TENDER DOCUMENT FOR

Supply of Multichannel Electrochemical Work station Setup to PI (Prof. P. Maiti) School of Materials Science and Technology, Indian Institute of Technology (BHU), Varanasi-221005.

On behalf of the Director, IIT (BHU) Varanasi, online tender from manufactures (or their 'authorized' dealers that they have been authorized to quote in response to this NIT) of the following items are invited:

Sl. No.	Tender Ref. No.	Subject	Earnest Money Deposit(EMD)
1.	IIT(BHU)/SMST/PM/2018-19/ 01 dated 29/10/2018	**Supply of Multichannel Electrochemical Work station Setup to PI (Prof. P. Maiti), School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University),Varanasi** **Approx. Cost : Rs. 20 Lakhs** **TECHNICAL BID** (MUST be submitted online) 1. Scanned Copy of Proof of Tender Fees and EMD 2. Scanned Copy of Technical Specification of **Multichannel Electrochemical Work station** Setupas per Annexure-1. 3. Scanned Copy of Technical Compliance Statement as per Annexure-2. 4. Scanned Copy of Tender Acceptance Letter as per Annexure-A. 5. Scanned Copy of Authorization Certificate and Proprietary Certificate in case of Proprietary Items. **PRICE BID** **(MUST be submitted online in given BOQ only.)** 1. Price Bid for Supply of **Multichannel Electrochemical Work station Setup** to PI (Prof. P. Maiti), School of Materials Science and Technology, IIT (BHU), Varanasi 2. Scanned Copy of Complete Financial Bid with all terms and conditions for Supply of **Multichannel Electrochemical work station** Setup.	Rs. 50,000/-

TENDER DOCUMENT FOR: MULTICHANNEL ELECTROCHEMICAL WORK STATION SETUP

CRITICAL DATE SHEET

Published Date	**29-10-2018**
Bid Document Download Start Date	**29-10-2018 (04:00 PM)**
Clarification Start Date	**29-10-2018 (04:00 PM)**
Clarification End Date	**17-11-2018 (04:00 PM)**
Bid Submission Start Date	**29-10-2018 (04:00 PM)**
Bid Document Download End Date	**19-11-2018 (04:00 PM)**
Bid Submission End Date	**19-11-2018 (03:00 PM)**
Bid Opening Date	**20-11-2018 (03:30 PM)**
Address For Communication	**The Project Investigator (Prof. Pralay Maiti) School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221005, U.P.**

The Tender Documents for the given items will be on Two Bid System consisting of Technical Bid and Price Bid. The Tender Documents will be submitted item-wise in online. Any firm may bid for any number of items but each offer must be item-wise in two bid cover enclosing Technical Bid and Price Bid. **Manual Bid will not be accepted.**

The Tender Document along with detailed specifications, terms and conditions may be downloaded **from the institute website (www.iitbhu.ac.in) under Tenders (https://www.iitbhu.ac.in/tenders) & (https://www.eprocure.gov.in/cppp**) by the interested supplier.

The Tender Processing Fee of Rs 2000/-(Non-Refundable) and E.M.D. of Rs. 50,000/- (Refundable) for this Tender to be paid in the form of Bank Draft in favour of Registrar, IIT (BHU) payable at Varanasi or by RTGS/NEFT before the Bid Opening Date and time. The hard copy of DD for tender processing fee and EMD should be reached on or before the Bid Opening Date and Time at the address: Prof. Pralay Maiti, School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221005, U.P. GST at concessional rate will be applicable as per GST Notification No. 45/2017- CENTRAL TAX (RATE) & 47/2017- INTEGRATED TAX (RATE) Dated 14-11-2017, @ 5%. Tender fees and EMD can be paid through RTGS/NEFT) as per the following details:

Name of Account - Registrar, IIT(BHU)
Name of the Bank - State Bank of India
Name of Branch - IT, BHU, Varanasi
Account No. - 32778803937
IFSC Code - SBIN0011445
The proof of payment must be enclosed with Technical Bid.

The Tender should be addressed to **The Project Investigator (Prof. P. Maiti), School of Materials Science and Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221005, U.P**, and should be submitted on or before the date and time of Bid opening date and time as mentioned in critical date sheet on e-portal.

The Institute shall not be responsible for any delay in submitting Bids by online. The Institute reserves the right to accept or reject any bid, cancel the Tender without assigning any reason thereof. No correspondence in this regard will be entertained.

sd/.
(Project Investigator)

SECTION 1: INSTRUCTION FOR ONLINE BID SUBMISSION

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: http://eprocure.gov.in/eprocure/app.

1. Registration

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: http://eprocure.gov.in/eprocure/app) by clicking on the link "Click here to Enroll". Enrolment on the CPP Portal is free of charge.

2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.

5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.

6. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

2. Searching for Tender Documents

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.

2. Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective „My Tenders‟ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

3. Preparation of Bids

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.

2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents – including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.

4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

5. Submission of Bids

1. Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3. Bidder has to select the payment option as "on-line" to pay the tender fee / EMD as applicable and enter details of the instrument. Whenever, EMD / Tender fees are sought, bidders need to pay the tender fee and EMD separately on-line through RTGS.

4. A standard BOQ format has been provided with the tender document to be filled by all the bidders.

   Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BOQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

5. The server time (which is displayed on the bidders" dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.

7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

9. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

5. Assistance to Bidders

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, 0120-4001005, 0120-6277787

6. General Instructions to the Bidders

1. The tenders will be received online through portal http://eprocure.gov.in/eprocure/app . In the Technical Bids, the bidders are required to upload all the documents in **.Pdf format**.

2. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through https://eprocure.gov.in/eprocure/app. Digital Signature Certificates can be obtained from

the authorized certifying agencies, details of which are available in the web site https://eprocure.gov.in/eprocure/app under the link "Information about DSC".

3. Tenderer are advised to follow the instructions provided in the „Instructions to the Tenderer for the e-submission of the bids online through the Central Public Procurement Portal for e Procurement at https://eprocure.gov.in/eprocure/app.

SECTION 2: INSTRUCTIONS TO BIDDERS

A. Introduction

1. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

2. Cost of Bidding Documents

The cost of bidding documents (Rs. 2000/-) should be submitted in the form of Bank Draft or By NEFT/RTGS as per the details mentioned above. Further, the proof of payment must be uploaded with Technical Bid.

3. Content of Bidding Documents

3.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents.
In addition to Invitation of Bids, the bidding documents include:

    (a) Instructions for Online Bid Submission
    (b) Instruction to Bidders (ITB);
    (c) General Conditions of Contract (GCC);
    (d) Special Conditions of Contract (SCC);
    (e) Schedule of requirements;
    (f) Tender form (technical bid).
    (g) Tender form (financial bid).

3.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

4. Amendment of Bidding Documents

4.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.

4.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing, which will be binding on them.

4.3 In order to allow prospective bidders reasonable time within which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

5. Language of Bid

The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser shall be written in English language.

6. Documents Comprising the Bid

6.1 Techno commercial un-priced bid and priced Bids: The bids are to be submitted in two parts i.e. Techno commercial un-priced bid and priced Bids.

(a) Techno commercial un-priced bid along with Earnest Money Deposit (submitted in the form of Bank Draft in favour of **Registrar, IIT (BHU)** payable at **Varanasi** or By NEFT/RTGS) as shown in invitation to bids shall be submitted through CPP Portal. If the proof of payment of EMD is not received along with the technical bid, such bid will not be considered. The samples (if required) of all the items shown in the schedule of requirements of each tender should also accompany the techno commercial un- priced bid in a separate sealed envelope.

(b) Priced bid.

6.2 Techno commercial un-priced bid: The Techno commercial un-priced bid prepared by the bidder shall be provided in the following Model Response format:

Model Response format

(a) Standing of each Bidder Manufacturer/Dealer and past experience in supply of the material (certificates to be enclosed), proof of manufacturing Unit/Dealership along with all the documents required for proving the credentials regarding the fulfillment of essential pre-bid criteria.

(b) List of other Govt. Departments, Public Sector units and Central Autonomous Bodies for which the bidder is supplying material or having the similar type of contracts and a certificate regarding the satisfactory performance of the contract (In the Annexure III format).

(c) Copy of the audited balance sheet of the vendor for the previous financial year indicating the turnover in supply of the relevant materials/service.

(d) Details of Permanent Account Number and latest income tax clearance certificate.

(e) Details of GST No. along with a copy of certificate to be attached.

(f) Submission of samples if required, for all items indicated in the schedule of requirements. The make of items proposed to be supplied should be indicated in the format of the schedule of requirements and submitted along with the techno commercial un-priced bid without indicating the pricing components.

(g) Willingness to execute all orders which are placed to meet emergency requirement on priority basis. The Bidder shall note that standards for workmanship, material and equipment, and references to brand names designated by the Purchaser in the schedule of requirements are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in his bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

6.3 Price Bid

The price bid shall comprise the techno commercial bid along with the price component indicating the
Unit prices for each and every item indicated in the schedule of requirements (Annexure 1).

(a) The prices quoted must be net per unit as shown in the Schedule and must include all charges for delivery at the designated stores i.e. FOR IIT (BHU), Varanasi

(b) The rate must be stated for each item separately both in words and figures. If there is a discrepancy between the price quoted in word and figures the higher price quoted will be treated as final.

(c) The price quoted by the tenderer should be exclusive of Custom Duty (in case of Import) and other taxes as applicable from time to time. The Institute will provide the valid exemption certificate as and when needed.

(d) Quoted prices should be firm and inclusive of freight and forwarding charges, handling charges, loading and unloading charges, and insurance charges etc.

(e) The prices once accepted by the Institute shall remain valid till the successful execution of the order and till supplies is fully effected and accepted or **12 months** from the date of acceptance of tender

whichever is later. The Institute shall not entertain any increase in the rates during the period. However, in the event there is a reduction or increase in Government levy/duties during the period of execution of the order, the rates shall be suitably adjusted with effect from the date notifying the said reduction or increase in the Government levy/excise duty.

7. Bid Prices

7.1 The Bidder shall indicate on the Schedule of requirements (BOQ), the unit prices of the goods it proposes to supply under the Contract and enclose it with the priced bid.

7.2 Prices indicated on the Price Schedule shall be entered separately in the following manner:

(i) The prices quoted must be net per unit as shown in the schedule of requirements and must include all charges for delivery at the designated stores.

(ii) Any Indian duties, GST and other taxes which will be payable on the goods if this Contract is awarded;

7.3 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account.

7.4 The price should be quoted without custom duty, since IIT (BHU) is exempted from payment of custom duty being the premier Academic Institution. Necessary certificate will be issued on demand.

8. Bid Currencies

Prices shall be quoted in Indian Rupees and/or in other Currency available in given BOQ (for imports) only. The Institute may, at its discretion, arrive at approximate Rupee equivalent on the basis of exchange rate on the date of opening of price bid. The Institute shall refer the exchange rate as available on RBI reference rate archive on the date of Financial Bid opening for conversion of foreign currency into INR for comparison purpose.

9. Period of Validity of Bids

9.1 Bids shall remain valid for **180** days after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

9.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its EMD. A Bidder granting the request will not be required nor permitted to modify the bid.

9.3 Bid evaluation will be based on the bid prices without taking into consideration the above modifications.

D. Submission of Bids

10. The tender has to be submitted ONLINE before the due date. The offers received after the due date and time will not be considered. **No manual bids will be considered**.

11. Deadline for Submission of Bids

11.1 Bids must be received by the Purchaser ONLINE not later than the time and date specified in the Invitation for Bids.

11.2 The Purchaser may, at his discretion, extend this deadline for submission of bids by amending the bid documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

12. Late/Delayed Bids

The offers received after the due date and time will not be considered.

13. Modifications and Withdrawal of Bids

13.1 The Bidder may modify or withdraw its bid after the ONLINE bid's submission, as per the provision of CPP Portal.

13.2 No bid may be modified subsequent to the deadline for submission of bids. No documents will be accepted in support of essential pre-bid criteria after the last date of submission of bids.

13.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity specified by the Bidder on the bid form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its EMD.

E. Bid Opening and Evaluation of Bids

14. Opening of Techno commercial un-priced Bids

The purchaser will open all techno commercial un-priced bids in the first instance.

15. Clarification of Bids

15.1 During evaluation of the bids, the purchaser may, at its discretion, ask the Bidder for clarification of its bid. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted.

15.2 No Bidder shall contact the purchaser on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Institute it should be done in writing.

15.3 Any effort by a Bidder to influence the purchaser in its decisions on bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.

16. Evaluation of Techno commercial un-priced Bid

16.1 Prior to the detailed technical evaluation, the purchaser will determine the substantial responsiveness of each bid. A substantially responsive bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviations and meets all the essential pre-bid criteria. If any bidder does not meet the essential pre-bid criteria as laid down in the Instruction to Bidders, then his bid will be summarily rejected. No documents will be accepted in support of essential pre-bid criteria after the last date of submission of bids.

16.2 The purchaser will reject a bid determined as not substantially responsive.

16.3 The bidders may be called for discussion and may be allowed to modify their technical bids to suit the organization's requirement. The idea is to arrive at a threshold level of acceptability above which all the bidders shall be treated on par. Those whose technical specifications do not reach the threshold level of acceptability shall be rejected as technically unsuitable. The price bids of the bidders who finally emerge as technically acceptable shall be opened, evaluated and the contract awarded to the lowest evaluated bidder.

16.4 The bidders short-listed by the purchaser based on meeting the essential pre-bid criteria and detailed evaluation regarding satisfying the technical criteria laid down in this tender document may be called for detailed discussions with a team selected for the purpose, at a specified date, time and venue, if needed.

17. Opening of Priced Bids

17.1 The Purchaser will open the Priced Bids of only those bidders who meet the essential pre-bid criteria and whose techno commercial un-priced bids have been found to be substantially responsive.

17.2 The priced Bids of the technically qualified bidders shall be opened by the tender committee.

18. Evaluation and Comparison of priced Bids

18.1 Arithmetical errors will be rectified on the following basis: If there is a discrepancy between words and figures, whichever is the higher of the two shall be taken as bid price. If the Vendor does not accept the correction of errors, its bid will be rejected

18.2 Bidders shall state their bid price for the payment schedule outlined in the Clause 14 of General Conditions of Contract. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The purchaser may consider the alternative payment schedule offered by the selected Bidder but it may not be binding on the purchaser.

18.3 The purchaser, at its option may ask some more bidders to match the rates of the lowest bidder for creating parallel suppliers.

18.4 The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: **Indian Rupees**

18.5 The source of exchange rate shall be: **Reserve Bank of India**.

18.6 The date for the exchange rate shall be: **Date of opening of Financial Bids**.

19. Purchasers right to accept any bid and to reject any bid or all bids

The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser's action.

20. Award Criteria

Subject to Clause 19, the purchaser will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the best evaluated bid provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

21. Notification of Award

Prior to the expiration of the period validity, the purchaser will notify the successful Bidder in writing by letter or by fax, to be confirmed in writing by speed post or hand delivered letter, that its bid has been accepted.

22. Factors Affecting the Award of Supply

22.1 The bidder should have its own Contract support facilities. The support facilities should be fully owned and managed by the bidder.

22.2 Conformity with the Request for Bid/Tender required and conditions.

22.3 The assessment based on the response to Model Response Outline.

22.4 The assessment of the capability of the bidder to meet the terms and conditions.

22.5 The bidders must have executed similar orders, for which the bidder is quoting, as indicated in clause 1 for Govt./Semi-Govt./Autonomous Organizations.

22.6 The cost and the discount offered, if any.

23. Fall clause

23.1 The price quoted by the supplier should not be higher than the maximum retail price, if any, for the stores and the same shall not be higher than the price usually charged by the supplier for stores of the same nature, class or description to any other purchaser.

23.2 The price charged for the stores supplied under the contract by the supplier shall in no event exceed the lowest price at which the supplier sells the stores of identical description to any other person during the period till performance of all supply orders placed during the currency of the contract is completed. If at any time during the period the supplier reduces the sale price of such stores or sells such stores to any other person including his dealers at a price lower than the price chargeable under the contract, he shall forthwith notify such reduction or sale to the purchaser and the price payable under the contract for these items of stores supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

23.3 If it is discovered that the supplier has contravened the above conditions, then without prejudice to any other action which might be taken against him, it shall be lawful for the purchaser to (a) revise the price at any stage so as to bring it in conformity with sub-clause(i) above, or (b) to terminate the contract and purchase the items of stores at the risk and cost of the supplier and in that event the provisions of Clause 28 of General Conditions of Contract shall, as far as possible, be applicable or recover the loss.

SECTION 3 : GENERAL CONDITION OF CONTRACTS

1. Definitions

In this Contract, the following terms shall be interpreted as indicated:

(a) "The order" means the agreement entered into between the Purchaser and the Supplier including all the attachments and appendices and all documents incorporated as per notification of award.

(b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations;

(c) "The Goods means all the items, which the Supplier is required to supply to the Purchaser under the Contract;

(d) "Services" means services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services training and other obligations of the Supplier covered under the Contract;

(e) "GCC" mean the General Conditions of Contract contained in this section.

(f) "The Purchaser" means the organization purchasing the Goods i.e. IIT (BHU), VARANASI.

(g) "The Purchaser's country" is India.

(h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.

(i) "Day" means calendar day.

2. Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3. Standards

The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned Institution.

4. Use of Contract Documents and Information

4.1 The Supplier shall not, without the Purchaser's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

4.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information except for purposes of performing the Contract.

4.3 Any document, other than the Contract itself, shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

5. Patent Rights

The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights arising from use of the Goods or any part thereof in India.

6. Submission of the bids.

6.1 All bids complete in all respect must be submitted online on or before the Bid Closing date and time as mentioned on Critical Data Sheet. Tenders received without earnest money etc. shall be rejected.

6.2 Tender documents are available on IIT (BHU) website: (https://www.iitbhu.ac.in/tenders)or from Central Public Procurement Portal (CPPP) https://eprocure.gov.in/eprocure/app.

6.3 Interested bidders may submit their bid through Central Public Procurement Portal (CPPP) https://eprocure.gov.in/eprocure/app.

7. Inspections and Tests

7.1 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser.

7.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data shall be furnished to the inspectors at no charge to the Purchaser.

7.3 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.

7.4 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at Project Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.

7.5 Nothing in GCC Clause 7 shall in any way release the Supplier from any warranty or other obligations under this Contract.

8. Consequences of rejection

If in the event the stores are rejected by the purchaser at the destination and the supplier fails to make satisfactory supplies within the stipulated period of delivery, the purchaser will be at liberty to:

(a) Allow the supplier to resubmit the stores in replacement of those rejected, within a specified time without any extra cost to the purchaser or

(b) Reject the material, which shall be final and binding on the contractor.

(c) Procure the rejected materials of comparable quality from the open market/Govt. stores and the supplier shall be liable to pay the difference in price over the RC prices or get the amount adjusted from the outstanding bills of the supplier, if any or EMD.

9. Packing

9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, in any subsequent instructions ordered by the Purchaser.

10. Delivery and Documents

10.1 The Supplier shall make delivery of the Goods within **30 days** from the placement of purchase order in pursuance of the notification of award. The purchase order would be placed after assessing the requirements on quarterly basis. However, the supplier shall also arrange to execute all orders on priority basis which would be placed to meet any emergent requirements.

10.2 In case the purchaser decides to conclude parallel rate contracts, then the requirements would be split on different firms on equitable basis as per the discretion of the purchaser.

10.3 The delivery of Stores shall be affected at the premises of the Institute free of all delivery charges and within the stipulated time and as may be elucidated in the confirmed order, accompanied by a delivery challan No. extension of time for delivery of Stores shall normally be accorded.

The supplier shall mail the following documents to the purchaser with a copy to the insurance company:

1. 3 Copies of the Supplier invoice showing contract number, goods' description, quantity unit price, total amount;

2. Installation Certificate

3. Insurance Certificate if applicable;

4. Manufacturer's/Supplier's warranty certificate;

5. Inspection Certificate issued by the nominated inspection agency, if any

6. Supplier's factory inspection report; and

7. Certificate of Origin (if possible by the beneficiary)

8. The above documents should be received by the Purchaser 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.

Time and date of delivery – the essence of the contract: The time for and the date of delivery of the stores stipulated shall be deemed to be of the essence of the contract and delivery must be completed no later than the date(s) specified.

11. Insurance

The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery. The insurance shall be obtained by the suppliers in an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destinations) on "all risks" basis including war risks and strikes.

12. Transportation

Where the Supplier is required under the Contract to transport the Goods within India defined as Project site, transport to such place of destination in India including insurance, as shall be specified in the Contract, shall be arranged by the Supplier, and the related cost shall be included in the contract Price.

13. Warranty

13.1 The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in India.

13.2 This warranty shall remain valid for at least **36 months** (or as specified) after the Goods or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, unless specified otherwise.

13.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.

13.4 Upon receipt of such notice, the Supplier shall with all reasonable speed, repair or replace the defective Goods or parts thereof, without any extra cost to the Purchaser.

13.5 If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

14. Payment

14.1 The payment shall be made **100% payment against Supply, Installation and Commissioning and submission of satisfactory PBG.**

14.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the contract.

15. Prices

Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in his bid. The price should be quoted without custom duty, since IIT (BHU) is exempted from payment of custom duty. Necessary certificate will be issued on demand.

16. Change Orders

16.1 The Purchaser may at any time, by written order given to the Supplier, make changes within the general scope of the Contract in any one or more of the following:

(a) Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;

(b) The method of shipping or packing; (c)

The place of delivery; and/or

(d) The services to be provided by the Supplier.

16.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.

17. Contract Amendments

Subject to GCC Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

18. Assignment

The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

19. Subcontracts

The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

20. Delays in the Supplier's Performance

20.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser as per GCC clause 10.

20.2 If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, it's likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Contract.

20.3 Except as provided under GCC Clause 23, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to GCC Clause 21, unless an extension of time is agreed upon pursuant to GCC Clause 20.2 without the application of liquidated damages.

21. Penalty

Subject to GCC Clause 23, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to 1% per week and the maximum deduction is 10% of the contract price of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 22.

22. Termination for Default

22.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

(a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the purchase order, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 20; or

(b) If the Supplier fails to perform any other obligation(s) under the Contract.

(c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this Clause:

"Corrupt practice" means the offering, giving, receiving or soliciting of anyt hing of value to influence the action of a public official in the procurement process or in contract execution.

"Fraudulent practice: a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non- competitive levels and to deprive the Borrower of the benefits of free and open competition;"

22.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 22.1, 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.

23. Force Majeure

23.1 Notwithstanding the provisions of GCC Clauses 20 & 21, the Supplier shall not be liable for imposition of 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.

23.2 For purposes 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.

23.3 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.

24. Termination for Insolvency

The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without Compensation to the Supplier provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

25. Termination for Convenience

25.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

25.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices.

26. Resolution of Disputes

26.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

26.2 If, after thirty (30) days from the commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms as specified below. These

mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national or international forum, and national or international arbitration.

26.3 In case of Dispute or difference arising between the Purchaser and a supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996 as amended from time to time.

27. Governing Language

The contract shall be written in English language. Subject to GCC Clause 28, English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

28. Applicable Law

28.1 The contract shall be governed by the Law of Contract for the time being in force.

28.2 Irrespective of the place of delivery, the place of performance or place of payment under the contract, the contract shall be deemed to have been made at the place from which the acceptance of tender has been issued.

28.3 Jurisdiction of Courts: The courts of the place from where the acceptance of tender has been issued shall alone have jurisdiction to decide any dispute arising out of or in respect of this contract.

28.4 One month notice will be given by either party for termination of Contract during the tenure of Contract for breach of Clause or otherwise.

29. Performance Security:

(i) Successful bidder have to furnish **10%** of the order value as a performance security in the shape of Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, Indian Institute of Technology (BHU) valid for a period of 60 days beyond the end of all warranty period / obligations (i.e. must valid for 38 months). Fixed Deposit Receipt / Bank Guarantee should be issued from a schedule bank in India.

(ii) Earnest Money Deposit will be refunded to the successful bidder on receipt of Performance Security.

30. 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.

The Institute Reserves The Right To:

i. Increase or decrease the quantity of the item(s) as per requirement.
ii. Reject the quotation in absence of not furnishing the documentary evidence in respect of Trade Tax Registration (G.S.T), Income Tax and Trade Tax clearance certificates together with the performance of supplies in various branches/institutions.
iii. Reject the quotation in the event of non-furnishing the authentic documentary evidence in respect of Testing reports / Performance report of the concerned Govt. Organization / Institutions about the products being manufactured and marketed. The performance test of the product can be conducted at Institute level also for which charge will have to be borne by the suppliers.
iv. Reject the supplies already made, if not found up to the mark. Thorough checking may be adopted to test the correctness of the supply. In such an event further action may call to conform or discard the supply.
v. To reject any addition/alteration in respect of local dealerships intimated by the Principals after consideration of the case by the committee appointed by the Institute for the purpose.
vi. The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:
   (a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the purchase order, or within any extension thereof granted by the Purchaser.
   (b) If the Supplier fails to perform any other obligation(s) under the Contract.
   (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
      „For the purpose of this Clause:

"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.

"Fraudulent practice: a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;"

To reject any or all the offers without assigning any reasons thereof.

All disputes are subject to *"Varanasi Jurisdiction"* only.

The decisions of the Institute in all respect shall be final and binding on all. Kindly note that we attach great significance to the list of the organizations of repute where a firm is on rate contract, therefore please enclose certified photocopies of the rate contract.

Please ensure that your offer is complete in all respect as no further clarifications shall be sought from you and reaches us within the last date mentioned above. **The Institute shall not be responsible for any delay etc.**

Please mention our reference number and due date on the sealed envelope, otherwise your quotation may not be entertained.

A checklist (list documents to be attached) with proper signature, seal and date should be enclosed with tender document for verification; otherwise the proposal will not be entertained.

....
Indian Institute of Technology,
(Banaras Hindu University)

NOTE: 1- *While arranging the Tender Documents, check list should be placed on TOP.*

SECTION 4: SPECIAL CONDITIONS OF CONTRACT

1. **The bidder must have executed similar nature of works in the last 5 years in any IITs/NITs/Govt. Office/PSU/University/Autonomous Body with order value of at least Rs. 20 lakhs each.**

    I. **User List**: Provide users for last 3 years with contact person name, address, phone, and email IDs.

    II. The Tender should be enclosed with proper certifications like **Authorization Certificate and Proprietary Certificate** in case of Proprietary items.

    III. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.

    IV. Warranty period to be clearly mentioned and should begin from the date of installation. Annual Maintenance Contract Charges should be clearly mentioned after warranty period.

    NOTE: THE BID OF THOSE BIDDERS WHO FAILS TO COMPLY THE ABOVE ESSENTIALCRITERIA WILL NOT BE CONSIDERED FOR TECHNICAL EVALUATION.

2. **Documents Comprising the Bid**

    The tender/Bid shall be submitted online in two parts, viz., Technical Bid and Commercial Bid.

    I. Technical Bid

    The following documents are to be scanned and uploaded as part of the Technical Bid as per the tender document:

    (a) Scanned copy of Tender Forms (Techno Commercial Un-Priced Bid), Declaration Bidder's Information Form, and Tender Acceptance Letter;

    (b) Scanned copy of proof for submission of Tender Document Fee/ Earnest Money Deposit etc.;

    (c) Scanned copy of quoted product brochure

    (d) Scanned copy of

        (i) Documentary evidence, that the Goods and Related Services to be supplied by the Bidder are of eligible origin and

        (ii) Conform to the Bidding Documents, and

        (iii) Any other document required as per the tender;

    (e) Scanned copy of Technical Compliance Sheet (Annexure II)

    II. Commercial Bid

    The commercial bid comprises of :

    (i) Scanned copy of Tender Form (Price Bid).

    (ii) Price bid in the form of **BOQ.xls.**

    The Price bid format is provided as BOQ.xls along with this Tender Document at http://eprocure.gov.in/eprocure/app. Bidders are advised to download this BOQ.xls and quote their offer/rates in the prescribed column. Bidders can quote Basic Price in INR or other CURRENCY available in given BOQ (for other than INR) but it is mandatory to quote taxes/levies in INR only, in the prescribed column and upload the same in the commercial bid.

    In addition to the above requirements, bids submitted by a Joint Venture, shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement, there to.

    The Bidder shall furnish in the Tender Forms information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

FORMAT FOR PERFORMANCE BANK GUARANTEE (PBG)
(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONALISED COMMERCIAL BANKS (WHETHER SITUATED AT VARANASI OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT VARANASI)

To,
The Registrar,
Indian Institute of Technology (BHU),
Varanasi-221005

LETTER OF GUARANTEE

WHEREAS Indian Institute of Technology (BHU), Varanasi (Buyer) has invited tender vide Tender No.............................. dated........................... for purchase of .... AND WHEREAS the said tender document requires that eligible successful bidder (seller)... wishing to supply the equipment / machinery etc. in response thereto shall establish an irrevocable Performance Bank Guarantee in favour of " The Registrar, Indian Institute of Technology (BHU), Varanasi" in the form of Bank Guarantee for Rs .... (5-**10% of the contract value**) and the Performance Bank Guarantee shall remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the seller, including warranty obligations from the date of issue of Performance Bank Guarantee and the eligible successful bidder (the seller) shall submit the same within 14 (Fourteen) days from the date of Award of Contract.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said bidder (seller) fails to abide by any of the conditions referred to in tender document / Award of Contract / performance of the equipment / machinery, etc. this Bank shall pay to Indian Institute of Technology (BHU), Varanasi on demand and without protest or demur Rs .... (Rupees......................................).

This Bank further agrees that the decision of Indian Institute of Technology (BHU), Varanasi (Buyer) as to whether the said bidder (Seller) has committed a breach of any of the conditions referred in tender document / Award of Contract shall be final and binding.

We, ... (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the bidder (Seller) and/ or Indian Institute of Technology (BHU), Varanasi (Buyer). **Notwithstanding anything contained herein:**

1. Our liability under this Bank Guarantee shall not exceed Rs. ....…………………… .(Indian Rupees .... only).

2. This Bank Guarantee shall be valid up to ....(date) and

3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if IIT (BHU), Varanasi serve upon us a written claim or demand on or before ....(date). This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at .... situated at .... (Address of local branch).

Yours truly,

Signature and seal of the guarantor:
Name of Bank:
Address:
Date:

DECLARATION

1. I, -- Son /Daughter of Shri --

--- Proprietor/ Partner/ CEO /MD/ Director/

Authorized Signatory of M/s. -- am competent to sign

this declaration and execute this tender document.

2. I have carefully read and understood all the terms and conditions of the tender and hereby convey

my acceptance of the same.

3. The information/ documents furnished along with the above application are true and authentic to

the best of my knowledge and belief.

4. I/ we/ am are well aware of the fact that furnishing of any false information/ fabricated document

would lead to rejection of my tender at any stage besides liabilities towards prosecution under

appropriate law.

5. Each page of the tender document and papers submitted by my Company is authenticated, sealed

and signed, and I take full responsibility for the entire documents submitted.

Signature of the Authorized Person

Date: ----------------------------

Place: ---------------------------

Full Name: ----------------------------------

Company Seal: ----------------------------

Technical specification for multichannel electrochemical work station set-up and accessories

The system includes following items with given details:

A 'Modular' Multichannel Electrochemical Workstation is required with possibility to accommodate upto 10 potentiostat/galvanostat. It should be possible to control all the channels through one PC. Each channel should have the following specifications. Price for each should be quoted separately.

Note: Vendor should be an authorized provider of sophisticated high-precision potentiostat/galvanostat systems with a

- A proven track record in multiple countries and national institutes
- Standard quality certifications such as (ISO 9001)

Electrochemical Workstation Channels and accessories:

- Number of Channels: 2 (Possibility to upgrade to upto 8 more channels in future)
- Independent EIS Configuration: Each channel should have its own independent EIS option so that if EIS is not functioning on one channel it will not stop the functioning for the remaining channels
- Compliance voltage: ± 20 V at ±400 mA current or better in complete range
- Maximum Output Current: ± 400 mA or better at 20 V.
- Current boosting option: Each channel expandable anytime to ±10A measured current with unchanging current accuracy of 0.005% or better as well as compliance voltage of ± 20 V –Output Voltage Range: ± 10 V or better

- Current Ranges: ± 10 nA to current range 100 mA and High Current Amplification Upto± 10A using current booster
- Measured current accuracy: 0.005% at entire current range (100 fA at 10 nA range).
- Measured Potential Resolution: 5μV or better
- Potentiostat Rise/fall Time: < 500 ns or lower
- Interface: USB interface for connection with PC or better
- A single Master USB control for all channels
- Multiple USB Connectivity: Electrochemical workstation should also have 3 or more channels such that each could be independently controlled via dedicated computer station.
- Input bias current: < 1 pA
- Bandwidth of electrometer: > 5 MHz
- Input impedance of electrometer: > 100 GOhm // 10 pF
- Pt disc working electrode & Pt wire counter electrode
- 50 ml glass vessel and its Lid for fitting Ref. & counter electrode

EIS Option:

Hardware and software for EIS measurements should be available in potentiostatic and galvanostatic control, over frequency range of 10 µHz to 1 MHz. It should be possible to perform EIS measurements over entire frequency range from 10 µHz to 1 MHz upto ±400 mA currents. The frequency range in combination with a commonly available external waveform generator should be 10 µHz - 30MHz. The applied frequency resolution should be 0.005% or better.

Measured EIS Data presentation:

Real-time fit and simulation analysis as well as 'live' data plotting option for the simulation plot must be available as default software protocol. Also real-time measurement plots needed for – Lissajous curve, Nyquist, Bode, Admittance, Dielectric & Mott-Schottky. The fit and simulation software should include basic options such as find circle, element subtraction and an equivalent circuit library with all the modern EIS equivalent circuit models (Randle's, transmission line, etc.). Minimum visible plots in real time should be 8 or more.

Electrochemistry Accessories Required for PEM Fuel Cell Measurements

- Fuel Cell with ~10 cm^2 MEA assembly and cartridge heaters and temperature sensor
- Spare MEA for above mentioned Fuel Cell
- Temperature Sensor for fuel cell
- Temperature controller for fuel cell
- Torque Wrench for Fuel Cell
- Hot press for making MEA
- Humidifier
- Peristaltic pump

Electrochemistry Accessories for Photo-modulated Impedance Measurements on Solar Photovoltaic devices

A complete set-up including following items is required for solar & photovoltaic cell research:

- Optical bench with ruler

- Calibrated photodiode holder

- LED cover holder

- Various types of LED's for EQE/IPCE Efficiency Analysis:

  - Red LED 627 nm

  - Green LED, 530 nm

  - Blue LED, 470 nm

  - White LED (1 Sun intensity with Spectral range 400nm- 1000nm, Spectrum AM1.5G)

Target Measurements: IMPS-IMVS, Charge Extraction, Chopping, I-V, EIS, Mott-Schottky

Electrochemical Software for Multichannel Workstation

The Software to be provided with the Potentiostat / Galvanostat should be comprehensive, fully windows based with three-dimensional view of graphics and analysis software. Software should

record current, voltage and time for cyclic and linear sweep voltammetric measurement. It should be possible to record current, voltage and time data in tabular format for each measuring point in voltammogram. Software should be capable of supporting a wide variety of electrochemical techniques as mentioned below.

- Electrochemical Frequency Modulation Technique
- Cyclic & Linear Sweep Voltammetry – HER, OER, Kotecky –Levich based default protocols
- Linear Polarization, ECN, Critical pitting, EIS, Hydrogen Permeation, EFM, SECM, etc. for corrosion analysis
- I-V, IMPS, IMVS, PEC, IPCE, EQE, Mott-Schottky, EIS ---- Solar Cell Measurements
- Chrono-amperometry, chrono-coulometry and chrono-potentiometry ($\Delta t > 1$ ms)
- It should have facility to display up to 10 or more plots simultaneously
- Software Development Kit to control the workstation using Labview Software
- Tutorials to help the user to familiarize with software
- Sequential programming of different electrochemical methods and optional accessories
- Comprehensive database structure & powerful data analysis tool.
- Inbuilt electrochemical spread sheet
- User programmable formulae to new plots.
- Powerful graphic engine with useful features such as individual Axis scaling, overlays, multiple Y axes, plot addition, zooming and rotation.
- Each plot should be saved as a vector image file to use directly in paper or presentation
- 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.

Computer :

Compatible branded PC with i5 configuration, Color Printer with scanner should be quoted.

CPU Intel Core i5, RAM 8 GB RAM, HDD 500 GB, GPU DirectX 9.0c compliant display adapter with 1GB RAM, TFT Monitor 21 inch, 101 Keys Keyboard, Optical Mouse, 3 USB Ports.

Note: Warranty : ~3 year

The systems should be compatible with following for future upgradation using 'single software' application:

a) Fuel cell polarization curve at high current >100A
b) High Current EIS Analysis of Fuel Cell Via External Electronic Load
c) LED optical bench – Photo Modulated Electrochemistry
d) Rotating Ring Disc Electrode
e) Electrochemical Surface Plasmon Resonance
f) Scanning Electrochemical Microscope - SECM

Modular Multichannel Configuration: Each channel should have plug and play type expandability options for following:

- Electrochemical Impedance Measurements
- High Current Amplification Upto ± 10A
- Multiplexing options to conduct experiments upto 50 independent cells
- Bi-potentiostat options from desired channel
- Simultaneous temperature or pH measurements - A highly required future add-on
- Single channel AC or DC light intensity control for LED Optical Bench without using an

additional channel
- External Triggering ADC, DAC, TTL

Provide optional quote for following items:

1. Hydrogen and oxygen cylinder with gauge
2. Gas supply Piping
3. Pannel with base plate and acrylic sheet with Rota-meters for H_2 and O_2 and PMFC Mounted

Note: Please give separate quote (price) for each item mentioned above

OTHER TERMS:

1. Price of the instrument may be quoted in Indian currency or foreign currency
2. Price should be quoted F.O.R to IIT (BHU), Varanasi.
3. Custom Clearance will be the responsibility of the supplier and IIT (BHU) will provide Custom Exemption Certificate.
4. **Indian agency commission:** Should be clearly stated in the financial bid in Indian currency.
5. **Penalty:** A penalty of 1% of the order value will be applied for late delivery of the goods for each week thereof subject to a maximum of 10%.
6. **Bank Guarantee (BG):** Successful bidder have to furnish **5-10%** of the order value as a performance security in the shape of Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, Indian Institute of Technology (BHU) which will be valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Fixed Deposit Receipt / Bank Guarantee should be issued from a schedule bank in India. Bank guarantee is only applicable for the Supplier who will get the Award of Contract and will submit at the time of installation of the instrument.
7. **Payment:** The payment shall be made by LC.
8. **User List**: Provide users for last 3 years with contact person name, address, phone, and email IDs.
9. **Manuals/Documents**: 1 set of hard copy and 1 set of soft copy in English (preferred as following).
   i.   Operating manuals
   ii. Maintenance manual
   iii. Servicing manual
   iv. Programming manual
   v.   Manuals of bought out items incorporated in the system
   vi. Details of any custom made ICs & components & their sources

10. The Tender should be enclosed with proper certifications like **Authorization Certificate and Proprietary Certificate** in case of Proprietary items.
11. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.

12. Warranty period to be clearly mentioned and should begin from the date of installation. Annual Maintenance Contract Charges should be clearly mentioned after warranty period.
13. Submit Electronic copy of the Technical specifications and bids.
14. The vendor to provide compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer's literature. Any other claim will not be accepted and may lead to rejection of the bid.
15. Printed literature in support of compliance to the prescribed specifications is to be submitted.
16. Compliance report needs to be submitted as a part of the technical bid.
17. In case during shipment period newer versions of software/hardware is available with vendor in lieu of the existing one for which Letter of Credit was opened, then improved version should be made available without any extra cost.
18. Institute reserves the right to visit installation in India of similar capabilities the details with to regard to such installation should be given as a part of technical bid.
19. Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.

(Project Principal Investigator)

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

SL No.	Technical Requirement	YES/NO
1.	**Multichannel electrochemical workstation set-up** • Number of Active Channels: 2 (Possibility to upgrade to upto 8 more channels in future) • Channel 1 : for Solar cell measurement • Channel 2: for fuel cell measurement • Independent EIS Configuration: Each channel should have its own independent EIS option so that if EIS is not functioning on one channel it will not stop the functioning for the remaining channels **EIS measerment and Data Presentation:** **EIS measerments:** Hardware and software for EIS measurements should be available in potentiostatic and galvanostatic control, over frequency range of 10 μHz to 1 MHz. It should be possible to perform EIS measurements over entire frequency range from 10 μHz to 1 MHz upto±400 mA currents. The frequency range in combination with a commonly available external waveform generator should be 10 μHz - 30MHz. The applied frequency resolution should be 0.05% or better. **Measured EIS Data presentation:** Real-time fit and simulation analysis as well as 'live' data plotting option for the simulation plot must be available as default software protocol. Also real-time measurement plots needed for – Lissajous curve, Nyquist, Bode, Admittance, Dielectric & Mott-Schottky. The fit and simulation software should include basic options such as find circle, element subtraction and an equivalent circuit library with all the modern EIS equivalent circuit models (Randle's, transmission line, etc.). Minimum visible plots in real time should be 8 or more. ## Accessories essential for electrochemical works: • Pt disc working electrode & Pt wire counter electrode • 50 ml glass vessel and its Lid for fitting Ref. & counter electrode • Base Plate with stand rod & clamping ring • Gas purging tube • Solid film ionic conductivity measurement cell • Solid film impedance measurement setup **Electrochemical Software for Multichannel Workstation** The Software to be provided with the Potentiostat / Galvanostat should be comprehensive, fully windows based with three-dimensional view of graphics and analysis software. Software should record current, voltage and time for cyclic and	

linear sweep voltammetric measurement. It should be possible to record current, voltage and time data in tabular format for each measuring point in voltammogram. Software should be capable of supporting a wide variety of electrochemical techniques as mentioned below.

- Electrochemical Frequency Modulation Technique
- Cyclic & Linear Sweep Voltammetry – HER, OER, Kotecky –Levich based default protocols
- Linear Polarization, ECN, Critical pitting, EIS, Hydrogen Permeation, EFM, SECM, etc. for corrosion analysis
- I-V, IMPS, IMVS, PEC, IPCE, EQE, Mott-Schottky, EIS ---- Solar Cell Measurements
- Chrono-amperometry, chrono-coulometry and chrono-potentiometry ($\Delta t > 1$ ms)
- It should have facility to display up to 10 or more plots simultaneously
- Software Development Kit to control the workstation using Labview Software
- Tutorials to help the user to familiarize with software
- Sequential programming of different electrochemical methods and optional accessories
- Comprehensive database structure & powerful data analysis tool.
- Inbuilt electrochemical spread sheet
- User programmable formulae to new plots.
- Powerful graphic engine with useful features such as individual Axis scaling, overlays, multiple Y axes, plot addition, zooming and rotation.
- Each plot should be saved as a vector image file to use directly in paper or presentation
- 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.

Computer :

Compatible branded PC with i5 configuration, Color Printer with scanner should be quoted.

CPU Intel Core i5, RAM 8 GB RAM, HDD 500 GB, GPU DirectX 9.0c compliant display adapter with 1GB RAM, TFT Monitor 21 inch, 101 Keys Keyboard, Optical Mouse, 3 USB Ports.

Electrochemical Workstation Channels and accessories:

Channel 1: Solar cell with full specifications :

- Compliance voltage: ± 20 V at ±400 mA current or better in complete range
- Maximum Output Current: ± 400 mA or better at 20 V.
- Current boosting option: Each channel expandable anytime to ±10A measured current with unchanging current accuracy of 0.005% or better as well as compliance voltage of ± 20 V –Output Voltage Range: ± 10 V or better
- Current Ranges: ± 10 nA to current range 100 mA and High Current Amplification Upto± 10A using current

		booster	
		• Measured current accuracy: 0.005% at entire current range (100 fA at 10 nA range).	
		• Measured Potential Resolution: 5μV or better	
		• Potentiostat Rise/fall Time: < 500 ns or lower	
		• Interface: USB interface for connection with PC or better	
		• A single Master USB control for all channels	
		• Multiple USB Connectivity: Electrochemical workstation should also have 3 or more channels such that each could be independently controlled via dedicated computer station.	
		• Input bias current: < 1 pA	
		• Bandwidth of electrometer: > 5 MHz	
		• Input impedance of electrometer: > 100 GOhm // 10 pF	
		A complete set-up including following items is required for solar & photovoltaic cell research:	
		• Optical bench with ruler	
		• Calibrated photodiode holder	
		• LED cover holder	
		• Various types of LED's for EQE/IPCE Efficiency Analysis:	
		o Red LED 627 nm	
		o Green LED, 530 nm	
		o Blue LED, 470 nm	
		o White LED (1 Sun intensity with Spectral range 400nm- 1000nm, Spectrum AM1.5G)	
3.		**Electrochemical Workstation Channels and accessories:**	
		Channel 2: Fuel cell with full specifications :	
		• Compliance voltage: ± 20 V at ±400 mA current or better in complete range	
		• Maximum Output Current: ± 400 mA or better at 20 V.	
		• Current boosting option: Each channel expandable anytime to ±10A measured current with unchanging current accuracy of 0.005% or better as well as compliance voltage of ± 20 V –Output Voltage Range: ± 10 V or better	
		• Current Ranges: ± 10 nA to current range 100 mA and High Current Amplification Upto± 10A using current booster	
		• Measured current accuracy: 0.005% at entire current range (100 fA at 10 nA range).	
		• Measured Potential Resolution: 5μV or better	
		• Potentiostat Rise/fall Time: < 500 ns or lower	
		• Interface: USB interface for connection with PC or better	
		• A single Master USB control for all channels	

	• Multiple USB Connectivity: Electrochemical workstation should also have 3 or more channels such that each could be independently controlled via dedicated computer station. • Input bias current: < 1 pA • Bandwidth of electrometer: > 5 MHz • Input impedance of electrometer: > 100 GOhm // 10 pF • Ionic conductivity measurement Electrode Assembly • Fuel Cell with ~10 cm^2 MEA assembly and cartridge heaters and temperature sensor • Spare MEA for above mentioned Fuel Cell • Temperature Sensor for fuel cell • Temperature controller for fuel cell • Torque Wrench for Fuel Cell • Hot press for making MEA • Humidifier • Peristaltic pump	
4.	**Multichannel Configuration: Each channel should have plug and play type expandability options for following:** • Electrochemical Impedance Measurements • High Current Amplification Upto± 10A • Multiplexing options to conduct experiments upto 50 independent cells • Bi-potentiostat options from desired channel • Simultaneous temperature or pH measurements - A highly required future add-on • Single channel AC or DC light intensity control for LED Optical Bench without using an additional channel • External Triggering ADC, DAC, TTL The systems should be compatible with following up gradation using 'single software' application: a) Fuel cell polarization curve at high current (>100A) b) High Current EIS Analysis of Fuel Cell Via External Electronic Load c) LED optical bench – Photo Modulated Electrochemistry d) Rotating Ring Disc Electrode - e) Electrochemical Surface Plasmon Resonance f) Scanning Electrochemical Microscope – SECM **Provide optional quote for following items:** 1. Hydrogen and oxygen cylinder with gauge 2. Gas supply Piping 3. Pannel with base plate and acrylic sheet with Rota-meters for H_2 and O_2 and PMFC Mounted	
5.	**Warranty for 3 year**	