

Centre for Green Technology  
Department of Chemistry,  
University of Mumbai,

No. :

Date:

To,

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Separate sealed Quotations/Tenders for purchase of following item are invited, for and on behalf of University of Mumbai by the Co-ordinator, Centre for Green Technology, Department of Chemistry, University of Mumbai, so as to reach him in his office latest by 4.00 p.m. on **Thursday, 18<sup>th</sup> December, 2014.**

1. **Electrochemical workstation: Potentiostat, galvanostat with frequency response analyzer and accessories.**

Blank forms containing terms and conditions of supply and technical specifications are available at the office of the Head, Department of Chemistry, University of Mumbai, on all working days between 11.00 a.m. to 4.00 p.m. from **Wednesday 3<sup>rd</sup> December, 2014 to Wednesday 17<sup>th</sup> December, 2014**, except 2<sup>nd</sup> and 4<sup>th</sup> Saturday, Sunday & public holidays; on payment of Rs. 500.00 (Rs. Five hundred only) in cash OR the same can be downloaded from our website <http://mu.ac.in/tenders.html> and submitted along with a DD of Rs. 500.00 (Rs. Five hundred only) in favour of **'Finance and Accounts Officer, University of Mumbai'**. The quotations/tenders duly complete in all respects, along with the necessary documents should be submitted to the Co-ordinator, Centre for Green Technology, Department of Chemistry, University of Mumbai, latest by 4.00 p.m. on **Thursday, 18<sup>th</sup> December, 2014.**

The quotations/tenders so received, shall be opened on **Monday, 22<sup>nd</sup> December, 2014** in the office of the Co-ordinator, Centre for Green Technology, Department of Chemistry, University of Mumbai, Lokmanya Tilak Bhavan, Vidyanagari, Santacruz (E), Mumbai, 400 098, in presence of representatives of the suppliers. Right to reject any or all tenders, without assigning any reason thereof, is reserved by the University of Mumbai.

Sd/-

Dr. A. K. Srivastava  
Co-ordinator,  
Centre for Green Technology,  
UPE & Professor of Chemistry,  
University of Mumbai.

**Centre for Green Technology**  
**Department of Chemistry**  
**University of Mumbai**  
Lokmanya Tilak Bhavan, Vidyanagari  
Santacruz (E), Mumbai - 400 098  
Phone: 26543587/26543354  
Fax: 26528547

### **Tender Document**

**Date: 3<sup>rd</sup> December, 2014**  
Part A - Terms and conditions  
Part B - Specifications  
Price Rs. 500.00 (non refundable)

#### **Important Dates**

Sale of Tender forms	:	Wednesday, 3 <sup>rd</sup> December, 2014 to Wednesday 17 <sup>th</sup> December, 2014 (All working days from 11.00 a.m. to 4.00 p.m. )
Last Date for receiving sealed tenders	:	Thursday, 18 <sup>th</sup> December, 2014 up to 4:00 p.m.
Date of Opening of tenders	:	Monday, 22 <sup>nd</sup> December, 2014 at 11.30 a.m.

**Co-ordinator**  
**Centre for Green Technology,**  
**Department of Chemistry**  
**(Seal & sign)**

**Centre for Green Technology**  
**Department of Chemistry**  
**University of Mumbai**  
Lokmanya Tilak Bhavan, Vidyanagari  
Santacruz (E), Mumbai - 400 098  
Phone: 26543587/26543354  
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**Tender Document**  
**Date: 3<sup>rd</sup> December, 2014**  
Part A -Terms and Conditions of Supply

**Electrochemical workstation:**  
**Potentiostat, galvanostat with**  
**frequency response analyzer and**  
**accessories.**

## Part A -Terms and Conditions

1. The last date and time for the acceptance of the quotation / Tender is **Thursday, 18<sup>th</sup> December, 2014 up to 4:00 p.m.**
2. The tenderers shall submit the following documents along with their quotations / tenders.
  - a. Income tax clearance certificate, from the Income Tax officer concerned, certifying that the tenderer has cleared all the Income Tax dues.
  - b. Suppliers should state whether they are a Propriety Firm, Partnership Firm or a Private / Public Limited Company and furnish a profile of the firm / company. They should also clearly mention whether they are manufacturers, authorized dealers or retail suppliers.
  - c. The names of the organizations and the offices to which similar supplies have been made.
  - d. **Earnest Money Deposit** in the form of Demand Draft in favour of **Finance and Accounts Officer, University of Mumbai**, on any Scheduled / Nationalized Bank payable at Mumbai.
  - e. Sales Tax Registration No. / VAT Registration No.
  - f. Technical specifications offered by the Supplier, Proprietary Certificate (if any).
  - g. Vendor must submit Compliance statement in tabular form comparing each specification of the quoted item with that given in the Tender Document part B.
3. The rates should be mentioned in the Schedule attached with the tender / quotation paper. Each page of the tender shall be signed in full and stamped with the seal by supplier. The supplier must clearly state in what capacity he or she is signing the tender.
4. The tenderers shall submit the tender in two envelopes. The first envelope (Technical Bid) shall contain all the documents referred to in Para 2 above and shall be sealed. The second envelope (Commercial Bid) shall contain the **Schedule**, in which the supplier shall register the rates of supply. The second envelope shall also, likewise, be sealed. Both the envelopes then should be put together and shall be sealed in an envelope, and shall be submitted to the University by the prescribed time and date. The Technical Bid shall be opened first to ensure that the tenderers have submitted all the requisite documents. If the Technical Bids are not in order or are deficient in some respect, the Commercial Bids in respect of such tenders shall not be opened.
5. The amount of **Earnest Money Deposit shall be 5% of the cost of supply subject to a maximum of Rs. 50,000.00 (Rs. Fifty thousand only)**. The Earnest Money Deposit should be in the form of Bank Draft drawn on a nationalized / scheduled bank (payable at Mumbai) in favour of the **'Finance and Accounts Officer, University of Mumbai'**, and must be enclosed with the Technical Bid.
6. Tenders / quotations not accompanied by the requisite amount of Earnest Money Deposit shall be rejected.
7. The amount of Security Deposit / Performance Guarantee shall be 5% of the cost. In case of successful tenderers the amount of Earnest Money Deposit shall be converted into Security Deposit / Performance Guarantee and shall be refunded after the warranty period is over.
8. 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.

9. The offers made by the suppliers shall be open for acceptance for 120 days after the last date of submission of tender.
10. The quotation shall be opened by the co ordinator, Centre for Green Technology, Department of Chemistry in his office **on Monday, 22<sup>nd</sup> December, 2014**. The tenderers or their authorized representatives shall be allowed to be present at the time of opening of the tenders.
11. In case of imported items / equipments the rates should be quoted in the light of exemptions enjoyed by educational institutions. The University is exempted from payment of Customs/Excise duty, Octroi; and the necessary certificates / forms can be issued by the University.
12. Technical specifications of the instrument / equipment are given in the Annexure of these papers (Part B).
13. The delivery time of instrument / equipment should be clearly mentioned in the tender. No extension shall be granted to the contractors / suppliers for the period of delivery mentioned in the tender, under any circumstances.
14. If the supplier fails to deliver the article as per the delivery schedule, the University of Mumbai shall be free to procure the balance / undelivered supply, at the risk and cost of such supplier.
15. The goods, article, material supplied by the contractor shall be accepted after inspection by an officer authorized by the competent authority. No article / material which do not conform to the specifications laid down in the terms and conditions or damaged in transit or otherwise, shall be accepted.
16. The bills of the suppliers shall be paid by the University after all the article/ material/ instrument / equipment have been received, inspected as above.
17. The warranty period shall be at least for one year from the date of installation.
18. Supplier should give free service at least for three years after the warranty is over.
19. Service Support should be from Factory trained Engineers; specifying the no. of Engineers with their names, mobile numbers, base location, Response time, etc.
20. A list of spares/consumables required for hassle free functioning of the instrument for at least two years should be quoted additionally.
21. Undertaking from the manufacturer that parts will be made available at least for next ten years even after discontinuation of the supplied model is necessary.
22. Supplier should have at least five orders from Institutions / Laboratories in the past three years (copies of the PO to be attached).
23. The detailed operational training should be provided by the competent Engineers during the

time of installation.

24. As the supplier shall be responsible for the supply and installation of the material at the Centre for Green Technology, Department of Chemistry, University of Mumbai; the cost towards loading/unloading, insurance, etc. shall be borne by the suppliers.
25. Without any purchase commitment, inspection/demonstration should be arranged at the cost of the supplier for the quoted material at two places in Mumbai.
26. In the event of any breach of the terms and conditions of the supply, the University of Mumbai may terminate the contract placed with the supplier and forfeit the EMD/Security Deposit of the supplier.

## SCHEDULE TO TENDER

**Note:**

1. Tenderers are advised to read carefully the Terms and Conditions of supply and "the Instructions to the tenderers" before recording the rates in this schedule.
2. No erasures or overwriting shall be allowed, unless they are authenticated under the full signature and seal of the tenderers.
3. The Rates shall be FOR, at destinations / godowns/ places indicated in the delivery.

Item No.	Description of goods with details of specifications	Number/Quantity	Price / Rate per Unit	Taxes, Duties etc.

Full Signature of Tenderer

(Seal of the Firm/Company)

**Centre for Green Technology**  
**Department of Chemistry**  
**University of Mumbai**  
Lokmanya Tilak Bhavan, Vidyanagari  
Santacruz (E), Mumbai - 400 098  
Phone: 26543587/26543354  
Fax: 26528547

**Tender Document**  
**Date: 3<sup>rd</sup> December, 2014**

Part B - Technical Specifications

**Electrochemical workstation:**  
**Potentiostat, galvanostat with**  
**frequency response analyzer**  
**and accessories.**



**SPECIFICATIONS FOR SUPPLY OF ELECTROCHEMICAL WORKSTATION:  
POTENTIOSTAT, GALVASTAT WITH FREQUENCY RESPONSE ANALYZER AND  
ACCESSORIES.**

The instrument with the following specifications for Voltammetric, Amperometric and potentiometric techniques as well as Impedance spectroscopy along with relevant software.

Sl.No.	Specification																		
1)	<b>Voltammetric / Potentiostat</b>																		
	a)	Supported Techniques	Linear Sweep Voltammetry (LSV) Differential Pulse Voltammetry (DPV) Square Wave Voltammetry (SWV) Normal Pulse Voltammetry (NPV) AC Voltammetry (acV) Cyclic Voltammetry (CV) Stripping Chronopotentiometry (or PSA/ SCP)																
	b)	Controlled potential mode	<table border="0"> <tr> <td>DC-potential range</td> <td>± 10.000 V</td> </tr> <tr> <td>Compliance voltage</td> <td>± 30.0 V</td> </tr> <tr> <td>Current ranges</td> <td>1 A to 10 nA</td> </tr> <tr> <td>Current Resolution</td> <td>0.0003 % of current range</td> </tr> <tr> <td>Maximum current</td> <td>± 2A</td> </tr> <tr> <td>DC-potential resolution</td> <td>0.3µV</td> </tr> <tr> <td>DC-offset error</td> <td>± 0.2 %</td> </tr> <tr> <td>Accuracy</td> <td>± 0.2 %</td> </tr> </table>	DC-potential range	± 10.000 V	Compliance voltage	± 30.0 V	Current ranges	1 A to 10 nA	Current Resolution	0.0003 % of current range	Maximum current	± 2A	DC-potential resolution	0.3µV	DC-offset error	± 0.2 %	Accuracy	± 0.2 %
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DC-offset error	± 0.2 %																		
Accuracy	± 0.2 %																		
2)	<b>Stripping voltammetry</b>																		
	a)	Supported Techniques	Amperometric Detection AD Pulsed Amperometric Detection PAD Multiple Pulse Amperometric Detection MPAD Fast Amperometry FAMP Potentiometry POT Open Circuit Potentiometry OCP Multistep Amperometry MA Multistep Potentiometry MP																
	b)	Controlled current mode	<table border="0"> <tr> <td>Current ranges</td> <td>1 A to 10 nA</td> </tr> <tr> <td>Maximum output voltage</td> <td>± 30V</td> </tr> </table>	Current ranges	1 A to 10 nA	Maximum output voltage	± 30V												
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3)	Impedance spectroscopy (EIS)		
a)	Supported Techniques	Potential scan Fixed potential Time scan	
b)	Impedance Measurements	Frequency range AC amplitude range Frequency resolution Input range	100 $\mu$ Hz to 20 MHz 0.2 mV to 0.35 V (rms) 0.003% 10V
4)	Accessories		
	Required electrodes	<p>Ag/AgCl (aqueous and non- aqueous) as a reference electrode  Rotating Disc electrode and motor controller  Glassy carbon ,Gold, Silver Platinum as working electrode  Platinum wire as a counter electrode  RRDEPt disc(5mm) ,Pt ring  Ultra micro electrodes (Pt,Au)  Screen printed electrodes(Carbon,Gold,Platinum)  Polishing kit  Thermostated glass cell  Magnetic stirrer and accessories</p>	