

Department of Chemistry
Indian Institute of Engineering Science and Technology, Shibpur
Howrah-711 103

Project Code: DRC/DST-SERB/CHEM/NDP/024/15-16

Notice Inviting Quotations

Sealed quotations are invited for the supply of (i) *Electrochemical Workstation and Related Accessories* (ii) *Gas Cylinders* (iii) *Portable liquid Nitrogen Dewar* as per the following technical specifications. The relevant bidding document can be downloaded from the website. The document can be also obtained from the Department of Chemistry (Contact : Dr. Nanda Dulal Paul) between 10.30 a.m. and 3.00 p.m. on all working days **from 27th May, 2016 to 10th June, 2016**. Last date of submission of sealed quotation is **10th June 2016 by 3.00 p.m.**

Dean (R & D)

(A. Code DRC-T018/16-17)

This is downloadable

Indian Institute of Engineering Science and Technology, Shibpur



BIDDING DOCUMENT

(Project Code: DRC/DST-SERB/CHEM/NDP/024/15-16)

Ref.: Advt. No. CH 1201, published in “The Times of India, Kolkata” and “Ei-Samay”, dated 30.05.2016

For Supply of

- (i) Electrochemical Workstation and Related Accessories*
- (ii) Gas Cylinders*
- (iii) Portable liquid Nitrogen Dewar*

Under

DST-SERB Project Scheme
Govt. of India (New Delhi)

Department of Chemistry

May 26, 2016

SECTION-I: General Conditions and Important Instructions for Bidders

1. Bidders are to submit the original tender documents with technical specifications and price details in sealed envelope after accepting the terms and conditions to **Dr. Nanda Dulal Paul, Assistant Professor, Department of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur, Howrah – 711 103, West Bengal, India.** All the sealed envelopes should be placed in a common sealed envelope, superscripted with the **Ref. Advertisement No. and date along with the bidders name and address.**

2. All bids should be submitted in ONE-BID (TECHNO-COMMERCIAL BID) Format in covers (Enquiry Number must be mentioned on cover).

TECHNO-COMMERCIAL BID - giving Detailed Specifications, International Standards

(BIS/INTERNATIONAL), Catalogues, List of users & Technical Details / Operating Parameters, Pre-Installation Requirements, payment terms, warranty, etc. along with PRICE BID - giving full Prices in Indian Rupees and/or in foreign currency for

(a) Main Equipment.

(b) Essential Accessories & Spares.

The contents of the envelope (Techno-commercial Bid) should be mentioned on its top. All the sealed envelopes should be placed in a common sealed envelope, superscripted with the Ref. Advertisement No. and date along with the bidders name and address.

3. Important Dates and Times

- Last Date and Time for submission of bids: **3:00 p.m. on Friday, June 10, 2016.**
- Date & Time of Bid opening: **2:00 p.m. on Tuesday, June 14, 2016.**

4. Bid Price

- The price shall be quoted **item-wise separately** for the items as described in the Annexure, and for the full quantity of each item.
- Interlineations, corrections, erasures and/or over writings shall be valid only if initialed by the persons or persons signing the bid.
- Applicable Sales Tax/ CST/VAT must be clearly stated. **All duties, taxes, freight, insurance, delivery charges and other levies** payable by the contractor under the contract **shall be included in the quoted price.**
- The quoted price shall include additional charges, if any, for all comprehensive warranty extended up to the period mentioned in clause 5 below.
- The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The Prices should be quoted **in Indian Rupees** and also in **Foreign Currency**, if required.
- Discount offered, if any, and conditions thereof must be clearly stated in the bid itself.

5. Customs Duty & Excise Duty

- The Institute may not issue any C or D form availing of concessional Sales Tax/VAT.
- The Institute may issue any Customs Duty Exemption Certificate or Excise Duty Exemption Certificate for any of the items mentioned in Clause 1 above.

6. Warranty

- Warranty/guarantee for all the items of equipment/furniture supplied shall be on 'all comprehensive' basis (i.e., including repairs, replacements, maintenance, etc.).
- Minimum applicable period of all comprehensive warranty for all items of equipment shall usually be **3 (three) years** from the date of installation to the Institute, unless mentioned otherwise.
- Repairs/ replacements/ maintenance services shall normally be carried out at site, within a reasonable time, on requisition/intimation from the purchaser. In case the equipment needs to be transported to workshops, all arrangements must be made and all expenses must be borne by the supplier.

7. Submission of Bids

- A bidder shall submit quotations in **sealed envelope only, using his/their own stationery.**
- **The bidder must mention the make, model and full detail specifications of the items quoted.**

Mere copying of the specifications mentioned by the purchaser or mentioning words like "complying"/"compliant" is not sufficient.

- Envelope containing bids must bear, on the cover itself, name and full address of the bidder. Advertisement number and date & time of bid opening shall also be super-scribed on the cover.
- **For bids submitted by post or courier, it is bidder's responsibility that bids reach the purchaser's office before the scheduled time of closure of submission of bids.**

8. Validity Period of Quotation

Quotation shall remain **valid for a period not less than 60 days** after the deadline date specified for submission.

9. Evaluation of Quotations

- The Purchaser will evaluate and compare the quotations determined to be substantially responsive
i.e.,

(a) are properly signed

(b) conform to the terms and conditions, and technical specifications; and

- Evaluation of bids shall be made **item wise separately.** For this purpose, all sub-items and accessories, if any, of an item will be taken together and considered as one item.

10. Award of contract

- In the assessment/judgment and sole discretion of the Institute, the Purchaser will award the contract to the bidder,
 - (a) whose quotation has been determined to be technically and commercially acceptable, and
 - (b) who has the technical and financial capability to execute the contracts
- The bidder must have all the necessary license/certificates/tax clearance certificates from concerned authorities for carrying normal manufacturing or trading business/execution of similar projects and shall be liable to furnish them on demand by the Institute or by the authorities concerned. **These certificates need not be attached with bids but shall be produced on demand.**
- Prior to expiration of the quotation-validity-period, the award of contract/contracts by the Purchaser will be notified to the bidder/bidders, whose offer/ offers has/have been accepted. The terms of the accepted offer/offers shall be incorporated in the purchase order.

11. Delivery

- All equipment/goods to be supplied and/or installed under this contract must be delivered to and installed at the Institute on working days (except Saturday, Sunday and holiday) between 10-30 a.m. and 4 p.m.

13. Bills and Payments

- Bills and Challans in triplicate should be presented for payment within 15 days of supply /commissioning of work. No advance is paid for execution of the order except in the case of direct supply by foreign vendors. The Order No. is to be noted on both Challan and Bill. All bills are to be accompanied by order copies and Challan receipt.
- Payment will be made on submission of Proper Bills, Challans etc, by A/C Payee Cheque or L/C and no cash payment will be made under any circumstances.
- All payments are subjected to statutory deductions as and when applicable.

14. Preference will be given to reputed indigenous manufacturers having proven track record with service and maintenance capability in Kolkata/ India.

15. Indian Institute of Engineering Science & Technology (IEST), Shibpur, Howrah reserves the right to accept / reject all or any of the bids without assigning any reason whatsoever

I/We accept the above terms and conditions.

Signature of the Bidders with date and seal

SECTION II: TECHNICAL SPECIFICATIONS

(i) Specifications for: *Electrochemical Workstation and Related Accessories*

Multichannel Potentiostat Galvanostat

Provision for multichannel system for upto 08 or higher potentiostat galvanostat in one single chassis. It should be possible to control all the channels through at least two PCs. System should have provision to add different modules such as QCM, Bipot, EIS and Multiplexer and additional electrometer for temperature, potential measurement. Each channel should have following specifications. Price for each should be quoted separately.

No of Channels: **1**

Potentiostat Galvanostat Specifications:

Compliance voltage: ± 12 V or better at ± 250 mA

Maximum Output Current: ± 250 mA or better at ± 12 V

Output Voltage Range: ± 10 V

Current Ranges: smallest current range: ± 20 nA to current range 50 mA

Measured current resolution: 30 nA on 10 nA full scale range

Interface: USB interface for connection with PC

EIS module: Qty 1

Hardware and software for EIS measurements in potentiostatic and galvanostatic control, over frequency range of 10 μ Hz to 1 MHz. It should be possible to perform EIS measurements over entire frequency range from 10 μ Hz to 1 MHz upto 250 mA currents. Signal generator frequency range 10 μ Hz - 30 MHz, Frequency range in 10 μ Hz - 1 MHz combination with potentiostat galvanostat. Frequency resolution 0.003%, Input range ± 10 V. Data presentation: Nyquist, Bode, Admittance, Dielectric, Mott-Schottky, Data analysis: Fit and Simulation, Find circle, Element subtraction.

Electrochemistry Cell:

It should consist of the following:

50 mL Glass cell 2no, 5mm diameter GC disc working electrode 2no, Pt wire Counter electrode 1 mm dia 40 mm length 1 no, Ag/AgCl reference electrode (Aqueous) & Ag/AgCl reference electrode (Non-Aqueous) 2 no each. Suitable Lid for the cell and purge tube with valve.

Bulk Electrolysis cell:

Cell for complete electrolysis of electroactive species in solution. Use for small-scale (<50 mL) electro-synthesis studies. It should consist of the following 50 mL standard glass vial, Pt Gauz Rectangular Working Electrode dim 20 x 20 mm with 2 cm long 1 mm dia connection wire Qty 1 no, 40 cm long, 0.5 mm dia platinum wire within a glass isolation chamber with sleeve Qty 1no, Ag/AgCl reference electrode Qty 1no.

Spectro-electrochemistry Cell:

10 path length quartz cuvette with lid for insertion of electrodes. 4 mm dia Ag/AgCl Reference Electrode 2no, Pt Gauz Rectangular Electrode dim. 6 mm x 6 mm with 1 mm dia wire on all 4 sides and 4 cm long 1 mm dia wire for connection.

Electrochemical Software:

Software should have facility to record additional signal viz EQCM, bi-potentiostat etc. Import/export ASCII. Ready-to-use Vis & Generic interface for. Net applications should be included. It should have facility to display multiple plots simultaneously. The software should support following basic electrochemical measurements: Cyclic Voltammetry, Sampled DC Voltammetry, Tafel Plots, Differential Pulse Voltammetry, Square Wave Voltammetry. Electrochemical methods like Chrono-Amperometry, Chrono-Coulometry & Chrono-Potentiometry.

Warranty: Three years from the date of installation.

Other Accessories:

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

- a. Current booster's 10A or more.
- b. Ultra low current measurement capability with at least 125 nA current resolution
- c. Software package for Corrosion studies
- d. Up gradation should be possible for BiPotentiostat for RRDE/RDE measurements.
- e. Software should have facility to record additional signal viz EQCM, bi-potentiostat, temperature etc.
- f. Interfacing with Solar Simulator should be possible.

Vendors are requested to fill the following 'compliance table'.

Para of Tender Enquiry Specification	Specification of Equipment Offered	Compliance to Tender Specification whether Yes or No (if yes, indicate the page no and put a flag also highlight the matching)	In case of noncompliance/deviation from Tender specification to be indicated in unambiguous term

*The compliance certificate along with the page no indication (i.e. required spec and availability of the page in the entire tender documents by flagging or giving page no) must be submitted with the bid for evaluation. Vendors not submitting the model/spec and their details availability in the bid documents by flagging/page no may not be considered for evaluation.

(ii) Specifications for: Gas Cylinders:

- **50 Water Liter Argon Cylinder with controller.**
Quantity: One (01)
- **50 Water Liter Carbon Dioxide (CO₂) Cylinder with controller.**
Quantity: One (01)
- **50 Water Liter Nitrogen Cylinder with controller.**
Quantity: One (01)
- **50 Water Liter Air Cylinder with controller.**
Quantity: One (01)

(iii) Specifications for: Portable liquid Nitrogen Dewar

Capacity: 20 -25 Liter
Quantity: One (01)