

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B , Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

NIT No. : IACS/SMS/PK/2019-20/73

Date: 13/11/2019

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for **Electrochemical Workstation**.

Part-I (Technical Bid) of the tender should contain technical specifications in detail as well as commercial terms and conditions. Part-II (Price Bid) should clearly indicate group-wise price, if needed, as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted in separately sealed envelopes, distinctly marked accordingly and both to be put inside another envelope, that should be sealed and superscribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Completed tender bids should reach the office of the **Registrar, Indian Association for the Cultivation of Science (IACS), 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata-700032** on or before the scheduled date and time specified below:

Tender Notice No.	NIT No. IACS/SMS/PK/2019-20/73 Date: 13-11-2019
Last date and time of submitting tender	03/12/2019, within 12.00 Noon
Pre-bid meeting(date, time & place) to discuss technical specification	25/11/2019, 2.30 PM (Room No. 202, Centenary Building IACS)
Date and time of opening tender (Technical Bids)	05/12/2019, 02.30 PM
Place of opening tender	Room No. 202, Centenary Building IACS
Date and time of opening of Price Bid	The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.
Contact	Email: praveen.kumar@iacs.res.in Tel.+91 33 2473 4971 [Ext 2168]

The technical bids will be opened first to judge/evaluate the technical specifications of the said instrument and thereafter the price bids of only technically qualified bidders will be opened.

Technical Bid Evaluation: The Technical Bids will be evaluated in the presence of the representatives of intending bidders who will be able to clarify technical aspects of their bids, if any, required by the Technical Evaluation Team.

Opening of price-bid: The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.

Please note that IACS will not provide any accommodation or reimburse any expenses to any of the bidders for attending opening of technical bid.

Quotations received incomplete or beyond the stipulated time will be summarily rejected.

Bidders should submit their past experience for supplying and successful installation of similar units to other research Institutes/Universities/other organizations in India and abroad. Please provide documentary

proofs of such successful installation and supportive documents that the instruments are running successfully.

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly superscribed as 'TECHNICAL BID' on the outer cover of the envelope as already detailed above. **It should be clearly mentioned on the envelope as "Technical Specification for Electrochemical Workstation".**

Technical Specification for Electrochemical Workstation:

Specifications for Electrochemical Workstation with Impedance Spectroscopy System with Multichannel Chassis

- o No. of channels required: 1 and Possibility to add 1 or more channels in future for Bi-Potentiostat facility/
Multichannel Facility:
- o Compliance voltage: $\pm 12V$ or better
- o Applied Potential range: $\pm 10V$ or more
- o Current Ranges: 9 Ranges, $\pm 10nA$ to $\pm 1A$
- o Low current: $1pA$
- o Applied Current: $\pm 10nA$ to $\pm 500mA$ or more
- o Voltage Resolution: $1\mu V$ or better
- o Voltage Accuracy: $\pm 0.03\%$ of setting
- o Current Resolution: $760fA$
- o Current Accuracy: $\pm 0.03\%$ of setting
- o Potentiostat Rise/Fall time: $< 500ns$ or better
- o Acquisition speed/ Data Sampling: 1,000,000 samples/second or better
- o Frequency range: $10\mu Hz$ -6MHz or more
- o AC Amplitude: 0.5mV to 2V
- o Bandwidth of electrometer: 8MHz or better
- o Input Impedance: $1T\Omega$
- o Cell connection/Electrode Configuration: 2, 3, 4 or 5 Terminal Leads (+ ground)
- o Floating Mode: $10M\Omega$ || $10nF$
- o Grounded Mode: $< 10k\Omega$
- o Analog Filtering: low pass 4 poles sellen-key filters - 5Hz, 1kHz, and 50kHz
- o Auxiliary inputs/outputs: 2 Analog Inputs and 1 Analog Output, 2 Digital Inputs and 1 Digital Output to control external accessories like RRDE, Temperature Probe, Temperature and Humidity Chambers, etc.
- o Calibration Board: Calibration of potentiostat channel with cables should be available on-site and calibration reports must be printed as on when required.
- o Interface: Ethernet LAN /USB

Software's required

- o *Fundamental Electrochemistry – OCV, CV, LSV, Batteries, Fuel cell/photovoltaic testing Techniques*
- o *GEIS, PEIS -Electrochemical Impedance Spectroscopy Technique*
- o *Corrosion software including LPR, Tafel, etc.*
- o *Pulse software including DPV, NPV, RNPV, SWV, etc*
- o *Equivalent EIS fitting circuit software*
- o *Analysis tools for Corrosion Rp and Tafel Fit, battery CED fit*
- o *3D View should be available*
- o *Should include Drift Correction in the EIS Technique which corrects the drift of the system. It needs to be used when the system has not reached its steady-state regime (specifically for low frequencies measurements)*
- o *Should include EIS Quality Indicators for an Impedance experiment validation and should fulfill various requirements for THD (Total Harmonic Distortion), NSD (Non-Stationary Distortion) and NSR (Noise to Signal Ratio)*
- o *OEM Package and Lab View drivers should be available*

Accessories.

- o *A Laptop/Computer with I-5 Processor, 8GB RAM, 1TB HDD with Windows 10 or higher along with Online UPS should be supplied with the Instrument for Data collection.*
- o *Three electrode electrochemical cell with Suitable Lid for the cell and purge tube with a valve*
- o *Pt& GC disc working electrode: 2 No. each*
- o *Pt wire Counter electrode: 2 No. each*
- o *Ag/AgCl reference electrode (Aqueous): 2 No.*
- o *Ag/AgCl reference electrode (Non-Aqueous): 1 No.*

WARRANTY – Three years.

AMC Charges should be mentioned in quotation and after the end of warrantee. AMC should be applicable as per quotation. Service Facility within India is a must, while service engineering stationed at Kolkata will be preferred.

Delivery and Taxes:

- Door delivery
- All Custom duty and service taxes must be paid by the respective company.

A compliance table (see below) must be prepared and submitted along with the technical bid.

Sr. No	Tender specification	Your offered instrument specification	Extent of compliance

Tender will not be accepted if the technical compliance chart is NOT provided following the above format.

2. PRICE BID

The financial bid indicating (item-wise) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope duly super scribed as 'PRICE BID' on the outer cover of the envelop as already detailed above. Price bids of only technically qualified bidders will be opened and they will be intimated the date and time of the opening of price bid at their e-mail ids. Rest of the bidders will stand rejected.

PRICE: Price to be quoted on CIF Kolkata and also FOB basis.

3. BID SECURITY:

An Account payee Demand Draft of any of the Commercial Banks for Rs. 20,000/- (Rupees twenty thousand only) drawn in favour of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)" is to be furnished by the bidders alongwith Technical Bid, except Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department.

Alternatively, the bidder shall have the option to furnish EMD in the form of Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks. The Bid-Security should have at least 90 (ninety) days validity period beyond the final bid validity period.

In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

4. PERFORMANCE SECURITY:

An Account Payee Demand Draft on any commercial bank of India or Bank Guarantee (BG) of any Commercial Bank preferably located at Kolkata of 10% of the order value in the name of "Indian Association for the Cultivation of Science" is to be furnished by the successful bidder as Performance security. Performance security money should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money or EMD will be refunded to successful bidder on receipt of the Performance security money.

5. TERMS OF PAYMENT:

Payment will be made through irrevocable Letter of Credit in two instalments. 90% of the money will be released on submission of shipping of documents. Remaining 10% will be released after successful installation of the instrument.

6. GENERAL INSTRUCTIONS:

1. Validity of tender: Tender submitted should remain valid for at least six months from the date of opening the tender. Validity beyond six months from the date of opening of the tender shall be lapsed by mutual consent.
2. The tender should accompany a compliance chart.
3. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
4. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the institute website. Prospective bidders are advised to occasionally visit the website (www.iacs.res.in/tender) for any amendment.
5. Installation/Demonstration/Application training at site: Installation & user training at IACS, free of cost by the supplier.
6. Service facility: In India, preferably Kolkata, supplier should mention their details of service setup and man powers who are responsible for after sales support. Response time should be within 24 hrs.
7. The model number, make and a printed literature of the product should be submitted positively.
8. Proposed delivery schedule should be mentioned clearly.
9. Manufacturers / exclusive distributors / vendors should have history of supplying this type of instruments to this or other scientific organizations. Availability of a list in this regard would be preferred.
10. Authorized dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
11. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
12. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of the technical bids will be the following working day at the appointed time.
13. In case of any dispute, the decision of IACS authority shall be final and binding on the bidders.
14. In case of any litigation the matter will be dealt within the jurisdiction of the High Court of Calcutta only
15. For any clarification regarding technical specifications, information etc., please send your queries to **Dr. Praveen Kumar** (praveen.kumar@iacs.res.in).
16. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Acting Registrar