



तेजपुर विश्वविद्यालय / TEZPUR UNIVERSITY  
(संसद के अधिनियम द्वारा स्थापित केंद्रीय विश्वविद्यालय)  
(A Central University established by an Act of Parliament)  
कुल सचिव का कार्यालय/ OFFICE OF THE REGISTRAR  
नपाम :: तेजपुर - 784028 :: असम  
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### SHORT QUOTATION NOTICE

TU/11-24/Pur/Qtn/2017-18/2623-A dated:18.09.2017.

Sealed quotations are invited from reputed manufacturers/authorized dealers/vendors for supply, installation & commissioning etc. of following items required for the DST Sponsored Research Project of Dr. Ruli Borah, Department of Chemical Sciences, Tezpur University. Those who have participated in response to our earlier notice no. TU/11-24/Pur/Qtn/2017-18/2223-A dated 22.08.2017 need not participate again. However, revised quotation/offer in response to their earlier quotation/offer may be submitted and in such cases, Tender Fee and EMD need not be submitted again.

#### Item with Specifications:

##### I. UV-Vis Spectrophotometer

- 1. PC based UV-Vis Spectrophotometer with the following specifications:**
  - Photometric System: Double beam optics
  - Photometric Accuracy: +/- 0.004 Abs. or better at 0.5 - 1.0 Abs and +/- 0.002 Abs. or better at 0 - 0.5Abs
  - Wavelength Range: 190-1000 nm or more
  - Wavelength Accuracy: +/- 0.2 nm or better
  - Wavelength Repeatability: +/- 0.1nm or better
  - Photometric range: Up to 3 Abs or better Transmittance, Reflectance 0 to 99.9% or better Spectral
  - Bandwidth: Selectable from 0.1 nm to 5 nm or better
  - Wavelength Scan Speed: From 10 to 2500 nm/min or better
  - Stray light: 0.05% or less
  - Detector: Photomultiplier or silicon photodiode
  - Light source: Tungsten and Deuterium lamp
  - Quartz Cuvette: **Rectangular cell UV 10 mm** 3.5 mL 2/pk.  
Open rectangular cell with PTFE lid of **10 mm** path length of **3.5 ML. 2 /pkt**
  - Optional items:** Peltier systems for sample and reference beam with control through computer
- 2. Windows based Operating software should have built in features.**  
**PC having latest configuration** with necessary software for data processing and other relevant accessories to be quoted including **Laser Printer**
- 3. The quoted system should be certified as complete for carrying out the following types of experiments and any necessary accessories must also be included in the quotation:**
  - To determine the absorption property of organic and organo-inorganic materials.
  - Metal and ligand centered charge transfer transitions.
  - To study the change in absorption properties of a particular species in various chemical environment (for example, in presence of acids, bases, metal ions etc.)
  - To study the change in absorption property of polymeric compound
- 4. Available Power supply: 220/230V, 50/60 Hz 5.**
- 5. Free installation and Two or Three year on-site warranty on all parts**
- 6. The prices should include all the cost up to Tezpur University**
- 7. Service facility:** Supplier should mention their details of nearest service center and manpower to look after sales support. The responses of service center should be efficient for solving any type of technical problem



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## **II. Electrochemical Analyzer / workstation**

### **System Specification**

- 2- or 3 or 4 electrode configurations
- Maximum potential:  $\pm 10$  V
- Maximum current:  $\pm 250$  mA or Better
- Compliance Voltage:  $\pm 13$  V
- Applied potential resolution: 0.0015% of potential range or better
- Applied potential accuracy:  $\pm 1$  mV,  $\pm 0.01\%$  of scale
- Measured current resolution: 0.0015% of current range or better
- Current measurement accuracy: 0.2% if current range  $\geq 1 \times 10^{-6}$  A/V, 1% otherwise
- Input bias current:  $< 20$  pA or better
- Scan rate: 0.000001 to 10,000 V/s or better
- CA and CC pulse width: 0.0001 to 1000 sec

### **Techniques**

- Cyclic Voltammetry (CV)
- Linear Sweep Voltammetry (LSV)
- Chrono Amperometry (CA)
- Chrono Coulometry (CC)
- Bulk Electrolysis with Coulometry (BE)
- Open Circuit Potential – Time (OCPT)
- Limited version of CV simulator
- IR Compensation
- External Potential Input
- Auxiliary Signal Measurement Channel

### **Electrode:**

- GC Working Electrode ---2 Nos
- Ag/AgCl Reference Electrode (aq.)---2 Nos
- Ag/AgCl Reference Electrode (non-aqu)- 2 No
- Pt Wire Counter Electrode---- 2 Nos
- 4 Glass cell with two cell top
- Electrode polishing Kit
- Cell stand

### **Software**

Digisim or equivalent Cyclic Voltammetry simulation software. Windows-based software. Ready-to-use Vis & Generic interface for. Net applications should be included.

### **Computer & Printer**

**Configuration:** I3 Processor, 4GB RAM, 1TB Hard Drive, 19" LED Monitor, DVD Writer, Keyboard & Mouse and one Black-white printer

### **Warranty: 2 years**

**Service Facility:** Supplier should mention their details of service setup and man powers, who are responsible for after sales support. Response time should be within 48 hrs

### **Optional**

- There should be a provision that In future the system will use in Photo electrochemistry Setup.
- System should be upgradable to [Bipotentiostat](#) in future
- Coulometry cell assembly
- Calomel Reference Electrode

## **III. Rotary Vacuum Evaporator including all accessories**



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### 1. Rotary Evaporator

- \* Vertical glass condenser with minimum 1500 cm<sup>2</sup> cooling surface
- \*. Rotation speed of 5-300 rpm with a control of 1 rpm
- \* **Manual lift** with safety " lift –out –function" on power failure, with 120mm stroke
- \* Digital heating bath temperature: Room temperature to 180 C with control accuracy of + -1 K
- \* Heat output maximum 1300 watt or more.
- \* Clearly visible glass Digital display
- \* Locking mechanism for vapor tube with color coated display (Green for locked and red for unlocked) as a safety feature to user
- \* Bath capacity: 3 Litres or more to accommodates flask **size 50 to 3000 mL**
- \* Adjustable immersion angle with easy exchange of flasks by clamp mechanism with push-out function
- \* Lock function of heating bath temperature with safety temperature circuit and dry run protection
- \* Instrument should include **two one Liter Evaporation** and **two one Liter Receiving flask, solvent-trap , two flask stand** and all necessary accessories to make it functional.

### 2. Vacuum pump

- Two stage diaphragm pumps made of PTFE for protection against aggressive solvents
- **Transparent front cover for detection of solvent build up for easy maintenance.**
- Pump rate or flow rate of 1.7 m<sup>3</sup>/h or more
- **Ultimate vacuum level should be equal or less than 8 mBar**
- To be supplied with Vacuum Valve controller to Allows for adjusting the set vacuum value on the manual manometer

### 3. Optional Accessories

#### (a) Chiller

- **Operational temperature range of -10°C to RT**
- 4 liters bath volume with level indicator
- **400 W cooling capacity at 20°C**
- Flow rate should be 18 liters per minute or more with pump pressure control
- **Speed regulated compressor for temperature stability of ± 1 K and low noise level**
- Pump pressure flow and suction should be closer to 0.3 and 0.2 bar respectively
- **Safety drains and filters in front of the device for easy handling and cleaning**
- Should have acoustic and optical warning signal

#### (b) Water Aspirator

- \* Tank capacity: 15 L or more
- \* Vacuum level adjustable from atmospheric to **0.04 bar**
- Flow rate adjustable from 0 up to **22 litres per minute**
- ABS structure
- Stopcock for emptying the tank
- Inset handles to simplify lifting
- Extremely quiet and vibration-free

### 4. Additional terms and condition

- **Warranty** : 3/4 years warranty
- The prices should include all cost up to Tezpur University expressing Tax in separate column from the basic unit prices
- Supplier should mention their details of nearest service center and manpower to look after sales support. The responses of service center should be positive for solving any type of technical problem.

### GENERAL TERMS & CONDITIONS:



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1. No separate tender paper will be issued from the office; one should only download the specifications/List from the website.
2. **The rates should be preferably quoted in Indian Rupee and FOR Tezpur University, Napaam basis. Charges for clearing and transportation should be incurred by the supplier.**
3. *Quotations should be accompanied by i) An EMD (in the form of Demand Draft/Call Deposit/TDR) of ₹. 5000/- (Rupees Five Thousand) only drawn/pledged in favor of Registrar, Tezpur University, payable at Tezpur. **No request for consideration of earlier deposited EMD will be considered.** ii) A non-refundable application (quotation) fee of ₹.1000.00 (Rupees One Thousand) only must be paid only by Demand Draft drawn in favour of Registrar, Tezpur University payable at Tezpur.*
4. The rates should be exclusive of taxes and applicable tax % should be clearly indicated.
5. Applicable levies, surcharge and discounts should be clearly indicated itemwise.
6. Quoted rates should be valid at least for a period of 01 year.
7. The rates should be quoted along with supporting documents of specifications and technical features and list of users.
8. The system must be installed at the laboratory, and after installation a basic training must also be provided by the supplier or their Indian counterpart without any additional costs.
9. All the quotations must be accompanied with supporting documents and / or literature.
10. Demonstration may be sought from the vendors for authentication of quoted specification.
11. Details of availability of after sales support will have to be furnished. After sales support, directly from manufacturer and from Assam (Guwahati / Tezpur) will be preferred.
12. The University is exempted from paying Custom and Excise duty.
13. Proprietary items should be quoted with sole Manufacturer/Distributorship certificate.
14. Warranty/Gurantee period should be specifically mentioned in the quotation.
15. No Advance payment will be made. However, for foreign supplier, advance payment will be made either by FDD/Wire Transfer/LC. In such cases 10% Performance Bank Guarantee should be submitted before issuing FDD/Wire Transfer/LC, covering the warranty period.
16. Performance Bank Guarantee also has to be submitted for Major equipments of Indian origin, covering the warranty period.
17. Items of Foreign origin should have Insurance up to installation on site.
18. The University reserves the right to accept or reject any or all the quotations without assigning any reason.
19. Quoted price should be inclusive of essential accessories and should be CIF Tezpur University, Tezpur
20. Applications for release of EMD should be submitted to the Registrar/ Joint Registrar.
21. Apart from the above terms and conditions the University has the right to include any other terms and conditions as and when felt necessary.
22. **Quotation should be submitted in the DROP BOX placed in the reception of the Administrative Building of the University within 30 days from the date of publication of this notice. If posted/couriered, should reach within 30 days addressed to "The Joint Registrar, Tezpur University". The Quotation Notice No. and date should be clearly superscribed in the envelope/packet containing the quotation.**

Sd/- Joint Registrar  
Tezpur University