

**INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A & 2B, Raja S.C.Mullick Road, Jadavpur, Kolkata-700032**

Tender Notice No. IC/AM/14/43 dated 09.09.2014

Sealed tender in two bids system (technical bid and price bid) is invited from bonafied, resourceful and eligible manufacturer/exclusive distributor/vendors for **Electrochemical Analyzer / 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 as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted inseparately sealed envelopes, distinctly marked accordingly and both to be put inside another envelop, 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 **Department of Inorganic Chemistry, 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.	IC/AM/14/43 dated 09.09.2014
Last date and time of submitting tender	10.10.2014 at 12.30 P.M.
Pre-bid meeting to discuss technical specification	22.09.2014 at 11.30 A.M.
Date and time of opening tender	10.10.2014 at 3.30 P.M.
Place of opening tender	In the office of Dr.Amit Majumdar, Dept. Of Inorganic Chemistry, IACS
Contact	e-mail: icam@iacs.res.in Tel.+91 33 2473 4971 [Ext. 1165]

The **technical bids** will be opened first to judge/evaluate the technical specifications of the said instrument 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.

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly super scribed as 'TECHNICAL BID' on the outer cover of the envelope as already detailed above.

Technical Specifications for Electrochemical Analyzer / Workstation

General specifications:

1. The Electrochemical Analyzer / Workstation and the accessories should be manufactured and sold by the same parent company or its agents.
2. Stable and accurate potential and current control, dual channel data acquisition at high speed.
3. Windows based acquisition software, including power supply, interface Cable for USB port, cell cable, manuals.
4. The Electrochemical Analyzer / Workstation must include all of the following measurement techniques and related accessories:
 - (i) Cyclic Voltammetry (CV)
 - (ii) Linear Sweep Voltammetry (LSV)
 - (iii) Chrono Amperometry (CA)
 - (iv) Chrono Coulometry (CC)
 - (v) Differential Pulse Voltammetry (DPV)
 - (vi) Normal Pulse Voltammetry (NPV)
 - (vii) Square Wave Voltammetry (SWV)
 - (viii) Bulk Electrolysis with Coulometry (BE)
 - (ix) Open Circuit Potential . Time (OCPT)
 - (x) CV simulator
 - (xi) IR Compensation
 - (xii) External Potential Input
 - (xiii) Auxiliary Signal Measurement Channel
5. **Electrochemical Cell System** must include at least one unit (except multiple glass cells) for all of the following items:
 - (i) At least 4 glass cells with one Cell top
 - (ii) Pt Working Electrode
 - (iii) GC Working Electrode
 - (iv) Ag/AgCl Reference (aq)
 - (v) Ag/AgCl Reference (non aq)
 - (vi) Calomel Reference Electrode
 - (vii) Pt Wire Counter Electrode
 - (viii) Electrode Polishing Kit
 - (ix) Cell Stand
6. **Coulometry cell assembly** must include at least one unit for all of the following items:
 - (i) Teflon cell cap
 - (ii) Voltammetry, spectral cum coulometry cell
 - (iii) Pt. Working electrode
 - (iv) Pt.flag counter electrode
 - (v) Pt.wire guage WE for coulometry
 - (vi) Ag/AgCl reference electrode

Potentiostat specifications:

- (i) Zero resistance ammeter
- (ii) Standard configuration (2- or 3- or 4-electrode)
- (iii) Maximum potential: At least $\pm 10V$
- (iv) Maximum current: At least ± 250 mA continuous, ± 350 mA peak

- (v) Compliance Voltage: At least $\pm 12V$ or better
- (vi) Potentiostat rise time: At least $< 1 \mu s$
- (vii) Applied potential ranges: At least $\pm 10mV$ to $\pm 10V$
- (viii) Potential resolution: 0.002 % of potential range or higher resolution
- (ix) Potential accuracy: $\pm 1 mV$ or better
- (x) Potential noise: $< 10 \mu V$ rms or lower
- (xi) Preferred current range: At least $\pm 10 pA$ to $\pm 0.25 A$
- (xii) Preferred current resolution: 0.002 % of current range or higher resolution
- (xiii) Current measurement accuracy: Less than 0.5% (in the current range $\geq 1e-6 A/V$)
- (xiv) Input bias current: At least $< 20 pA$

Galvanostat specifications:

- (i) Galvanostat applied current range: $3nA . 250mA$ or larger range
- (ii) Applied current accuracy: Less than 0.5% (in the current range $> 3e-7 A$)
- (iii) Applied current resolution: Less than 0.05% of applied current range
- (iv) Preferred potential range: $\pm 0.025V$ to $\pm 10V$ or larger range
- (v) Preferred potential resolution: 0.002 % of measured range or higher resolution

Experimental Parameters:

- (i) CV and LSV scan rate: 0.000001 to 10,000 V/s or better
- (ii) Potential increment during scan: 0.1 mV @ 1,000 V/s or better
- (iii) CA and CC pulse width: 0.0001 to 1000 sec or better
- (iv) CA and CC minimum sample interval: 1 μsec or lower
- (v) DPV and NPV pulse width: 0.001 to 10 sec
- (vi) SWV frequency: 1 to 100 kHz
- (vii) i-t sample interval: minimum 1 μsec or lower

Other specifications :

- (i) Flash memory for quick software update
- (ii) Serial port or USB port selectable for data communication
- (iii) Cell control: purge, stir
- (iv) Digital CV simulator, user defined mechanisms

Previous records:

- (1) International installation records.
- (2) More than 10 successful installations in Kolkata or eastern region in addition to any standing purchase orders or on-going processes. Proper proof for such installations in eastern region should also be furnished.
- (3) Customer satisfaction reports for at least 5 individual users should be furnished.

Service: Local service should be available. Details of experienced service engineer including contact details should be provided.

Warranty: Minimum one year warranty with additional one year free of cost AMC

Installation: Free installation and user training

Please SUBMIT ITEMIZED QUOTES with separate pricing for each accessory.

Technical compliance chart should be provided in the following format*

Sr.No.	Tender specification	Your offered instrument specification	Extent of compliance
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Tender will not be accepted if the technical compliance chart is not provided following the above format.

User List: The supplier should provide a list of current users (with contact no. Email address etc) for the quoted item in India.

Service facility: Trained technicians should install the instrument and ensure that it is operating correctly and within specifications. User training at site should also be provided. Supplier should mention their details of service setup that are responsible for after sales support.

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 bids will stand rejected.

PRICE: Price to be quoted on CIF Kolkata basis.

3. BID SECURITY:

1. An Account payee Demand Draft/Pay Order for Rs. **20,000 /-** (twenty thousand only) drawn in favour of **Indian Association for the Cultivation of Science** is to be furnished by the bidders except those who are registered with the Central Purchase Organizations, National Small Industries Corporation or the concerned Ministry or Department, as Bid Security money or Earnest Money Deposit (EMD).
2. The Demand Draft for the Bid-Security should have at least 45 (forty five) days validity period after opening of the bids.
3. 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 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 will be refunded to successful bidder on receipt of the Performance security money.

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 the tender shall be by mutual consent.
2. The tender should accompany a compliance chart.
3. The rate should be inclusive of all taxes, transportation etc. Nothing will be paid in addition to the quoted rate.

4. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
5. 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.
6. **Payments:** 100% against delivery and successful installation or in advance subject to submission of performance guarantee.
7. **Warranty:** Minimum one year with one year free of cost AMC
8. **Installation/Demonstration/Application training** at site: Installation & user training at IACS, free of cost by the supplier.
9. **Service facility:** In 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.
10. The model number, make and a printed literature of the product shall submit positively.
11. Proposed delivery schedule should be mentioned clearly.
12. Manufacturers / exclusive distributors / vendors should have history of supplying this type of instruments to this or other scientific organizations.
13. Authorised dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
14. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
15. 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.
16. In case of any dispute, the decision of IACS authority shall be final and bidding on the bidders.
17. For any clarification regarding technical specifications, information etc., please send your queries to Dr.AmitMajumdar (E-mail: icam@iacs.res.in).
18. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

REGISTRAR

