



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

शिक्षा मंत्रालय, भारत सरकार द्वारा स्थापित
सैक्टर 81, नॉलेज सिटी, प. ओ. मनोली, एस. ए. एस. नगर, मोहाली, पंजाब 140306
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI
(Established by Ministry of Education, Govt. of India)

Sector-81, Knowledge city, PO-Manauli, SAS Nagar Mohali-140306, Punjab
PAN No. - AAAAI1781K GSTIN – 03AAAAI1781K2ZS

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CPPP/Institute Website

IISERM (1447)20/21-Pur

Dated: 10th March 2021

NOTICE INVITING E-TENDER

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for the **Supply and installation of Spectro Electrochemistry with Bi-Potentiostat/ Galvanostat with FRA and RRDE Setup with accessories** as per technical specification and details given below and BOQ list from the original manufacturer/supplier at CPPP i. e. <https://eprocure.gov.in/eprocure/app>. Tender documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website www.iisermohali.ac.in.

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Assistant Registrar (P&S)

NOTE: THIS IS A DOMESTIC TENDER ACCORDING TO THE DPIIT ORDER DATED 15/07/2017 AND SUBSEQUENT AMENDMENTS TO THE ORDER FOR PUBLIC PROCUREMENT PREFERENCE & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA. THE BIDDER REQUIRED TO DECLARE ON THE LETTER HEAD THE PERCENTAGE OF LOCAL CONTENT FOR THE QUOTED INSTRUMENT AND SUBMIT WITH THE TECHNICAL BID.



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E-TENDER NOTICE

Tender Ref.- IISERM(1447)20/21-Pur	Dated :- 10 th March 2021
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Critical Date Sections

Sr.	Description	Date	Time
1.	Tender Publishing Date and time	10 th March 2021	6:00pm
2.	Tender Document download start Date & Time	10 th March 2021	6:00pm
3.	Bid Submission start Date & Time	10 th March 2021	6:00pm
4.	Bid Submission End date and Time	01 st April 2021	Upto 11:00am
5.	Tender opening Date and Time	02 nd April 2021	At 11:30am

Online tenders are invited on behalf of the Director, IISER Mohali in **TWO BID SYSTEM** for following item(s) from the original manufacturer/supplier at CPPP i.e. <https://eprocure.gov.in/eprocure/app>. Tender documents may please be downloaded from the E-procurement portal website <https://eprocure.gov.in/eprocure/app> & Institute website www.iisermohali.ac.in. Tender fee in shape of Demand Draft of Rs 590/- (Non-refundable) and EMD of Rs. 40,000/- should be submitted by Demand Draft /FDR/ Bank Guarantee in favour of the Registrar, IISER Mohali payable at Mohali or through Online mode in Institute Account (Canara Bank Saving Account Number 4790101001912 and IFSC Code CNRB0004790) However, scanned copy of the both Tender fee and EMD should be uploaded on website along with technical bid. The hard copy of the same in original to be send to the address mentioned below duly superscribing the supply/work name and reference/ tender ID on the envelope and same must reach before opening the bid and if not received before due date the bid will be summarily rejected. **Micro & MSME/NSIC and Firms registered and the firms registered with concerned Ministries/ Departments, the bidders are exempted from payment of Tender Fee/EMD as per GOI notifications/GFR (2017) and Ministry of Finance OM No. F.9/4/2020-PPD dated 12 November 2020.**

MSME/NSIC bidders are exempted from payment of Tender Fee/EMD as per GOI notifications/GFR (2017). Bidders will also be required to execute bond/undertaking Bid Security Declaration Form attached as ANNEXURE-I for availing exemption to submit EMD.

The Original EMD and Tender Fee should be sent to:

Assistant Registrar (P&S)
Indian Institute of Science Education and Research Mohali
Sector-81, Knowledge City, SAS Nagar, Mohali, Punjab,
India, Pin: 140306

Non-receipt of original EMD and Tender Fee will lead to rejection of tender.

ITEM WISE DETAILS

Sr.	Description	Qty. (in units)
1.	<p data-bbox="245 255 1345 322">Supply and installation of Spectro Electrochemistry with Bi-potentiostat/ Galvanostat with FRA and RRDE Setup with accessories</p> <p data-bbox="245 383 284 416"><u>(I)</u></p> <p data-bbox="245 434 588 468"><u>Technical Specifications:</u></p> <p data-bbox="264 486 676 519">1) <u>Potentiostat/Bipotentiostat</u></p> <ul data-bbox="320 524 1310 1178" style="list-style-type: none">a. Zero resistance ammeterb. 2- or 3- or 4-electrode configurationc. Floating (isolated from earth) or earth groundd. Maximum potential: ± 10 Ve. Maximum current: ± 200 mAf. Compliance Voltage: $> \pm 11$ Vg. Potentiostat rise time: $< 1 \mu\text{s}$, $0.8 \mu\text{s}$ typicalh. Potentiostat Bandwidth (-3dB): 1 MHzi. Applied potential resolution: 0.0015% of potential rangej. Applied potential accuracy: ± 1 mV, $\pm 0.01\%$ of scalek. Applied potential noise: $< 10 \mu\text{V}$ rmsl. Measured current range: ± 10 pA to ± 0.25 A in 12 rangesm. Measured current resolution: 0.0015% of current range, minimum 0.3 fAn. Current measurement accuracy: 0.2% if current range $\geq 1 \times 10^{-6}$ A/V, 1% otherwiseo. Input bias current: < 25 pAp. The Instrument should be upgradable in SECMq. If instrument current range is in nA then add picoampbooster <p data-bbox="264 1218 472 1252">2) <u>Galvanostat</u></p> <ul data-bbox="320 1256 1235 1397" style="list-style-type: none">a. Galvanostat applied current range: 3 nA - 200 mAb. Applied current accuracy: 20 pA $\pm 0.2\%$ if $> 3 \times 10^{-7}$ A, $\pm 1\%$ otherwisec. Applied current resolution: 0.03% of applied current ranged. Measured potential resolution: 0.0015% of measured range <p data-bbox="264 1438 485 1471">3) <u>Electrometer</u></p> <ul data-bbox="312 1476 1086 1581" style="list-style-type: none">a. Reference electrode input impedance: 1×10^{12} ohmb. Reference electrode input bandwidth: > 8 MHzc. Reference electrode input bias current: ≤ 10 pA @ 25°C <p data-bbox="264 1621 654 1655">4) <u>Experimental Parameters</u></p> <ul data-bbox="320 1659 1326 2094" style="list-style-type: none">a. CV and LSV scan rate: 0.000001 to 10,000 V/sb. Potential increment during scan: 0.1 mV @ 1,000 V/sc. CA and CC pulse width: 0.0001 to 1000 secd. CA and CC minimum sample interval: 1 μse. True integrator for CCf. DPV and NPV pulse width: 0.001 to 10 secg. SWV frequency: 1 Hz to 100 kHzh. i-t sample interval: minimum 1 μsi. ACV frequency: 0.1 Hz to 10 kHzj. SHACV frequency: 0.1 Hz to 5 kHzk. FTACV frequency: 0.1 Hz to 50 Hz, simultaneously acquire 1st, 2nd, 3rd, 4th, 5th, and 6th harmonics ACV data	01

- l. IMP frequency: 0.00001 Hz to 1 MHz
- m. IMP amplitude: 0.00001 V to 0.7 V rms

5) **Other Features**

- a. Automatic and manual iR compensation
- b. Current measurement bias: full range with 16-bit resolution, 0.003% accuracy
- c. Potential measurement Bias: $\pm 10V$ with 16 bit resolution, 0.003% accuracy
- d. External Potential Input
- e. Digital input/output lines programmable through macro command
- f. CV simulation and fitting program, user-defined mechanisms
- g. RDE control output : 0-10 V (corresponding to 0-10000 rpm), 16-bit, 0.003% accuracy

6) **Required Techniques**

- a. Cyclic Voltammetry (CV)
- b. Linear Sweep Voltammetry (LSV) with stripping
- c. Chrono Amperometry (CA)
- d. Chrono Coulometry (CC)
- e. Differential Pulse Voltammetry (DPV) with stripping
- f. Normal Pulse Voltammetry (NPV) with stripping
- g. Square Wave Voltammetry (SWV) with stripping
- h. Bulk Electrolysis with Coulometry (BE)
- i. Open Circuit Potential – Time (OCPT)
- j. Limited version of CV simulator
- k. IR Compensation
- l. External Potential Input
- m. Auxiliary Signal Measurement Channel

7) **Software**

- a. Licensed & Full version Software Features: 32-bit Windows-based software
- b. Multi-document interface: Open, save, delete, list, conversion, and print files
- c. Run, macro, iR compensation, filtering, preconditioning, step functions, and cell control
- d. Data plot, overlay and parallel plots, Graphics options, color and font selections Smoothing, derivatives, integration, semi-derivative and semi-integral, interpolation, baseline fitting & subtraction,
- e. linear baseline correction, data point removing, data point modification, background subtraction, signal averaging,
- f. mathematical operation, Fourier spectrum Calibration curve, standard addition, data file report, concentration – time dependence report and plot Digital simulation, user defined mechanisms Data information, data listing, equations, clock, toolbar, status bar Context sensitive help Purge, knock, stir controls for mercury electrode Maximum data length: 128K-8192K selectable.
- g. Software should have provision to measure the photovoltaic parameters I_{max} , V_{max} , Fill factor, I_{oc} , V_{oc} , P_{max} .
- h. CV simulation Digisim or equivalent

(II)

RRDE -3A Rotating Ring Disk Electrode Apparatus Compatible to Above

Electrochemical Analyzer

- a. Compact design & easy operation
- b. Operable as RDE and RRDE
- c. Remote and manual controlled rotation and gas purge
- d. Allows remote control from the PC (rotational speed ON/OFF and gas purge ON/OFF)
- e. Rotational speed range 100~7,000 rpm (2000 to 3000 rpm or less is recommended when using DRE)
- f. Speed and purge time displayed by LCD display
- g. "Model name", "Enclosure version" and "Cumulative total rotation time of the motor" displayed by LCD display
- h. "Cleaning" and "Replacement" alert displayed by LCD display
- i. Gas line connector is available
- j. Purge valve timer control ON/OFF (can be set up to 9999 seconds)
- k. Cell lead connects to all potentiostats
- l. Open architecture for easy access to cell
- m. Shaft is completely insulated for the motor by coupling unit to reduce motor noise
- n. In the shaft assembly, the inner and outer tube is completely insulated by Teflon spacer to reduce noise

Rotation stability	Error, < 1% at 100 to 1,000 rpm < 0.5% at > 2,000 rpm
Ring/Disk insulation resistance	> 10 M ohm
Electrode to lead pin contact resistance	5 ohm
Rotator shaft	Stainless steel
Motor	12 V, ironless core, low inertial DC servo
Power	100-240 VAC, 50/60 Hz
Operating temperature	10 to 50 deg C
Relative humidity	≤ 80%
Inlet gas pressure	5 psi (34 Kpa) maximum
Remote control	One volt corresponds to 1,000 rpm Motor ON/OFF TTL or relay input to back panel connection Purge TTL or relay input to back panel connection

(III)

Accessories Required to quote along with above analyzer and RRDE:

1.	Four Glass cells with one Cell top with 1 cell stand	1No.
2.	2 mm Platinum working Electrode	03 No.
3.	3 mm Glassy Carbon Working Electrode	03
4.	Ag/AgCl Reference with vycor frit(aq)	03
5.	Ag/AgCl Reference with vycor frit (non aq) (Pack of 3)	03

6.	Platinum wire counter Electrode	03
7.	Calomel Reference Electrode(SCE)	03
8.	Electrode Polishing Kit	03
9.	RDE GCE Glassy carbon disk electrode ID:3.mm, Length: 25mm	02
10.	RDE PTE Platinum disk electrode ID:3.mm, Length: 25mm	01no.
11.	RRDE Pt ring/GC disk electrode Ring: OD:7mm,ID:5.mm Disk: ID:4.mm Length: 25 mm	01no.

(IV)

Additional compatible Accessories to quote:

1. Spectroelectrochemical Cell with Teflon cap for 90 deg and 180 deg, with Provision for counter, reference and working electrode
Spectro electrochemical Pt. Grid electrode
Pt. Grid 3cmx0.95mm square, total height 6cmpt.rod 1mm
 - a. Pt. Wire Counter for SPEL 1mm thickness x 6cmhigh
 - b. Approx weight ~ 2.15 grams
Purity 99.95% minimum
SPEL cell, supplier should undertake to integrate with existing spectrophotometer
Cuvettes 1cm, 8 no.s
2. Platinum Flag Counter Electrode for Bulk Electrolysis **01**
3. Platinum Wire Gauze Working Electrode for Bulk Electrolysis **01**
4. Compatible Computer with UPS **01**

(V)

Warranty One year from the date of Installation. Extended Warranty for two years needs to be quoted separately.

(VI)

AMC after warranty period needs to be quoted separately: Bidders are required to quote for AMC for two years.

A) IMPORTANT NOTES:-

- I. **THIS IS A DOMESTIC TENDER ACCORDING TO THE DPIIT ORDER DATED 15/07/2017 AND SUBSEQUENT AMENDEMENTS TO THE ORDER FOR PUBLIC PROCUREMENT PREFERENCE & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA.**
- II. **The online updated Price BOO is in INR format.**
- III. **The Online bids should be submitted directly by the original manufacturer/supplier. If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company.**

IV. **All MSME/NSIC/Startup Units shall be considered as per provisions/rules prescribed by Govt of India.**

V. **Auto-extension of last date for E-Tenders has been activated by CPP Portal which has participation 2 bids or less.**

B) SUBMISSION OF TENDER

- I. All bid/ tender documents are to be uploaded online at Central Public Procurement portal i.e. <https://eprocure.gov.in/eprocure/app> only and in the designated cover/ part on the website against tender ID. Tenders/ bids shall be accepted only through online mode and no manual submission of the same shall be entertained except tender fee and EMD. Late tenders will not be accepted.
- II. The online bids shall be opened at the office of the Assistant Registrar (P&S), IISER Mohali, on above given date and time. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be attended on the next working day at same time and place. IISER Mohali will not be responsible for any error like missing of schedule data while downloading by the Bidder.
- III. The bidder shall upload the tender documents duly filled in and stamped by the authorized signatory on each and every page. Tender not submitted/uploaded in the prescribed form and as per the tender terms and conditions shall be liable for rejection.
- IV. The bidder shall upload scanned copy of the PAN Card, GST number duly signed and stamped. **Also bidders applying against ‘MSME/NSIC Certificate’ issued by appropriate Authority, should ensure that the certificate attached is relevant to the area of service/supply. For example, If the tender is for “supply & installation of Desktop” the certificate should be issued for activity/area of “Computer supply and services activities etc” otherwise bid will be REJECTED without notice.**
- V. E-procurement system ensures locking on the scheduled date and time. The system will not accept any bid after the scheduled date and time of submission of bid.

C) INSTRUCTIONS

1. The Online bids should be submitted directly by the original manufacturer/supplier, If quotation is submitted/filled by any representative/agent/dealer then they must upload a authority certificate from the principal company for quoting the price otherwise such quotation will be rejected.
2. The quantity mentioned in this inquiry is and shall be deemed to be only approximate and will not in any manner be binding on the Institute. Before the deadline for submission of the online bid, IISER Mohali reserves the right to modify the tender document terms and conditions. Such amendment/modification will be notified on website against said tender ID.
3. The rates offered should be FOR Chandigarh/Mohali in case of firms situated outside Chandigarh/Mohali, and free delivery at the Institute premises in case of local firms. Supplier from outside India should mention the Ex-works/FOB/FCA/CIF/CIP price clearly. Conditional tenders will be summarily rejected.
4. In case of Ex-godown terms the amount of packaging forwarding freight etc. should clearly be indicated by percentage or lump sum amount. Institute has policy not to make any advance payments towards any purchase, Letter of credit can be opened if required.
5. THE INSTITUTE IS EXEMPTED FROM CUSTOM DUTY under notification no- TU/V/RG/-CDE(1062)/201 CUSTOM DT.30.08.2016.
6. Tax: This Institute is not exempted from the payment of GST. The current rate (i.e. percentage of GST should be clearly indicated included or excluded) wherever chargeable. Please also provide/upload the copy of PAN card, GST number duly self-attested.
7. Concessional GST is applicable for all the items purchased for Research labs vide Ministry of Finance, notification no. 45/22017 dated 14.11.2017 and 47/2017 dated 14.11.2017.
8. Bidder/s quoting in currency other than **Indian Rupee (INR)** should explicitly mention the currency in which tender quoted wherever applicable in **Technical Bid** along the tender documents.
9. The delivery period should be specifically stated. Earlier delivery will be preferred.

10. The firms are requested to provide/upload detailed description and specifications together with the detailed drawings, printed leaflets and literature of the article quoted. The name of the manufactures and country of manufacture should also invariably be stated. In the absence of these particulars, the quotation is liable for rejection.
11. Validity of offer: 90 days. The warranty period after satisfactory installation should be mentioned and firm should replace all manufacturing defect parts/ whole item under warranty without any extra cost including clearance, freight, taxes. Security deposit/ Bank Performance Guarantee @ 3% of the value of supply order, in terms of *Ministry of Finance, DoE, GOI, OM. No. F.9/42020-PPD dated 12-11-2020 and* as per norms may be sought from the firms.
12. The right to reject all or any of the quotation and to split up the requirements for itemized L-1 or relax any or all the above conditions without assigning any reason is reserved by the IISER Mohali. For any corrigendum and addendum please checked the website <https://eprocure.gov.in/eprocure/app> and <http://www.iisermohali.ac.in>
13. Disputes, if any, shall be subject to jurisdiction in the court of Mohali only.

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Assistant Registrar (P&S)

ANNEXURE-I

Bid Securing Declaration Form

Date: _____ E-Tender No. _____ E-Tender ID _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders. I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)
in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration)
Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)
Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

PS: *Furnish the above in original stationary/letter head with signed and sealed.*