

INVITATION LETTER

Package Code: TEQIP-III/2019/nitm/125

Current Date: 23-May-2019

Package Name: NITMN/Cyclic Voltametry

Method: Shopping Goods

To,

Sub: INVITATION LETTER FOR NITMN/Cyclic Voltametry

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Cyclic Voltametry System	1	NIT Manipur	

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. **Quotation**

- 3.1 The contract shall be for the full quantity as described above.
- 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
- 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
- 3.4 Applicable taxes shall be quoted separately for all items.
- 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- 3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.

5. Quotation shall remain valid for a period not less than **15**days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which
 - 6.1 are properly signed; and
 - 6.2 Confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
 - 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract.
 - 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be Incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:
 - Satisfactory Delivery & Installation - 10% of total cost**
 - Satisfactory Acceptance - 90% of total cost**
10. Liquidated Damages will be applied as per the below:
 - Liquidated Damages Per Day Min % : N/A
 - Liquidated Damages Max % : N/A
11. All supplied items are under warranty of **N/A** months from the date of successful acceptance of items and AMC/Others is .
12. You are requested to provide your offer latest by **05:30** hours on **06-Jun-2019**.
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any)
15. Testing/Installation Clause (if any)
16. Performance Security shall be applicable: **0%**
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.

18. Sealed quotation to be submitted/ delivered at the address mentioned below, **National Institute of Technology, Manipur, Langol, Imphal West 795004**

19. We look forward to receiving your quotation and thank you for your interest in this project.



(Authorized Signatory)

Name & Designation

Annexure I

Sr. No	Item Name	Specifications
1	Cyclic Voltammetry System	See Appendix I



Appendix-I

1. Cyclic Voltammetry/Electrochemical System

Technical Specification

A. Potentiostat/Galvanostat technical specifications:

1. Potentiostat/Galvanostat designed for electrochemical research over a broad spectrum of applications
2. Cell Connections: 2, 3 or 4 terminals plus ground
3. Standard Voltage Compliance: $\pm 12V$ or better
4. Standard Current Compliance: ± 350 mA or better
5. Potentiostat Bandwidth: 1MHz or more
6. Potentiostat Rise Time: < 350 ns with no load
7. Applied Voltage Range: $\pm 10V$ with resolution $300 \mu V$ in maximum voltage range & $300nV$ in minimum voltage range
8. Applied Voltage Accuracy: $\pm 0.2\%$
9. Maximum Scan Rate: 1000 V/s with 10 mV step or better
10. Applied Current Range: smallest current range: ± 10 nA to current range 100 mA in multiple ranges
11. Applied Current Accuracy: $\pm 0.2\%$
12. Input Impedance of electrometer: $> 90G\Omega$
13. Electrometer Leakage Current: ≤ 5 pA
14. Voltage Measurement Range: $\pm 10V$ with $6 \mu V$ minimum resolution
15. IR Compensation: Positive Feedback & Dynamic IR
16. EIS module:
It should be possible to apply a frequency from EIS option in the range of $10 \mu Hz$ - 10 MHz. The measurable frequency range in combination with potentiostat / galvanostat should be $10 \mu Hz$ - 1 MHz upto ± 350 mA currents. Hardware and software for EIS measurements should be available in potentiostatic and galvanostatic control, over entire measurable frequency range. The applied frequency resolution should be 0.003% or better. Also real-time measurement plots needed for – Lissajous curve, Nyquist, Bode, Admittance, Dielectric & Mott-Schottky.
17. Digital Inputs / Outputs, Auxiliary Voltage Input, DAC voltage Output
18. USB interface to communicate with PC
19. The Software to be provided with the Potentiostat / Galvanostat should be comprehensive, fully windows based with three-dimensional view of graphics and analysis software. Software should record current, voltage and time for cyclic and



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An Autonomous Institute under MHRD, Govt. of India

linear sweep voltammetric measurement. It should be possible to record current, voltage and time data in tabular format for each measuring point in voltammogram. Software should be capable of supporting a wide variety of electrochemical techniques as mentioned below:

Cyclic & Linear Sweep Voltammetry

Linear Polarization

Differential Pulse, Sampled DC & Square Wave Voltammetry

Chrono-amperometry, chrono-coulometry and chrono-potentiometry ($\Delta t > 1$ ms)

Tutorials to help the user to familiarize with software

Programming of different electrochemical methods and optional accessories

Software Development Kit to control the PGStat using Labview Software.

Comprehensive database structure & powerful data analysis tool.

Inbuilt electrochemical spread sheet

User programmable formulae to new plots.

Powerful graphic engine with useful features such as individual Axis scaling, overlays, multiple Y axes, plot addition, zooming and rotation.

Each plot should be saved as a vector image file to use directly in paper or presentation.

Built-in Calibration with Internal Dummy Cell for calibration check

20. Warranty: 3 years from the date of installation

21. Certification: CE approved

22. The hardware must be capable for the following future up gradation possibilities.

a. Current booster's 10 A or more

b. Ultra-low current measurement capability with at least 125 aA current resolution

B. Required Accessories:

1. Small volume (15ml) cell with gas purging provision, Ag/AgCl Reference Electrode, Pt Wire Counter Electrode, GC Working Electrode
2. Computer with at least i5 processor, 8GB RAM, 1TB HDD, Windows10 etc.

FORMAT FOR QUOTATION SUBMISSION
(In letterhead of the supplier with seal)

Date: _____

To: _____

Sl. No.	Description of goods \ (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of _____ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier
Name: _____
Address: _____
Contact No. _____