

**OFFICE OF THE REGISTRAR :: DIBRUGARH UNIVERSITY  
DIBRUGARH :: ASSAM  
PIN: 786 004**



**BID DOCUMENT**

**FOR**

**NAME OF THE WORK:** Supply, installation and commissioning of Laboratory Equipment from DBT funded Project at Department of Chemistry, Dibrugarh University.

**TENDER No: DU/NIT-2022/File-V/92 dated 12.02.2022**

# CUT-OUT SLIP

**NAME OF THE WORK:** Supply, installation and commissioning of Laboratory Equipment from DBT funded Project at Department of Chemistry, Dibrugarh University.

**TENDER No: DU/NIT-2022/File-V/92 dated 12.02.2022**

SUBMISSION DUE DATE & TIME : 04.03.2022 up-to 11.00 A.M.

**FROM:**

NAME:  
ADDRESS

**TO:**

THE REGISTRAR  
DIBRUGARH UNIVERSITY  
DIBRUGARH, ASSAM

(To be pasted on the outer envelope containing “Technical” & “Commercial” bids)



## **OFFICE OF THE REGISTRAR :: DIBRUGARH UNIVERSITY :: DIBRUGARH**

No. DU/ NIT-2022/File-V/92

Date: 12.02.2022

### **Tender Notice**

Sealed Tenders are invited from reputed manufactures/authorized dealers/suppliers for Supply, installation and commissioning of Laboratory Equipments on Turnkey basis [(i) Microplate Reader, (ii) Water Purification System, (iii) Lyophilizer and (iv) Plant Growth Chamber] from DBT funded Project at Department of Chemistry, Dibrugarh University. Detailed specification of the items, terms & conditions etc are given at Part-B. Last date of submission of Tender with all relevant papers is **04.03.2022 up-to 11:00 A.M.** to be submitted at the Office of the Registrar, Dibrugarh University, Dibrugarh, Assam.

Availability of Bid papers	From 12.02.2022
Last date for receipt of Bid	04.03.2022 upto 11:00 A.M.
Time & Date of opening of Bid	04.03.2022 at 02:30 P.M.
Place of opening of Bid	Office of the Registrar, DU
Cost of Tender Document	1000/- Non refundable
EMD	2.5 % of the Tender value

The tender should be submitted in two separate sealed envelopes *i.e.* **Part - I TECHNICAL BID** and **Part – II FINANCIAL BID**. The technical bid shall be opened on above mentioned date and time and the financial bid of only those bidders who qualify in technical bid shall be opened on the same date or at a later date which shall be intimated to the tenderer whose technical bid are found to be valid. Dibrugarh University reserves all the rights to reject any or all the tenders without assigning any reason thereof.

Sd/-  
**Registrar**  
Dibrugarh University

#### **Copy to:**

1. The Deputy Registrar (F&A) i/c, D.U. for information.
2. The Programmer, D.U., with a request to upload the NIT at D.U. website.
3. Office File

Sd/-  
**Registrar**  
Dibrugarh University

## **PART A - TERMS AND CONDITIONS**

### **GENERAL INFORMATION**

The tender bids duly complete in all respects, along with the necessary documents should be submitted to the Registrar, Dibrugarh University, Assam. The Technical Bids so received, shall be opened on **04.03.2022 at 02:30 P.M.** in the Office of the Registrar, Dibrugarh University in the presence of the representatives of the bidders. The Financial Bids of the Tenderers shall be opened on the same date or at a later date to be intimated to the Tenderers whose Technical Bids are found to be valid. Right to reject any or all Tenders, without assigning any reason thereof is reserved by Dibrugarh University.

### **Terms and Conditions of Supply:**

1. All the manufacturers/ authorized dealers should also give a brief profile about their company and the facilities available with them of the quoted items. Their turnover and important firms/ Government Institutes/ P.S.U.s *etc.* to which they are supplying quoted items, should also be mentioned.
2. The last date and time for the submission of the bids is **04.03.2022 up-to 11:00 A.M.**
3. Suppliers shall submit the following documents along with their quotations:
  - i) VAT/TIN/GST Registration No.
  - ii) Technical specifications offered by the Supplier.
  - iii) Technical compliance table
  - iv) Technical literature regarding the offered products including pictures/sketch/diagrams *etc.*
4. The rates should be mentioned in the **FINANCIAL BID** attached with the Tender Document as **ANNEXURE-II**. Each page of the tender shall be signed in full and stamped with the seal by the supplier. The supplier must clearly state in what capacity he/she is signing the Tender.
5. The supplier shall submit the tender in 02 (two) envelopes. The first envelope (Technical Bid) shall contain all the following documents and be sealed.
  - Filled in Format Technical Specifications/Literature
  - Valid copy of Trade License,
  - PAN Card,
  - Registration certificate of GST,
  - Dealership/Manufacturing/Small Scale Industry (SSI) Certificate (if any)
  - The cost of tender of Rs. 1000/- (Rupees One thousand) only which is non-refundable, along with the Earnest Money of 2.5 % of the Tender value in the form of Demand Draft/Bankers Cheque in favour of the Registrar, Dibrugarh University, Assam payable at Dibrugarh University.
6. Supplier should read carefully all the instructions and terms and conditions, *etc.* before registering rates in prescribed schedule of the tender. Taxes and duties *etc.* should be shown separately.
7. The Technical Documents shall be opened, at **02:30 P.M. on 04.03.2022** or on the next working day if the offices of the University remain closed due to any reason
8. Technical specifications of the instruments/equipments are given in **Annexure** to these papers (Part B).
9. The delivery and installation should be completed within 1 month or as specified from placing of the order. No extension shall be granted to the contractors/suppliers for the period of delivery, under any circumstances.

10. If the supplier fails to deliver the article as per the delivery schedule, the University shall be free to procure the balance/undelivered supply, at the risk and cost of the supplier, from other such suppliers.
11. The goods, articles, materials supplied by the supplier shall be accepted after inspection by an officer authorized by the competent authority. No articles/materials which do not conform to the specifications laid down in the terms and conditions or damaged in transit shall be accepted.
12. The bills of the suppliers shall be paid by the University after all the materials/articles/equipments have been received and installed, inspected as above.
13. Vendor must submit Compliance statement in tabular form comparing each specification of the quoted item with that given in the Tender Document **Part - B**.
14. The warranty period shall be for minimum one year or may be more as offered.
15. The tendering firm must provide proof of documents for executing similar works earlier.
16. In the event of any breach of the terms and conditions of the supply, the University may terminate the contract placed with the supplier and forfeit the security deposit of the supplier.
17. Whether OEM or Authorized Distributor/ Dealer a letter or a valid certificate of authorization of manufacturer shall be enclosed.
18. Copy of product literature and catalogue, testing report, BEE rating, ISO etc.
19. The quantity as mentioned at Part-B (Specifications) may be increased or decreased at the time of placing Order as per requirement.
20. Tenderers are advised to study all technical and commercial aspects, instructions, forms, terms and specifications carefully in the tender document. Failure to furnish all information required in the Tender Document or submission of a bid not substantially responsive to the Tender document in every respect will be at the tenderer's risk and may result in the rejection of the bid.
21. This tender document is not transferable.

**Note:**

- (a) Tenderers are advised to read carefully the Terms and Conditions of supply before recording the rates in this Schedule.
- (b) No erasures or overwriting shall be allowed, unless they are authenticated under the full signature and the seal of the tenderer.
- (c) The University reserves the right to:
  - (i) Accept/reject any/all tenders without assigning any reason thereof.
  - (ii) Revise the quantities at the time of placing the order without change in the rate quoted by the bidder.

- (iii) Add/modify/relax or waive any of the conditions stipulated in the tender document whenever deemed necessary
- (iv) Award the contract to one or more tenderers for the items covered by the tender.

<b>ITEM No</b>	<b>DESCRIPTION OF GOODS WITH DETAILS OF SPECIFICATIONS</b>	<b>Unit Price</b>	<b>Taxes</b>	<b>Qty.</b>	<b>Total Amount</b>
1					
2					
3					

**Signature of the Tenderer**  
**Seal of the Firm**

**Specifications**

**Supply, installation and commissioning of Laboratory Equipment [(i) Microplate Reader, (ii) Water Purification System, (iii) Lyophilizer and (iv) Plant Growth Chamber] from DBT funded Project at Department of Chemistry, Dibrugarh University**

**(i) MICROPLATE READER**

- A spectral scanning unit for UV-visible-Near IR wavelength ranges, with dedicated cuvette port (with no extra attachments) and should be able to read 96 & 384 microwell plate format.
- Should work as a standalone system without computer and also able to run with computer Controlled software.
- Analysis Software supplied should be supplied with unlimited user license.
- Should be able to read end point, kinetics, spectral scanning and also Kinetic spectral scan.
- Instrument should have future option to read at least 16 low volume samples of 2 $\mu$ l-10 $\mu$ l using low volume analysis plate in case of DNA/RNA purity & concentration check in directly with standalone mode.
- System should be able to run in stand-alone mode using 7 inch or more touch screen for quick usage.
- The instrument should have a memory of 99 inbuilt protocols in stand-alone mode
- Communication options: USB ports to PC, wi-fi dongle and data transfer devices, 1 Ethernet port
- Access data via cloud-based capabilities, wired or wireless network connection.
- Instrument is able to provide the wavelength range from 200nm to 1000nm with 1 nm steps.
- Spectral scanning speed: 10 sec from 200 to 1000 nm with 1 nm steps per sample.
- Performance Specifications: Bandwidth:< 2.5 nm or better and Xenon flash lamp life should be for 10 million 96 well microplates.
- The instrument should have inbuilt incubation and linear shaking options for longer kinetic assays etc.
- Incubation temperature: from ambient +2°C to +45°C.
- Spectral scanning speed 200 to 1000nm should be 10 sec. or less.
- Measurement speed should be 6 sec. for 96 well and 10 sec. for 384 well plate
- The instrument should have minimum 2USB ports, one for the easy data transfer and able to connect wi-fi dongle.
- System should have Power Save function for reduced energy consumption when the instrument is 'on' but not in use.
- Visualize data in both numerical mode and heat-map/virtual image of plate.
- Multiple Software should have language versions: English, German, French, Spanish, Portuguese, Russian, Chinese and Japanese for multi students' usage.

**Data Analysis Software:**

- Software should allow multiple absorbance /photometry steps in a single program for differentially analysis assays, including plate out option during the program to add required compounds and then continue the program for further analysis.
- Allow multiple absorbance reading steps within the same program i.e., in case of two sets of reading before and after adding the compounds.
- Database based software to run backups of all data, restore back up data (in case of hardware failure of original computer).
- Should have area selection option, for different measuring parameters for different area in a same plate.
- Spectral scanning of all 96 samples or 384 samples should be able to view in single graph plot.
- Data export can be .pdf, excel, .xml and note format.

## **(ii) WATER PURIFICATION SYSTEM**

Specification of Complete Lab Ultra Pure Water Purification System directly from tap.

**Prefilter:** Should be customized based on feed water quality. It should come with integrated booster pump and should produce water that qualifies feed water requirement of the main system to ensure minimum recurring cost down the line.

The Complete Ultrapure Water system must give ASTM Type III pure and Type I ultrapure water from a single system.

Water purification methods: Adsorption by means of spherical activated carbon, catalyst, reverse osmosis, ion exchange, optional UV irradiation, and end- position particle | sterile filtration

- The system should handle Conductivity < 1500  $\mu\text{S}/\text{cm}$ , TOC < 2000 ppb, Free chlorine < 4 ppm, Fouling Index (SDI) <10.
- The unit should be ideal for a daily consumption of up to 10 liters of ultrapure water with 8l/hr. pure water production rate.
- Pretreatment Cartridge should be a combination of spherical, catalytic- effective, activated carbon, a catalyst and a downstream reverse osmosis membrane.
- The system should come with closed bag system of 5 liter inbuilt to store consistently high quality pure water for prolonged period and prevent Contamination by ambient air. Should have technology to avoid time consuming cleaning process as well as use of chemicals.
- System should have a horizontally mounted integrated UV lamp with dual wavelength 185 and 254nm for optimized temperature gradient and reliable results.
- Deionization cartridge should consist of spherical, catalytic activated carbon with ultrapure mixed bed ion exchange resin in semiconductor quality to deliver long lasting performance and low-maintenance operation. The flow inside the cartridge should be top-down to produces ideal purification kinetics and prevents any mixing of cleaning media.
- Final Filter should be 0.45+ 0.2 $\mu\text{m}$  pleated double layered sterile grade PESU membrane and should be validated according to HIMA & ASTM F- 838-83guidelines.
- System should have touch screen display with intuitive menu navigation facility for easy operation.
- Re-circulation feature in standby mode to maintain the purity of thewater.
- The system should have the volume-controlled dispensing function from 50 ml to 5 l (in 50-ml-increments) to obtain accurate results.
- System should be Designed, Developed and Produced under DIN/ISO 9001 certificate Quality Management system. Also ISO-9001Company.

### **Product Water Quality-Type-III**

Production output: Up to 8 l/h

Typical Conductivity: < 20  $\mu\text{S}/\text{cm}$

Typical ion retention: Up to 98%

Retention of dissolved organic substances: > 99 % (MW > 300 Dalton)

Particle and microorganism retention: > 99 %

### **Product Water Quality-Type-I**

Water dispensing flow rate: Up to 1.0 l/min

Conductivity: 0.055  $\mu\text{S}/\text{cm}$  compensated to 25°C

Resistivity: 18.2  $\text{M}\Omega \cdot \text{cm}$  compensated to 25°C

TOC content (system with UV lamp) < 5 ppb

Microorganism content < 1 CFU/1,000 ml

Particle content (> 0.2  $\mu\text{m}$ ) < 1/ml



### **(iii) FREEZE DRYER / LYOPHILIZER**

#### **Technical Specifications:**

1. Drying Chamber: 200mm diameter, 225mm (H)
2. Cold trap size: 200mm diameter, 350mm (L)
3. Temp. range: -40°C / -80°C
4. Vacuum level: 0.01mbar / 0.001mbar
5. Ice condensing Capacity: 4 kg or 4 Litres

#### **General Specifications:**

- Model Type: Floor/Table top
- Display resolution: 0.1°C
- Controller: Digital Microprocessor based PID
- Control readout: Actual and Set point
- Sensor: Pt 100 – 3 wire (RTD)
- Vacuum pump: Hindhivac make
- Vacuum pump capacity: Double stage direct drive, 100L/min
- Vacuum indication: Analog Pirani Gauge
- Vacuum level: 0.01/ 0.001mbar
- Safety cut off: For vacuum pump, HP/LP for compressor
- Dry chamber size in mm: 150mm diameter x 225 height
- Cold trap chamber size in mm: 150mm diameter x 350mm Depth
- Dry Chamber: Stainless steel 304 grade dully polished with acrylic top cover
- Cold trap: Stainless steel 304 grade dully polished with acrylic door
- Top cover: Stainless steel 304 grade dully polished
- Outerll: Mild steel CRCA sheet with powder coated
- Insulation: High density PUF – poly urethane foam / Foam sheet
- No. of Ports: 8 ports with 12 manifold (Includes spare 4nos.)
- Cooling up to -40°C: CFC free Single stage refrigeration system
- Cooling below -40°C: CFC free double stage (Cascade) refrigeration system
- Compressor: Hermetically sealed Emerson make
- Refrigerant: R404a, R508b
- Condensor: Fin and tube air cooled type
- Drain: Provision to drain Condense water of cold trap
- Wheels: For easy moving (for floor models)
- Power supply: Single Phase – 230VAC, 50Hz
- **Optional features**
  - Voltage stabilizer: For refrigeration system
  - Vacuum gauge: Digital type
  - NABL Certified Calibration Certificate: For temperature controller
  - Pre- freezing bath / chamber: -40°C / -80°C
  - Accessories: 250ml flask, Cork, Glass bend
  - Lyophilizer: With Fully Stainless steel

### **(iv) PLANT GROWTH CHAMBER**

#### **Technical Specifications:**

1. Capacity: 200 L **or more**
2. Internal & in (W x D x H) cms: 50x50x80 **or more**
3. Outer Size (W x D x H) in cms: 65x72x140 **or more**
4. Trays (Nos): 3
5. Temperature Range: 10 to 60°C
6. Temperature Accuracy:  $\pm 0.2^\circ$  C
7. Temperature Uniformity:  $2^\circ$  C
8. Humidity Range: 40 to 98% RH.
9. Humidity Accuracy:  $\pm 0.5\%$  RH.
10. Humidity Uniformity:  $\pm 3\%$  RH.
11. Alarm: Audio-Visual Alarm
12. For STD Condition: 25°C & 60%, 30°C & 65%, 40°C & 75%

**Features:**

- Control System: CE approved PID controller with auto tune facility
- Construction: Inner chamber stainless steel 304 mat finish. And outer chamber mild steel powder coated or stainless steel 304. Double wall construction with PUF insulation.
- Advantage: Energy saving low power and water consumptions.
- Air Circulation: Motor and two chamber blower arrangement to have uniformity of under loaded condition.
- Alarm
  - Temperature deviation alarm
  - Humidity deviation alarm
  - Water level alarm
- Trays: Stainless Steel trays with adjustable height
- Florescent Light: Cool white florescent light 5000 to 10000 LUX
- Insulation: 3” Thick CFC free PUF Insulation.
- Heating System: U shaped S.S. Nichrome wire air heaters.
- Main Door: PUF Insulated main door with Latch and Hinges.
- Observation Door: Inside see through unbreakable acrylic or Glass door
- Refrigeration System: Hermetically Sealed CFC Free Emerson Compressor with R 134a refrigerant having state of art by pass system for continues run of compressor.
- Humidity System: Non condensing type steam injection system with water level arrangement with insulation to save heat energy.
- Validation Port: 50 mm validation Port with silicon rubber seal to insert sensor for validation purpose.
- Power: Works on 230 V AC single phase 50Hz
- Other: Castor wheels, MCB, Adjustable Tray Height arrangements. Heavy duty latch with lock & key
- Timer: Digital Timer 1 to 999
- Safety Features
  - Float switch to cut off the mains supply in case of low water level in the boiler tank.
  - Dedicated safety controller with separate sensor to cut off the supply in case of overshoot and undershoot of Temperature giving audio visual alarm.
  - Additional safety thermostat to cut off the boiler system in case of overshoot of temperature.
  - 180 Sec. compressor ‘ON’ delay timer to safe guard the compressor.
  - Safety Thermostat to cut off the supply in case of overshoot temperature
- Documentations: Provide IQ, OQ, PQ documents with material test certificates and calibration reports

Signature: .....

Date.....

Name :.....

Address :.....

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Mobile No.....