

**School of Chemical Sciences
Central University of Haryana, Mahendergarh, Haryana
Limited Tender Enquiry**

Sealed tenders (Technical and Financial) are invited for the following scientific equipment so as to reach the undersigned latest by 11 October, 2019.

The last date has been extended to 29th October, 2019.

Instructions to Suppliers:

Two types of quotations are to be submitted: Technical and Financial.

Technical Quotations should contain all details of technical specifications of the equipment including manufacture and model details along with commercial "Terms and Conditions, warranty and delivery schedule". The quote should be valid for a minimum of 120 days from the due date.

Pictures of the actual model of the instrument must be attached showing manufactured balance with similar specifications as above with logo or name of the company on the equipment.

Authorization certificates from the Principal manufacturer, if any, must be provided.

Proprietary certificate for any proprietary or patented item must be provided, if any.

Unique features of the equipment maybe highlighted along with their applications and advantages over other available models.

A user list of at least 10-20 users of the model quoted (who have installed and used the instrument successfully for considerable period) with institute name e-mail IDs or phone nos. should also be appended.

Please include point-wise technical compliance statement and attach original technical literature/brochure in support of the claims. Alternatively, the website of the principal manufacturer should also show similar specifications.

Financial Quotations should contain price of the equipment, discount if any, packaging and forwarding charges, Air Freight and insurance charges, and any other applicable charges. The price quoted should be either CIP, New Delhi or F.O.R destination against customs duty exemption certificates provided by the buyer and inclusive of standard installation.

The supplier should seal both the quotations in separate covers. Both these sealed covers are to be put in a separate bigger envelope, which also be sealed and superscripted.

Institute reserves the right to order equipment with better quality and suitability over lower price and to accept or reject any or all quotations without assigning reasons thereof.

The Institute also reserves the right to request for free demonstration of the quoted items for technical acceptability as per the tender specification at the user's location.

The tender may also be cancelled without providing reasons.

Details of the Tender Fee and EMD

Sr. No.	Instrument	EMD (Bundle wise)
1	Electrochemical Workstation with Accessories	Rs. 25000/-

Tender Fee Rs. 500/- and EMD separately in the form of Demand Draft in favor of "Central University of Haryana" payable at Mahendergarh

(Dean, School of Chemical Sciences)

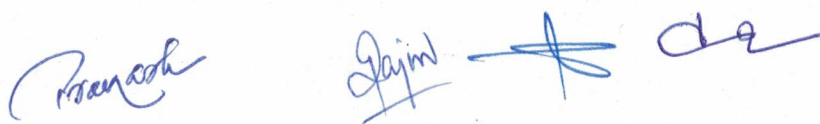
PC Controlled Multi-Channel Potentiostat Galvanostat with RRDE and Bi-pot setup

Multichannel System should have facility to accommodate 10 or more Potentiostat/Galvanostat in one single chassis. **It should be possible to control individual channels through separate PCs.**

No of Channels: 1 nos. with a capability to accommodate Bipot modules at a time (each module dedicated with each channel) and should have the provision to upgrade in future with additional channels with appropriate modules such as EIS, high current booster, multiplexer, pX/temperature measurement hardware, Multi Electrode Array Measuring assembly at any given point of time as and when required. The supplier should clearly mention the required laboratory environment (temp and humidity) for smooth running of the equipment.


System should be upgradable with 10A booster in future with maximum current resolution of 0.0003%

S.N.	Specifications																																
1	Channel: 1 Nos. Each channel should have following hardware specifications																																
2	<table><tr><td>Compliance voltage</td><td>± 20 V or better</td></tr><tr><td>Current</td><td>±400 mA or better</td></tr><tr><td>Current Ranges</td><td>10 nA (without gain amplifier) to 100 mA or better</td></tr><tr><td>Applied Potential</td><td>±10 V or better</td></tr><tr><td>Potentiostat Gain bandwidth</td><td>1 MHz or better</td></tr><tr><td>Bandwidth of electrometer</td><td>> 4 MHz or better</td></tr><tr><td>Input Bias current</td><td>< 1 pA or better</td></tr><tr><td>Resolution of measured potential</td><td>3 µV or better</td></tr><tr><td>Resolution of measured current</td><td>0.0003% of current range or better</td></tr><tr><td>Resolution of 10 nA range Current</td><td>30 fA or better</td></tr><tr><td>Input impedance of electrometer</td><td>>80 GOhm // 8 pF or better</td></tr><tr><td>Potentiostat rise/fall time</td><td>< 300 nS or better</td></tr><tr><td>D/A Converter</td><td>Three channel, 16 bit</td></tr><tr><td>IR Compensation</td><td>Yes</td></tr><tr><td>Electrode Connection</td><td>4 (WE, S, CE and RE)</td></tr><tr><td>Interface to PC</td><td>USB</td></tr></table>	Compliance voltage	± 20 V or better	Current	±400 mA or better	Current Ranges	10 nA (without gain amplifier) to 100 mA or better	Applied Potential	±10 V or better	Potentiostat Gain bandwidth	1 MHz or better	Bandwidth of electrometer	> 4 MHz or better	Input Bias current	< 1 pA or better	Resolution of measured potential	3 µV or better	Resolution of measured current	0.0003% of current range or better	Resolution of 10 nA range Current	30 fA or better	Input impedance of electrometer	>80 GOhm // 8 pF or better	Potentiostat rise/fall time	< 300 nS or better	D/A Converter	Three channel, 16 bit	IR Compensation	Yes	Electrode Connection	4 (WE, S, CE and RE)	Interface to PC	USB
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3	RRDE with Bipot Setup: System should be supplied with four electrode setup (Bi-pot; WE: ring/disk) a Rotating Ring Disk Electrode (RRDE) Setup including Cell, RRDE Rotator, controller, electrode cable. Compatible RRDE tips of Glassy Carbon Pt ring. <table><tr><td>Motor speed range</td><td>100-10,000 RPM</td></tr><tr><td>Maximum current</td><td>500 mA</td></tr><tr><td>Acceleration/deceleration</td><td>3500 RPM/s or better</td></tr><tr><td>Speed Setting</td><td>1 RPM steps</td></tr></table>	Motor speed range	100-10,000 RPM	Maximum current	500 mA	Acceleration/deceleration	3500 RPM/s or better	Speed Setting	1 RPM steps																								
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4	Software The system software must have capability for hybrid measurements such as Spectro-electrochemistry, E-SPR, SECM, IMPS-IMVS, EQCM, etc. It should have TTL triggering, ADC, DAC based communication ports. The Software must be able to be downloaded to unlimited computers, free updates & fully windows based. Software should be capable of supporting a wide variety of electrochemical techniques as mentioned below: Corrosion: Linear polarization with Tafel Slope Analysis, Polarization resistance evaluation, Electrochemical Noise analysis, critical pitting technique, electrochemical frequency modulation , hydrogen permeation analysis etc. Battery & Supercapacitor Analysis: Rectangular CV analysis at varying scan rates for pseudo capacitor analysis, complete charge and discharge with built in integration and 'linkable' cut-offs, Galvanostatic charge discharge with cycle number vs specific capacitance plot, Voltage measurement on counter electrode, GITT, PITT, etc. Solar Cell / Fuel Cell Studies: Linear polarization, I-V plotting with automatic determination for max power point & fill factor, IMPS-IMVS evaluation, EQE / IPCE Analysis, Charge extraction, Photo-current response, Mott-Schottky plots for single frequency scan, automated band-gap analysis, etc. Electro-catalysis / Electro-deposition: ORR analysis using RDE/RRDE at varying rotation																																



	<p>speeds and built-in Kotecky-levich plot generation, HER and OER Tafel based analysis for water splitting, Carbon dioxide reduction analysis, default plug-n-play protocol for spectro-electrochemistry based LSV, CV and Chrono evaluation, Galvanostatic CV and Chrono, ASV, DPSV, etc.</p> <p>Trace Metal Analysis / Polarography: DPSV, ASV, Chrono Coulometry, etc.</p> <p>Sensors: Automated one-click protocol for CV and LSV analysis at varying scan rates, fully automated single click amperometric detection protocol, EIS measurement with real-time equivalent circuit fit option, etc.</p> <p>3D Based Live Plotting: Powerful graphic engine with useful features such as vector graphics, individual axis scaling, overlays, multiple Y-axes, plot addition, real-time 3D with zooming and rotation. Minimum 10+ plot could be plotted simultaneously.</p>	
5	Computer: System should be supplied with suitable and compatible PC with the system.	
6	Warranty:	Warranty minimum 03 Years from date of installation.
7	Installations & training	Installation, Commissioning and On-Site Training included
8	Note	Original documents supporting the specifications should be provided
	Compliance statement	With soft copy - point wise according to our document
	User List	Provide user list with contact (address and Phone) details where the quoted model has been installed in last 5 years.
9	Electrochemical Cell setup (1 set including)	Quantity
	Cell vessel with lid (15-20ml, 50ml, 90-100ml)	3
	GC disk Electrode 2mm	1
	Pt. wire counter electrodes	1
	Ag/AgCl reference	1
	Electrode polishing kit	1

Pranesh

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Terms and Condition:

1. Force Majeure: The supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
 - i. For purpose of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
 - ii. If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
2. Risk Purchase Clause: In the event of the failure of supply of the items/equipments within the stipulated delivery schedule, the purchaser shall have all the rights to purchase the item/equipment from other source on the total risk of the supplier under risk purchase clause.
3. Packing Instructions: Each package should be marked on three sides with proper paint/indelible ink, the following:
 - i. Item Nomenclature
 - ii. Order/Contract No.
 - iii. Country of origin of goods
 - iv. Supplier's name and address
 - v. Consignee details
 - vi. Packing list reference number
4. Delivery and Documents: Delivery of the goods should be made within a maximum period of 12 weeks from the date of placement of purchase order. Within 24 hours of shipment, the supplier shall notify to the purchaser and the insurance company in writing or by fax/email the full details of the shipment including contract number, railway receipt number / AAP etc. and date, description of goods, quantity, name of the consignee, invoice etc. The supplier shall mail the following documents to the Purchaser with a copy to the insurance company:
 - i. Four copies of the Supplier invoice showing contract number, goods' description, quantity
 - ii. Unit price, total amount
 - iii. Acknowledgement of receipt of goods from the consignee(s) by the transporter
 - iv. Insurance Certificate, if applicable
 - v. Manufacturer's/Supplier's warranty certificate
 - vi. Inspection certificate issued by the nominated inspection agency, if any
 - vii. Supplier's factory inspection report, and
 - viii. Certificate of origin
 - ix. Four copies of the packing list identifying the contents of each package.

The above documents should be received by the Purchaser at least one week before arrival of the Goods (Except where the Goods have been delivered directly to the consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

5. Delayed Delivery: If the delivery is not made within the due date for any reason, the University will have the right to impose penalty @ 1% per week and the maximum deduction would be 10% of the contract value/price.
6. Notices: For the purpose of all notices, the following shall be the address of the Purchaser and Supplier. Any notice given by one party to the other pursuant to this contract/order shall be sent to



the other party in writing or by FAX/email and confirmed in writing to the other party's address. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

Purchaser: Dean, School of Chemical Sciences

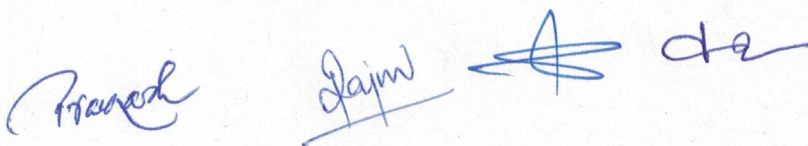
Intender: Dr. Prakash Kanoo (PI)

Central University of Haryana, Mahendergarh, Haryana, 123031

Supplier: _____

Resolution of Disputes: The dispute resolution mechanism to be applied shall be as follows:

- i. In case of any dispute or difference arising between the Purchaser and a domestic Supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Registrar, Central University of Haryana (CUH) Mahendergarh and if he is unable or unwilling to act, to some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
 - ii. In the case of a dispute between the Purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provisions of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with the provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration rules.
 - iii. The venue of the arbitration shall be the place from where the order is issued.
7. Jurisdiction & Applicable Law: Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within Mahendergarh, Haryana. The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction i.e. Mahendergarh, Haryana, India.
 8. Defective Equipment: If any of the equipments supplied by the Supplier is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the University will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Tenderer with 18% interest if such payments for such equipments have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before Installation and/or during warranty period, shall be replaced within 45 days on receipt of the intimation from University at the cost and risk of supplier including all other charges. In extreme cases, black-listing of firm can be done on the recommendations of the Registrar.
 9. Right to use Defective goods: If after delivery, acceptance and Installation within the guarantee and warranty period, the operation or the use of goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectification of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.
 10. Supplier Integrity: The supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.
 11. Site Preparation: The supplier shall inform to the University about the site preparation, if any, needed for the Installation of equipment, immediately after the receipt of the purchase order. The supplier must provide complete details regarding space and all the other infrastructural requirements needed



for the equipment which the University should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter.

The supplier shall visit the University and see the site where the equipment is to be installed and may offer advice and render assistance to the University in the preparation of the site and other pre-installation requirements.

12. Installation & Demonstration: The equipment or machinery has to be installed or commissioned by the successful bidder within 30 days from the date of receipt of the item at CUH. In case of any mishappening/damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site the supplier has to replace it with new equipment/supplies immediately at his/her own risk. Supplier will settle his claim with the insurance company as per his convenience. CUH will not be liable to any type of losses in any form. The supplier is also required to do the demonstration of the equipment within one month of the arrival at the CUH site of installation; otherwise the penalty clause will be the same as per the supply materials.
13. Training of Personnel: The supplier shall be required to undertake to provide the technical training to the personnel involved in the use of the equipment at the University premises, immediately after completing the installation of the equipment for a minimum period of one week at the supplier's cost.
14. Manuals and Drawings:
 - i. Before the goods and equipments are taken over by the Purchaser, the supplier shall supply to the Purchaser operation and maintenance manuals. These shall be in such details as will enable the Purchaser to operate, maintain, adjust and repair all parts of the equipment as stated in the specifications.
 - ii. The manual should be in ruling language (English) in such form and numbers as stated in the contract.
 - iii. Unless otherwise agreed, the goods/equipments shall not be considered to be completed for the purposes of taking over until such manuals and drawing have been supplied to the Purchaser.
15. Downtime: During the warranty period not more than 5% downtime will be permissible. For every day exceeding permissible downtime, penalty of 1/365 of the 5% FOB value will be imposed. Downtime will be counted from the date and time of the filing of complaint with in the business hours.
16. Spare Parts: The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured/distributed by the supplier.
 - i. Such spare parts as the Purchaser may elect to purchase from the Supplier providing that this election shall not relieve the supplier of any warranty obligation under the contract; and
 - ii. In the event of termination of production of spare parts.
 - iii. Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
 - iv. Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

Supplier shall carry sufficient inventories to assure ex-stock supply of consumables spares for the Goods, such as gaskets, plugs, washers, belts etc. Other spare parts and components shall be supplied as promptly as possible but in case within six months of the placement of the order.

17. Application specialist: The supplier should mention the availability and names of the Application specialist and Service Engineers in the nearest regional office.
18. Insurance: For delivery of goods at the purchaser's premises, the insurance shall be obtained by the supplier of an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destination) on "All Risks" basis including War Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after installation and commissioning. In case of orders placed on FOB basis the purchaser shall arrange Insurance.

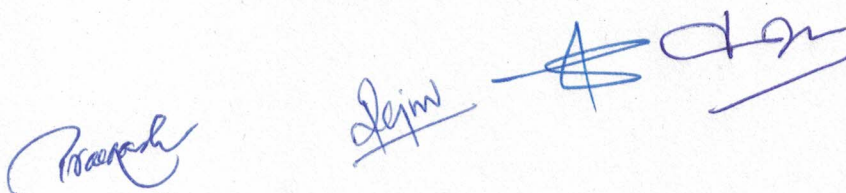
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19. Warranty:

- i. **The supplier shall give 36 months or as specified in equipment specification on-site comprehensive** warranty / guarantee which will commence from the date of the satisfactory installation/ commissioning of the equipment at the CUH against the defect of any manufacturing, workmanship and poor quality of the components. The supplier shall, in addition comply with the performance and /or consumption guarantee specified under the contract. If for reasons attributable to the supplier, these guarantees are not attained in whole or in part, the supplier shall at its discretion make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the contract at its own cost and expense and to carry out further performance tests.
 - ii. The purchaser shall promptly notify to the supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the supplier shall immediately within 2 days arrange or repair or replace the defective goods or parts thereof free of cost at the ultimate destination. The supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on the purchaser for the replaced parts/goods thereafter. The period for correction of defects in the warranty period is 2 days. If the supplier having been notified fails to remedy the defects within 2 days, the purchaser may proceed to take such remedial action, as may be necessary, at the supplier's risk and expenses and without prejudice to any other rights, which the purchaser may have against the supplier under the contract.
20. Governing Language: The contract shall be written in English language. English language version of the contract shall govern its interpretation. All correspondence and other documents pertaining to the contract, which are exchanged by the parts, shall be written in the same language.
21. Agency Commission: Agency commission if any will be paid to the Indian agent in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances.
22. **Performance Security:** The supplier shall be required to submit the performance security in the form of irrevocable bank guarantee by any nationalized bank for an amount equal to the 8% of the total quoted price within 20 days from the date of receipt of the purchase order and should be valid for a period of 60 days beyond the date of completion of guarantee/ warranty period.
23. **Payment: Payment will be made via Wire Transfer/RTGS/LC within 30 days of the successful installation of equipment.**
24. Termination for Default/Risk Purchase Clause: The purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default serve to Supplier, terminate the Contract in whole or part:
- i. If the supplier fails to deliver any or all of the Goods within the stipulated period(s) specified in the order, or within any extension thereof granted by the purchaser; or
 - ii. If the supplier fails to perform any other obligation(s) under the contract.
 - iii. If the supplier, in the judgement of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the Purpose of this Clause:

- a. "Corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
- b. "Fraudulent practice" means a misrepresentation of facts in order to influence procurement process or the execution of a contract to the detriment of the Purchaser and includes collusive practice among bidders (prior to or after tender bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition.



In the event of Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

25. Compliancy Certificate: This certificate must be provided indicating conformity to the technical specifications.

