrothermal Heater	Purpose: general heating; Range: 0–300 °C; Key features: ceramic element, PID control, overtemp protection; Power: 230 V; Interfaces: controller; Calibration: temp probe check

S.No	Equipment	Technical Specifications& Warranty Requirements
25	Ultra-low Temperature Freezer	Purpose: sample storage; Range: –40 to –86 °C; Capacity: 300–800 L; Key features: microprocessor control, alarms, CO ₂ backup option; Power: 230 V; Interfaces: LAN/USB; Calibration: temp mapping
26	Stack Monitoring Equipment	Purpose: emissions monitoring; Parameters: SO ₂ , NO _x , CO, O ₂ , flow, temp; Key features: heated probe, data logger, compliance reports; Power: 230 V; Interfaces: Ethernet/RS-232; Calibration: gas standards; environmental compliance.
27	Noise meter	Purpose: acoustic measurement; Class: 1; Range: 20–140 dB; Resolution: 1 dB; Key features: A/C weighting, FFT optional; Power: battery; Interfaces: USB; Calibration: acoustic calibrator
28	Rotospin	Purpose: high-speed centrifugation; Range: 1,000–15,000 rpm; Key features: swing-out/fixed angle rotors, imbalance protection; Power: 230 V; Interfaces: digital controller; Calibration: speed/RCF verification
29	Biosafety Class II Cabinet	Purpose: sterile work with biohazards; Class: II A2; Key features: H14 HEPA, face velocity 0.45 m/s, UV, alarm; Power: 230 V; Interfaces: digital display; Calibration: certification to EN 12469/NSF 49
30	Gas Chromatography (FID/TCD/Headspace)	Purpose: volatile analysis; Channels: FID, TCD, headspace; Range: oven to 450 °C; Key features: split/splitless, autosampler, inert flow control; Power: 230 V; Interfaces: GC data system, LAN; Calibration: gas standards
31	CHNS-O Analyzer	Purpose: elemental analysis; Range: detection to 0.01% w/w; Key features: autosampler, thermal conductivity/IR detectors; Power: 230 V; Interfaces: PC software; Calibration: certified standards
32	Bomb Calorimeter	Purpose: calorific value; Range: 1–3 kJ/g resolution; Key features: oxygen pressure control, digital temp rise; Power: 230 V; Interfaces: PC output; Calibration: benzoic acid standard;
33	ICP-OES with MPS	Purpose: multi-element analysis; Range: 166–847 nm; Sensitivity: ppb; Key features: radial/axial view, micro-sample MPS, autosampler; Power: 230 V; Interfaces: PC software; Calibration: multi-element standards
34	TKN Analyser	Purpose: nitrogen determination; Throughput: 20–60 samples/day; Key features: automated digestion/distillation; Power: 230 V; Interfaces: digital controller; Calibration: Kjeldahl standards
35	Optical Microscope	Purpose: microscopy; Magnification: 40×–1000×; Key features: plan achromat objectives, LED illumination, camera port; Power: 230 V; Interfaces: USB camera; Calibration: stage micrometre;
36	Microwave Digestion System	Purpose: sample digestion; Capacity: vessel 0.5–2 L; Range: up to 300 °C, 0–200 bar; Key features: rotor autosampler, pressure control; Power: 230 V; Interfaces: digital controller; Calibration: pressure/temp validation
37	FTIR Spectrometer	Purpose: molecular identification; Range: 4000–400 cm ⁻¹ ; Resolution: 0.5–4 cm ⁻¹ ; Key features: ATR accessory, MCT/DTGS detector; Power: 230 V; Interfaces: PC software; Calibration: polystyrene film

S.No	Equipment	Technical Specifications& Warranty Requirements
38	Indoor Air Quality Meters & Particle Size Counter	Purpose: IAQ monitoring; Parameters: PM1/2.5/10, 0.3–10 µm counts, CO ₂ , VOC, temp, RH; Key features: data logging, real-time graphs; Power: battery/230 V; Interfaces: USB/Wi-Fi; Calibration: aerosol standards
39	Portable / bench biogas analyzer (handheld)	Purpose: CH ₄ /CO ₂ /H ₂ S analysis; Range: CH ₄ /CO ₂ 0–100% / H ₂ S 0–2000 ppm; Res/Acc: 0.1%/±(1–3)% FS; Features: NDIR + electrochemical sensors, internal pump, IP54; Power: rechargeable battery; I/O: USB/Bluetooth, data logger; Cal/Std: field calibration with certified gases
40	Gas leakage detector (portable)	Purpose: locate combustible/toxic leaks; Range: ppm for CH ₄ , H ₂ S, CO, LPG; Res/Acc: ppm sensitivity, response <5 s; Features: catalytic/electrochemical sensors, probe, alarm; Power: battery; I/O: USB; Cal: bump test with calibration gas; Warranty/Cert: 12 months.
41	Gas flow meter / gas counter (wet-type or digital)	Purpose: measure biogas/flow; Range: 0.01 L/min–200 L/min or m ³ /h; Acc: ±1–3%; Features: wet-type or thermal/differential sensor, corrosion-resistant wetted parts; Power: 230 V/battery; I/O: 4–20 mA, pulse, RS-485; Cal: traceable flow standards; Warranty/Cert: 12 months.
42	Tedlar gas sampling bags + syringes & connectors	Purpose: gas sampling; Capacity: 1–10 L; Leak:<1%/24 h; Features:Tedlar film, PTFE valves, Luer syringes; Power: n/a; I/O: n/a; Cal: leak test certificate; Supplier QC certificate.
43	TOC / DOC analyser	Purpose: TOC/DOC in water; Range: 0–50 mg/L (0–50,000 ppb); Res/Acc: down to 1 ppb / ±2–5%; Features: UV-persulfate or HTOC, NDIR detector, autosampler option; Power: 230 V; I/O: USB/Ethernet; Cal: certified TOC standards
44	COD digester + reagents (closed reflux)	Purpose: COD digestion; Capacity: 6–24 tubes; Range: 150–170 °C; Acc: ±1 °C temp control; Features: corrosion-resistant block, sealed vials; Power: 230 V; I/O: digital timer; Cal: reference materials; reagents with MSDS
45	Incubator shaker / orbital shaker (cold room optional)	Purpose: culture agitation; Range: 25–300 rpm; temp 4–60 °C (if refrigerated); Res/Acc: 1 rpm / ±0.1–0.5 °C; Features: 19 mm orbit, brushless motor, stainless platform; Power: 230 V; I/O: RS-232/USB; Cal: speed & temp mapping
46	Drying oven (forced air) with timer	Purpose: drying/conditioning; Range: 50–300 °C; Acc: ±1 °C uniformity; Features: forced convection, SS interior, overtemp cutout; Power: 230 V; I/O: digital timer/controller; Cal: temp mapping certificate
47	pH / EC / ORP / DO (multi-parameter) meters	Purpose: water quality multiparameter; Range: pH 0–14, EC up to 2000 mS/cm, DO 0–20 mg/L; Res/Acc: pH 0.001/±0.01, DO 0.01 mg/L/±0.1; Features: modular probes, ATC; Power: battery/230 V; I/O: USB/Bluetooth; Cal: NIST buffers, conductivity standards, DO calibration
48	Hotplate / magnetic stirrers, water bath	Purpose: heating & mixing; Range: stir 50–1500 rpm, hotplate to 300 °C, water bath 5–99 °C; Acc: ±1 °C / ±1% speed; Features: PTFE top, PID control, safety cutouts; Power: 230 V; I/O:analog/digital; Cal: temp probe & speed verification
49	Bench-top bioreactors / BMP setup (anaerobic	Purpose: lab anaerobic digestion/BMP; Volume: 100 mL–5 L; Gas meas.: counters or flow meters with 0.1 mL resolution; Features:

S.No	Equipment	Technical Specifications& Warranty Requirements
	bottles + gas collection)	gas-tight reactors, septa, heating, stir; Power: 230 V; I/O: data logger/USB; Cal: gas syringe/flow standard
50	Desiccator 8-inch (Vacuum) PC/PC 380 mm	Purpose: moisture-free storage/vacuum drying; Size: 380 mm dia; Features: clear polycarbonate, vacuum valve, gasket, desiccant tray; Power: n/a; I/O: vacuum port; Cal: leak test certificate
51	Computers, software, GC data station, LIMS starter	Purpose: data acquisition & LIMS; Spec: workstation i7/16GB/512GB SSD min; Features: licensed GC data system, basic LIMS modules, backup & security; Power: 230 V; I/O: Ethernet/USB; Cal: software validation docs
52	Wastewater TSS / TDS / Turbidity meters	Purpose: solids & turbidity measurement; Range: TDS 0–2000 mg/L, turbidity 0–2000 NTU; Res/Acc: TDS 1 mg/L, turbidity 0.01 NTU; Features: portable/bench units, Formazin calibration; Power: battery/230 V; I/O: USB; Cal: standards & filters
53	BOD incubator	Purpose: BOD 5-day incubation; Range: 20 ±0.2 °C; Acc: ±0.2 °C; Features: forced air, corrosion-resistant shelves, alarms; Power: 230 V; I/O: digital controller; Cal: temp mapping
54	AAS (Atomic Absorption Spectrometer)	Purpose: trace metal analysis; Modes: flame & graphite furnace; Res/Acc: ppb detection (element dependent); Features: autosampler, safety interlocks, fume extraction; Power: 230 V; I/O: PC software; Cal: certified metal standards
55	Membrane filtration apparatus + vacuum pump	Purpose: microbiological & TSS filtration; Holders: 47/90 mm; Features: stainless manifold, PTFE fittings, leak-free seals; Power: 230 V pump; I/O: vacuum gauge; Cal: vacuum gauge traceable

4. WARRANTY REQUIREMENTS

- **Minimum 3 Years Comprehensive On-site Warranty:** The supplier shall provide a full on-site warranty for a minimum period of three years, covering repair, replacement, and service support for all components.
 - **Mandatory Annual Calibration for 3 Years:** Annual calibration of the equipment must be carried out by an authorized service provider for three consecutive years, with valid calibration certificates issued after each service.
 - **Minimum 5 Years Assured Spares Availability:** The supplier must guarantee the availability of all critical and consumable spare parts for at least five years from the date of installation and commissioning.
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5. INSTALLATION & TRAINING

- **On-site Installation & Commissioning:** Complete installation, configuration, and commissioning of the equipment at the designated laboratory, ensuring full operational readiness and compliance with technical specifications.

- **Method Demonstration & Validation:** Comprehensive demonstration of analytical methods and validation procedures to ensure accurate performance, reproducibility, and adherence to required standards.
 - **Minimum 5 Days Training:** Provision of a minimum of five days of hands-on, onsite training for laboratory personnel, covering equipment operation, calibration, maintenance, safety protocols, and troubleshooting.
-

6. DOCUMENTS TO BE ENCLOSED

- Company Registration Certificate
 - GST Registration Copy
 - PAN Card
 - OEM Authorization (if not OEM)
 - Technical compliance sheets (matrix)
 - Brochures & catalogues
 - List of Buyers and their Experience with installation and post maintenance operation
 - Completion certificates of similar installations
 - Self-declaration affidavit for non-blacklisting
 - ISO Certificates: ISO 9001 (mandatory) and ISO 17025 (if available) certificates
 - Warranty confirmation
 - After-sales service commitment letter
 - Signed & stamped tender document
 - Earnest Money Deposit
-

7. MINIMUM ELIGIBILITY CRITERIA

- a. Bidder must be OEM or Authorized Dealer with valid authorization letter
 - b. Bidder must have minimum 5 years business experience in laboratory instrument supply
 - c. Bidder must have completed minimum 3 supply & installation projects of similar nature in last 3 years, supported by completion certificates
 - d. Minimum Average Annual Turnover of ₹ 5 crores in the last 3 financial years supported by certified financial statements
 - e. Bidder must have service support team availability in India
 - f. Bidder must have ISO certification (ISO 9001 mandatory; ISO 17025 desirable)
 - g. Bidder must submit a notarised affidavit confirming not being black-listed by any Government/PSU/UN body
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8. EVALUATION PROCESS

- a. Pre-qualification Assessment with regard to fulfilling minimum eligibility criteria
 - b. Technical Bid are opened in the 1st Instance and evaluated;
 - c. Qualified Technical Bids will be considered for evaluation (or as decided by the committee)
 - d. Demonstration may be required for technically shortlisted bidders
 - e. Commercial Bid Evaluation (L1)
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9. EARNEST MONEY DEPOSIT (EMD)

- a. Amount of EMD : The bidder shall submit an Earnest Money Deposit (EMD) of 2% of the total quoted price along with the bid. Bids submitted without the prescribed EMD shall be summarily rejected.
 - b. Form of remittance of EMD : The EMD shall be submitted in any of the following forms:
 - Demand Draft (DD) drawn in favour of "ADMINISTRATIVE STAFF COLLEGE OF INDIA", payable at Hyderabad; or
 - Online Bank Transfer to the following account details

Name of the Account : Administrative Staff College of India
Name of the Bank : State Bank of India
Account Number : 62090698675
Type of Account : Savings Bank Account (SB)
Branch Name : Raj Bhavan Road Branch
IFSC Code : SBIN0020063
Branch Address : H.No.6-3-1092, A Block, 1st Floor, Shanti Sikhara Complex, Somajiguda, Hyderabad - 500082
 - c. Forfeiture of EMD : The EMD is liable to be forfeited if the bidder withdraws or modifies the bid during the bid validity period.
 - d. Refund of EMD :
 - For successful and unsuccessful bidders, the EMD will be refunded without interest after the finalisation and award of the tender.
 - e. No Interest : No interest shall be payable on the EMD amount submitted by the bidders.
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10. PAYMENT TERMS

- 60% after delivery
 - 35% after installation & commissioning and completion of training
 - 5% of the contract value will be retained as performance security for 12 months after commissioning
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11. DELIVERY :

Delivery Timeline: The supplier must ensure delivery of all equipment to ESL-ASCI within 4 weeks from the date of the Purchase Order, inclusive of packaging, transportation, and logistics arrangements without exceptions, unless formally approved.

Penalties: Delay in delivery will attract a penalty of 0.5% per week, upto a maximum of 10% of the contract / purchase order value.

12. FORCE MAJEURE

Neither party shall be liable for failure or delay in performing obligations due to events beyond reasonable control, including natural disasters, war, strikes, or government actions. The affected party shall notify the other party promptly. Obligations shall be suspended for the duration of the event, and if it continues beyond 60 days, either party may terminate the agreed terms without liability.

13. BID SUBMISSION DETAILS

The sealed hard copies of the bid must be submitted only to:

Head – Environmental Surveillance Laboratory (ESL)
Administrative Staff College of India
Bella Vista Campus, Hyderabad – 500082, Telangana, India

Contact for Clarifications:

Email: esl@asci.org.in ;Phone: +91 99852 57660

14. BID DEADLINE

The bid submissions must be submitted no later than 08 January 2026, 17:00 hrs (IST). Late submissions of Bid shall not be entertained and deemed invalid.

15. BID OPENING

Part-A (Technical Bid) will be opened within four days from the last date of receipt i.e., and evaluated. Bidders fulfilling the Minimum Eligibility Criteria and qualified Technical Bids will be invited for Commercial Bid.

Part-B (Commercial Bids) will be opened on 20 January 2026, 11:00 hrs (IST) at Administrative Staff College of India, Bellavista Campus, Rajbhavan Road, Hyderabad 500082. The bidders may participate during the period of opening of the bids.

16. RIGHTS RESERVED

ASCI reserves the rights to accept or reject any bid, cancel the tender, seek clarifications, conduct negotiations, or split the award without assigning any reasons.

17. DISPUTE RESOLUTION

Arbitration Clause: Any dispute arising out of this contract shall be resolved by arbitration under the Indian Arbitration and Conciliation Act, 1996 with Hyderabad as Jurisdiction.

18. SIGNATURE & SEAL

The authorised signatory of the bidder firm is required to sign duly affixing the seal on all the documents of the bid including annexures.

19. ANNEXURES

Annexure A – Technical Specification Compliance Sheet
Annexure B – Price Bid Format (BOQ)
Annexure C – Warranty Form
Annexure D – Client Reference List

END OF DOCUMENT

ANNEXURE – I
TECHNICAL SPECIFICATION COMPLIANCE STATEMENT
(To be submitted on Company Letterhead)

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
1	Microbalance	Purpose: ultra-micro weighing; Capacity/Range: 5–100 g; Resolution/Accuracy: 0.1 µg readability; ±0.2 µg repeatability; Key features: glass draft shield, internal calibration, anti-vibration feet; Power/Env: 230 V, 18–28 °C; Interfaces: USB/RS-232, GLP print; Calibration: internal & external weights, ISO 17025 traceable			
2	Autoclave	Purpose: sterilization; Capacity: 100–300 L; Range: 121–134 °C; Accuracy: ±1 °C; Key features: SS316 chamber, safety interlocks, vacuum drying option; Power/Env: 3-phase 415 V; Interfaces: PLC, USB log; Calibration: Bowie-Dick, biological indicators			
3	De-Ioniser Unit	Purpose: feed water polishing; Flow: 1–10 L/min; Output: 0.1–1 µS/cm; Key features: mixed bed resin, conductivity monitor; Power/Env: 230 V; Interfaces: analog output; Calibration: conductivity standard			
4	Centrifuge	Purpose: sample separation; Range: 4,000–20,000 rpm; RCF: up to 40,000×g; Accuracy: ±10 rpm; Key features: refrigerated option, imbalance protection; Power: 230 V; Interfaces: digital program, RS-232; Calibration: tachometer/RCF verification			
5	Total Suspended Solids Apparatus	Purpose: TSS filtration; Capacity: 47/90 mm filters; Key features: vacuum manifold, calibrated gauge; Power: 230 V (vacuum pump); Interfaces: none/analog; Calibration: vacuum gauge 6traceable			
6	Turbidity Meter	Purpose: turbidity measurement; Range: 0–2000 NTU; Resolution/Accuracy: 0.01 NTU; ±2%; Key features: IR LED, multi-point cal; Power: battery/230 V; Interfaces: USB, data logging; Calibration: Formazin standards			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
7	Magnetic Stirrer	Purpose: mixing; Capacity: 0.5–10 L; Range: 50–1500 rpm; Accuracy: $\pm 1\%$ speed; Key features: PTFE top, hotplate option; Power: 230 V; Interfaces: analog/digital; Calibration: speed verification			
8	pH Meter	Purpose: pH measurement; Range: 0–14 pH; Resolution/Accuracy: 0.001/ ± 0.01 pH; Key features: ATC, 5-point cal; Power: battery/230 V; Interfaces: USB/RS-232; Calibration: NIST buffers			
9	Hot Air Oven	Purpose: drying/sterilizing; Range: 50–300 °C; Accuracy: ± 1 °C; Key features: forced-air, SS interior; Power: 230 V; Interfaces: timer; Calibration: temp mapping			
10	Muffle Furnace	Purpose: ashing; Range: up to 1400 °C; Accuracy: ± 1 –3 °C; Key features: ceramic insulation, programmable ramp; Power: 3-phase; Interfaces: digital controller; Calibration: thermocouple traceable			
11	Jar Test Apparatus	Purpose: coagulation testing; Stations: 6–8; Range: 0–200 rpm; Accuracy: ± 1 rpm; Key features: independent speed control, corrosion-resistant paddles; Power: 230 V; Interfaces: timer; Calibration: speed check			
12	Ice Flaker Machine	Purpose: flake ice production; Capacity: 50–500 kg/day; Key features: SS evaporator, auto defrost; Power: 230/415 V; Interfaces: control panel; Calibration: performance test			
13	Ultrapure Water Purification system	Purpose: reagent-grade water; Capacity: TOC <5 ppb; Resistivity: 18.2 M Ω -cm; Key features: UV, 0.2 μ m final filter, recirculation; Power: 230 V; Interfaces: digital display, LAN; Calibration: resistivity/TDS standards			
14	High Vacuum Pump	Purpose: vacuum generation; Range: rotary $<1 \times 10^{-3}$ mbar; turbo combo $<1 \times 10^{-7}$ mbar; Key features: oil-sealed/dry options, inlet protection; Power: 230/415 V; Interfaces: analog; Calibration: leak test			
15	Heating Mantle	Purpose: flask heating; Capacity: 50–5000 mL; Accuracy: ± 1 °C			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
		with PID; Key features: fiber glass insulation, overtemp cutout; Power: 230 V; Interfaces: controller; Calibration: temp probe check			
16	Sonicator	Purpose: cell disruption; Freq: 20–100 kHz; Key features: adjustable amplitude, pulsed mode, cooling option; Power: 230 V; Interfaces: digital timer; Calibration: amplitude verification			
17	Bacteriological Incubator	Purpose: microbial growth; Range: 5–60 °C; Accuracy: ± 0.1 –0.5 °C; Key features: forced air, humidity control optional; Power: 230 V; Interfaces: digital controller, alarm; Calibration: temp mapping			
18	Colony Counter	Purpose: plate counting; Resolution/Accuracy: 1 mm grid; Key features: LED backlight, digital tally, USB export; Power: 230 V/battery; Calibration: grid verification			
19	COD Digestor	Purpose: COD digestion; Capacity: 6–24 tubes; Range: 150–170 °C; Key features: corrosion-resistant block, programmable profiles; Power: 230 V; Interfaces: digital timer; Calibration: temp check			
20	UV-Vis Spectrophotometer	Purpose: absorbance measurement; Range: 190–1100 nm; Accuracy: ± 0.002 AU; Bandwidth: 1–2 nm; Key features: double-beam, deuterium/halogen lamps; Power: 230 V; Interfaces: USB/PC software; Calibration: wavelength & photometric standards			
21	Orbital Shaker & Incubator	Purpose: culture shaking; Range: 25–300 rpm; Temp: 4–60 °C; Key features: 19 mm orbit, programmable; Power: 230 V; Interfaces: digital controller; Calibration: speed/temp mapping			
22	Vortex shaker	Purpose: mixing small tubes; Range: 0–3000 rpm; Key features: touch/continuous modes, rubber cup; Power: 230 V; Interfaces: none/analog; Calibration: speed check			
23	Fume Hood	Purpose: chemical ventilation; Face velocity: 0.4–0.6 m/s; Key features: sash interlock, HEPA/charcoal options, airflow alarm;			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
		Power: 230 V; Interfaces: airflow monitor; Calibration: face velocity test			
24	Electrothermal Heater	Purpose: general heating; Range: 0–300 °C; Key features: ceramic element, PID control, overtemp protection; Power: 230 V; Interfaces: controller; Calibration: temp probe check			
25	Ultra-low Temperature Freezer	Purpose: sample storage; Range: –40 to –86 °C; Capacity: 300–800 L; Key features: microprocessor control, alarms, CO ₂ backup option; Power: 230 V; Interfaces: LAN/USB; Calibration: temp mapping			
26	Stack Monitoring Equipment	Purpose: emissions monitoring; Parameters: SO ₂ , NO _x , CO, O ₂ , flow, temp; Key features: heated probe, data logger, compliance reports; Power: 230 V; Interfaces: Ethernet/RS-232; Calibration: gas standards; environmental compliance.			
27	Noise meter	Purpose: acoustic measurement; Class: 1; Range: 20–140 dB; Resolution: 1 dB; Key features: A/C weighting, FFT optional; Power: battery; Interfaces: USB; Calibration: acoustic calibrator;			
28	Rotospin	Purpose: high-speed centrifugation; Range: 1,000–15,000 rpm; Key features: swing-out/fixed angle rotors, imbalance protection; Power: 230 V; Interfaces: digital controller; Calibration: speed/RCF verification			
29	Biosafety Class II Cabinet	Purpose: sterile work with biohazards; Class: II A2; Key features: H14 HEPA, face velocity 0.45 m/s, UV, alarm; Power: 230 V; Interfaces: digital display; Calibration: certification to EN 12469/NSF 49			
30	Gas Chromatography (FID/TCD/Headspace)	Purpose: volatile analysis; Channels: FID, TCD, headspace; Range: oven to 450 °C; Key features: split/splitless, autosampler, inert flow control; Power: 230 V; Interfaces: GC data system, LAN; Calibration: gas standards			
31	CHNS-O Analyzer	Purpose: elemental analysis; Range: detection to 0.01% w/w; Key features: autosampler, thermal conductivity/IR detectors; Power: 230 V; Interfaces: PC software; Calibration: certified			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
		standards			
32	Bomb Calorimeter	Purpose: calorific value; Range: 1–3 kJ/g resolution; Key features: oxygen pressure control, digital temp rise; Power: 230 V; Interfaces: PC output; Calibration: benzoic acid standard			
33	ICP-OES with MPS	Purpose: multi-element analysis; Range: 166–847 nm; Sensitivity: ppb; Key features: radial/axial view, micro-sample MPS, autosampler; Power: 230 V; Interfaces: PC software; Calibration: multi-element standard			
34	TKN Analyser	Purpose: nitrogen determination; Throughput: 20–60 samples/day; Key features: automated digestion/distillation; Power: 230 V; Interfaces: digital controller; Calibration: Kjeldahl standards			
35	Optical Microscope	Purpose: microscopy; Magnification: 40×–1000×; Key features: plan achromat objectives, LED illumination, camera port; Power: 230 V; Interfaces: USB camera; Calibration: stage micrometre			
36	Microwave Digestion System	Purpose: sample digestion; Capacity: vessel 0.5–2 L; Range: up to 300 °C, 0–200 bar; Key features: rotor autosampler, pressure control; Power: 230 V; Interfaces: digital controller; Calibration: pressure/temp validation			
37	FTIR Spectrometer	Purpose: molecular identification; Range: 4000–400 cm ⁻¹ ; Resolution: 0.5–4 cm ⁻¹ ; Key features: ATR accessory, MCT/DTGS detector; Power: 230 V; Interfaces: PC software; Calibration: polystyrene film			
38	Indoor Air Quality Meters & Particle Size Counter	Purpose: IAQ monitoring; Parameters: PM1/2.5/10, 0.3–10 µm counts, CO ₂ , VOC, temp, RH; Key features: data logging, real-time graphs; Power: battery/230 V; Interfaces: USB/Wi-Fi; Calibration: aerosol standards			
39	Portable / bench biogas analyzer (handheld)	Purpose: CH ₄ /CO ₂ /H ₂ S analysis; Range: CH ₄ /CO ₂ 0–100% / H ₂ S 0–2000 ppm; Res/Acc: 0.1%/±(1–3)% FS; Features: NDIR + electrochemical sensors, internal pump, IP54; Power:			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
		rechargeable battery; I/O: USB/Bluetooth, data logger; Cal/Std: field calibration with certified gases			
40	Gas leakage detector (portable)	Purpose: locate combustible/toxic leaks; Range: ppm for CH ₄ , H ₂ S, CO, LPG; Res/Acc: ppm sensitivity, response <5 s; Features: catalytic/electrochemical sensors, probe, alarm; Power: battery; I/O: USB; Cal: bump test with calibration gas;			
41	Gas flow meter / gas counter (wet-type or digital)	Purpose: measure biogas/flow; Range: 0.01 L/min–200 L/min or m ³ /h; Acc: ±1–3%; Features: wet-type or thermal/differential sensor, corrosion-resistant wetted parts; Power: 230 V/battery; I/O: 4-20 mA, pulse, RS-485; Cal: traceable flow standards			
42	Tedlar gas sampling bags + syringes & connectors	Purpose: gas sampling; Capacity: 1–10 L; Leak: <1%/24 h; Features: Tedlar film, PTFE valves, Luer syringes; Power: n/a; I/O: n/a; Cal: leak test certificate			
43	TOC / DOC analyser	Purpose: TOC/DOC in water; Range: 0–50 mg/L (0–50,000 ppb); Res/Acc: down to 1 ppb / ±2–5%; Features: UV-persulfate or H ₂ CO ₃ NDIR detector, autosampler option; Power: 230 V; I/O: USB/Ethernet; Cal: certified TOC standards			
44	COD digester + reagents (closed reflux)	Purpose: COD digestion; Capacity: 6–24 tubes; Range: 150–170 °C; Acc: ±1 °C temp control; Features: corrosion-resistant block, sealed vials; Power: 230 V; I/O: digital timer; Cal: reference materials; reagents with MSDS			
45	Incubator shaker / orbital shaker (cold room optional)	Purpose: culture agitation; Range: 25–300 rpm; temp 4–60 °C (if refrigerated); Res/Acc: 1 rpm / ±0.1–0.5 °C; Features: 19 mm orbit, brushless motor, stainless platform; Power: 230 V; I/O: RS-232/USB; Cal: speed & temp mapping			
46	Drying oven (forced air) with timer	Purpose: drying/conditioning; Range: 50–300 °C; Acc: ±1 °C uniformity; Features: forced convection, SS interior, overtemp cutout; Power: 230 V; I/O: digital timer/controller; Cal: temp mapping certificate			
47	pH / EC / ORP / DO (multi-parameter)	Purpose: water quality multiparameter; Range: pH 0–14, EC up to 2000 mS/cm, DO 0–20 mg/L; Res/Acc: pH 0.001/±0.01, DO			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
	meters	0.01 mg/L/±0.1; Features: modular probes, ATC; Power: battery/230 V; I/O: USB/Bluetooth; Cal: NIST buffers, conductivity standards, DO calibration			
48	Hotplate / magnetic stirrers, water bath	Purpose: heating & mixing; Range: stir 50–1500 rpm, hotplate to 300 °C, water bath 5–99 °C; Acc: ±1 °C / ±1% speed; Features: PTFE top, PID control, safety cutouts; Power: 230 V; I/O:analog/digital; Cal: temp probe & speed verification			
49	Bench-top bioreactors / BMP setup (anaerobic bottles + gas collection)	Purpose: lab anaerobic digestion/BMP; Volume: 100 mL–5 L; Gas meas.: counters or flow meters with 0.1 mL resolution; Features: gas-tight reactors, septa, heating, stir; Power: 230 V; I/O: data logger/USB; Cal: gas syringe/flow standard			
50	Desiccator 8-inch (Vacuum) PC/PC 380 mm	Purpose: moisture-free storage/vacuum drying; Size: 380 mm dia; Features: clear polycarbonate, vacuum valve, gasket, desiccant tray; Power: n/a; I/O: vacuum port; Cal: leak test certificate			
51	Computers, software, GC data station, LIMS starter	Purpose: data acquisition & LIMS; Spec: workstation i7/16GB/512GB SSD min; Features: licensed GC data system, basic LIMS modules, backup & security; Power: 230 V; I/O: Ethernet/USB; Cal: software validation docs			
52	Wastewater TSS / TDS / Turbidity meters	Purpose: solids & turbidity measurement; Range: TDS 0–2000 mg/L, turbidity 0–2000 NTU; Res/Acc: TDS 1 mg/L, turbidity 0.01 NTU; Features: portable/bench units, Formazin calibration; Power: battery/230 V; I/O: USB; Cal: standards & filters			
53	BOD incubator	Purpose: BOD 5-day incubation; Range: 20 ±0.2 °C; Acc: ±0.2 °C; Features: forced air, corrosion-resistant shelves, alarms; Power: 230 V; I/O: digital controller; Cal: temp mapping			
54	AAS (Atomic Absorption Spectrometer)	Purpose: trace metal analysis; Modes: flame & graphite furnace; Res/Acc: ppb detection (element dependent); Features: autosampler, safety interlocks, fume extraction; Power: 230 V; I/O: PC software; Cal: certified metal standards			
55	Membrane filtration	Purpose: microbiological & TSS filtration; Holders: 47/90 mm;			

S.No	Equipment	Technical Specifications & Warranty Requirements	Bidder's Offered Specification	Compliance (Yes/No)	Deviation, if any
	apparatus + vacuum pump	Features: stainless manifold, PTFE fittings, leak-free seals; Power: 230 V pump; I/O: vacuum gauge; Cal: vacuum gauge			

NOTE: Supporting catalogues/specs must be attached

Signature of Authorised Signatory

Name

Designation

Company Stamp

ANNEXURE – II
PRICE BID FORMAT (BOQ)
(To be submitted in separate sealed envelope)

S.No	Equipment	Qty	Unit Price (Rs)	GST	Customs Duties (Rs) if applicable	Transportation (Rs)	Installation & Commissioning	Total Cost (Rs)
1	Microbalance							
2	Autoclave							
3	De-Ioniser Unit							
4	Centrifuge							
5	Total Suspended Solids Apparatus							
6	Turbidity Meter							
7	Magnetic Stirrer							
8	pH Meter							
9	Hot Air Oven							
10	Muffle Furnace							
11	Jar Test Apparatus							
12	Ice Flaker Machine							
13	Ultrapure Water Purification system							
14	High Vacuum Pump							
15	Heating Mantle							
16	Sonicator							
17	Bacteriological Incubator							
18	Colony Counter							
19	COD Digester							
20	UV-Vis Spectrophotometer							
21	Orbital Shaker & Incubator							
22	Vortex shaker							
23	Fume Hood							

S.No	Equipment	Qty	Unit Price (Rs)	GST	Customs Duties (Rs) if applicable	Transportation (Rs)	Installation & Commissioning	Total Cost (Rs)
24	Electrothermal Heater							
25	Ultra-low Temperature Freezer							
26	Stack Monitoring Equipment							
27	Noise meter							
28	Rotospin							
29	Biosafety Class II Cabinet							
30	Gas Chromatography (FID/TCD/Headspace)							
31	CHNS-O Analyzer							
32	Bomb Calorimeter							
33	ICP-OES with MPS							
34	TKN Analyser							
35	Optical Microscope							
36	Microwave Digestion System							
37	FTIR Spectrometer							
38	Indoor Air Quality Meters & Particle Size Counter							
39	Portable / bench biogas analyzer (handheld)							
40	Gas leakage detector (portable)							
41	Gas flow meter / gas counter (wet-type or digital)							
42	Tedlar gas sampling bags + syringes & connectors							
43	TOC / DOC analyser							
44	COD digester + reagents (closed reflux)							
45	Incubator shaker / orbital shaker (cold room optional)							
46	Drying oven (forced air) with							

S.No	Equipment	Qty	Unit Price (Rs)	GST	Customs Duties (Rs) if applicable	Transportation (Rs)	Installation & Commissioning	Total Cost (Rs)
	timer							
47	pH / EC / ORP / DO (multi-parameter) meters							
48	Hotplate / magnetic stirrers, water bath							
49	Bench-top bioreactors / BMP setup (anaerobic bottles + gas collection)							
50	Desiccator 8-inch (Vacuum) PC/PC 380 mm							
51	Computers, software, GC data station, LIMS starter							
52	Wastewater TSS / TDS / Turbidity meters							
53	BOD incubator							
54	AAS (Atomic Absorption Spectrometer)							
55	Membrane filtration apparatus + vacuum pump							

Signature of Authorised Signatory

Name

Designation

Company Stamp

ANNEXURE – III
WARRANTY COMPLIANCE STATEMENT

We hereby confirm that:

1. Comprehensive On-site Warranty (Minimum 3 Years): All supplied equipment shall be covered by a minimum three-year comprehensive on-site warranty, inclusive of all parts, labour, and service support.
2. Full Coverage of Accessories, Sub-modules & Software: All accessories, sub-assemblies, peripheral components, and associated software supplied as part of the system shall be fully covered under the warranty without exclusions.
3. Assured Spare Parts Availability (5 Years): All essential and critical spare parts of the supplied equipment shall be available for a period of five years from the date of commissioning.
4. Annual Preventive Maintenance by OEM-Certified Engineers: Scheduled annual preventive maintenance shall be carried out by OEM-certified service engineers, including inspection, calibration, performance verification, and system health checks.
5. Breakdown Response within 72 Hours: In the event of equipment failure, we shall ensure on-site breakdown attendance within 72 hours of receiving formal intimation.

Signature of Authorised Signatory

Name

Designation

Company Stamp

ANNEXURE – IV
SERVICE & MAINTENANCE COMMITMENT LETTER

We hereby commit that:

- OEM–authorized service support will be provided inside India
- Service engineers will be available for onsite attendance
- Maintenance manuals shall be provided
- Emergency tele-support will be provided without charge
- 3 PM service visits per year will be carried out
- Replacement parts required under warranty shall be supplied free of cost

Signature of Authorised Signatory

Name

Designation

Company Stamp

ANNEXURE – V
CLIENT REFERENCE DETAILS

Sl. No	Client Name	Contact Person	Contact Phone/Email	Equipment Supplied	PO Value (INR)	Completion Year
1						
2						
3						

Signature of Authorised Signatory
Name
Designation
Company Stamp