

## TENDER DOCUMENT FOR

**Supply of a Photovoltaic Spectrometer (A PV-Device Spectral Characterization System for Internal & External Quantum Efficiency) in the Department of Chemical Engineering and Technology, Indian Institute of Technology (BHU), Varanasi-221005**

### (NOTICE INVITING TENDER)

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

Sl. No.	Tender no.	Specifications & quantity of the item	Earnest Money Deposit (EMD)
1.	R&D/SERB/ChE/19-20/02/Eq1, Dated: 20/11/2019  <b>Bid Submission: End Date: 19/12/2019, 15.00 Hrs.</b>	<p><b>Photovoltaic Spectrometer (A PV-Device Spectral Characterization System for Internal &amp; External Quantum Efficiency)</b>  <b>Approx. Budget : Rs. 35 - 40 Lakhs</b></p> <p><b>TECHNICAL BID:</b>  <b>(MUST be submitted online in .pdf format)</b></p> <ol style="list-style-type: none"> <li>1. Scanned Copy of Proof of Tender Fees and EMD.</li> <li>2. Scanned Copy of Technical supporting documents in support of all claims made at Annexure-1.</li> <li>3. Scanned Copy of Technical Compliance statement as per Annexure-2, Bidder information form.</li> <li>4. Scanned Copy of Organization Declaration Sheet, Compliance sheets for Essential Pre Bid Criteria.</li> <li>5. List of organizations/clients where the same products have been supplied. (Annexure-3).</li> <li>6. Scanned Copy of Tender Acceptance Letter, Checklist given in Section 5, Tender Form etc.</li> <li>7. Scanned Copy of Brochure of quoted product and other documents, if any.</li> </ol> <p><b>PRICE BID:</b>  <b>(MUST be submitted online in given BOQ only and scanned copy should be attached in pdf format.)</b></p> <ol style="list-style-type: none"> <li>1. BOQ for Supply of Photovoltaic Device Spectral Characterization (Internal &amp; External Quantum Efficiency) System in Dept. of Chemical Engg. &amp; Tech., IIT (BHU), Varanasi in .xls format.</li> <li>2. Duly filled and signed Tender form (Price Bid).</li> <li>3. Duly filled and signed BOQ in PDF Format.</li> </ol>	<b>Rs. 35,000/- Only</b>

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.

**No manual bids will be accepted. All bids, both Technical and Financial should be submitted on the E- procurement portal.**

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

1. **Tender Processing Fee: Rs. 2360 (Two Thousand Three hundred Sixty inclusive of GST and Non-refundable)**
2. **Earnest Money Deposit: Rs. 35,000/- (Rupees Thirty Five Thousand )**

Last date and time for receipt of Tender Processing fee and EMD (if in form of DD or by NEFT/RTGS): **19/12/2019 (up to 15.00 Hrs.)**

The Tender Processing Fee of Rs. 2360/-(Inclusive of GST and Non-Refundable) and E.M.D. of Rs. 35,000/-(Refundable) for this Tender to be paid in the form of Bank Draft in favour of Registrar, IIT (BHU) or by RTGS/NEFT payable at Varanasi 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:

**Dr. Ravi P Jaiswal (PI),**

**Department of Chemical Engineering & Technology,**

**Indian Institute of Technology (Banaras Hindu University), Varanasi – 221005, UP.**

**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.**

**Note: Both the transactions are to be done separately.**

This Tender Document contains the following:

<b>SECTION 1:</b> Instruction For Online Bid Submission	: Page No.4-6
<b>SECTION 2:</b> Instructions to Bidders	: Page No.6-11
<b>SECTION 3:</b> General conditions of contract (GCC)	: Page No.12-18
<b>SECTION 4:</b> Special conditions of contract (SCC)	: Page No.19
<b>SECTION 5:</b> Checklist For Bid/Tender Uploading	: Page No.20
<b>SECTION 6:</b> DECLARATION	: Page No.21
<b>SECTION 7:</b> TENDER FORM (Techno commercial un-priced Bid)	: Page No.22-23
TENDER FORM (Priced Bid)	: Page No.24-25
TENDER ACCEPTANCE LETTER	: Page No.26 ( <b>Annexure A</b> )
PBG format	: Page No.27
Technical specification of the instrument	: Page No.28-31 ( <b>Annexure 1</b> )
Technical compliance	: Page No.32-33 ( <b>Annexure 2</b> )
Previous Same Order Executed	: Page No.34 ( <b>Annexure 3</b> )
Bid Submission	: Page No.35 ( <b>Annexure B</b> )

The Tender should be addressed to **Dr. Ravi P. Jaiswal, Department of Chemical Engineering & Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221005, UP.**, 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. Earnest Money shall be forfeited in case it is found at any stage that information/particulars regarding supply of tendered item (s) is false.

**Dr. Ravi P. Jaiswal**  
**PI**  
**Dept. of Chemical Engg. & Tech.**  
**IIT (BHU)**

**TENDER DOCUMENT FOR: Photovoltaic Spectrometer (A PV-Device Spectral Characterization System for Internal & External Quantum Efficiency)**

**CRITICAL DATE SHEET**

<b>Published Date</b>	<b>21/11/2019</b>
<b>Bid Document Download Start Date</b>	<b>21/11/2019 (04:30 PM)</b>
<b>Clarification Start Date</b>	<b>21/11/2019 (04:30 PM)</b>
<b>Clarification End Date</b>	<b>30/11/2019 (05:00 PM)</b>
<b>Bid Submission Start Date</b>	<b>21/11/2019 (04:30 PM)</b>
<b>Bid Document Download End Date</b>	<b>19/12/2019 (03:00 PM)</b>
<b>Bid Submission End Date</b>	<b>19/12/2019 (03:00 PM)</b>
<b>Bid Opening Date</b>	<b>20/12/2019 (04:00 PM)</b>
<b>Address For Communication</b>	<b>Dr. Ravi P. Jaiswal PI Department of Chemical Engineering &amp; Technology, Indian Institute of Technology (Banaras Hindu University), Varanasi – 221 005, U.P., INDIA E-mail: <a href="mailto:ravi.che@iitbhu.ac.in">ravi.che@iitbhu.ac.in</a>,</b>

# **TENDER DOCUMENT FOR: Photovoltaic Spectrometer (A PV-Device Spectral Characterization System for Internal & External Quantum Efficiency)**

## **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](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](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 / n-Code / e-Mudhra 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 / e-Token.

### **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.

### **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.

#### **4. 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. Scope of Work**

IIT - BHU invites online bids from the manufacturers/suppliers on behalf of The Director, IIT-BHU for supply of Equipment as per the technical specifications given in Annexure- 1 and as per terms and conditions of this tender document. Supplier should assure complete commissioning of the system including installation and application training for **Photovoltaic Spectrometer (A PV-Device Spectral Characterization System for Internal & External Quantum Efficiency)** and the System should be fully automated and of latest generation.

#### **2. 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**

#### **3. Cost of Bidding Documents**

The cost of bidding documents (Rs. 2360/-) 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.

#### **4. Content of Bidding Documents**

**4.1** 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).

**4.2** 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.

## 5. Amendment of Bidding Documents

**5.1** 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.

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

**5.3** 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

### 6. 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.

### 7. Documents Comprising the Bid

#### 7.1 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.

**7.2 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 fulfilment 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 same type of contracts and a certificate regarding the satisfactory performance of the contract (In the Annexure-3 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.

### **7.3 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.

### **8. Bid Prices**

**8.1** 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.

**8.2** 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;

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

**8.4** 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.

### **9. 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.

### **10. Period of Validity of Bids**

**10.1** 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.

**10.2** 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.

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



## **D. Submission of Bids**

**11.** 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.**

### **12. Deadline for Submission of Bids**

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

**12.2** 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.

### **13. Late/Delayed Bids**

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

### **14. Modifications and Withdrawal of Bids**

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

**14.2** 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.

**14.3** 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**

### **15. Opening of Techno commercial un-priced Bids**

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

### **16. Clarification of Bids**

**16.1** 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.

**16.2** 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.

**16.3** 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.

### **17. Evaluation of Techno commercial un-priced Bid**

**17.1** 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.

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

**17.3** 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.

**17.4** 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.

## **18. Opening of Priced Bids**

**18.1** 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.

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

## **19. Evaluation and Comparison of priced Bids**

**19.1** 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

**19.2** 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.

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

**19.4** 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**

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

**19.6** The date for the exchange rate (if applicable) shall be: **Date of opening of Financial Bids.**

## **20. 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.

## **21. 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.

## **22. 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.

## **23. Factors Affecting the Award of Supply**

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

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

**23.3** The assessment based on the response to Model Response Outline.

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

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

**23.6** The cost and the discount offered, if any.

**24. Fall clause**

**24.1** 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.

**24.2** 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.

**24.3** 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 CONDITIONS OF CONTRACT (GCC)**

### **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; "The Goods" means all the items, which the Supplier is required to supply to the Purchaser under the Contract;
- (c) "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;
- (d) "GCC" means the General Conditions of Contract contained in this section.
- (e) "The Purchaser" means the organization purchasing the Goods i.e. Deptt. of Chemical Engineering and Tech., IIT (BHU), VARANASI.
- (f) "The Purchaser's country" is India.
- (g) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
- (h) "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 reach the purchaser within the last date and time of receipt of bid. No extension shall be allowed for any reason what so ever. Late tenders/delayed bids and tenders received without earnest money etc. shall be rejected.

**6.2** Tender documents are available for sale with the purchaser. Interested bidders may purchase the tender documents on payment of the cost there of. The purchaser shall not be liable for either non-receipt of the tender document or for delay in receipt of tender document.

## **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 muteness 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 60 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.

**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 not 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** Minimum one year or as per term and condition given in Annexure I

**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 fulfilment 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.

## **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, its 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: or

(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;”

**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.

## **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. Taxes and Duties**

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser.

## **30. Performance Security:**

(i) Successful bidder have to furnish **10%** of the order value as a performance security in the shape of Bank Guarantee/ Fixed Deposit Receipt in favour of the **Registrar, Indian Institute of Technology (BHU)** for a period of 60 days beyond the end of all warranty obligations or as the case may be.

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

## **31. 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 GST and Income 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.

ii. '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 postal delay / loss in transit 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.

## **SECTION 4: SPECIAL CONDITIONS OF CONTRACT**

- 1. The bidder must have executed same nature of works in the last 3 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.

**NOTE: THE BID OF THOSE BIDDERS WHO FAILS TO COMPLY THE ABOVE ESSENTIAL CRITERIA 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,
  - (iii) Any other document required as per the tender;
- (e) Scanned copy of Technical Compliance Sheet (Annexure 2)

#### **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**.
- (iii) Scanned copy of signed price bid in pdf format.

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.

sd/-  
**Dr. Ravi P. Jaiswal (PI)**  
**Dept. of Chemical Engg. & Tech.**  
**IIT (BHU)**

## **SECTION 5 : CHECKLIST FOR BID/TENDER UPLOADING**

**(The following check-list must be filled in and uploaded with the bid documents)**

<b>Sl. No.</b>	<b>Particulars Techno Commercial Unprized Bid (Cover 1)</b>	<b>Yes/No</b>
1.	Have you uploaded the techno commercial unprized bid form duly filled in appropriately?	
2.	Have you uploaded a copy of the last three financial years (starting from the year 2017-18) audited balance sheet and P & L Account of your firm.	
3.	Have you uploaded the details of the PAN, copy of GST registration certificate and OEM authorization letter specifically for this bid.	
4.	Have you executed the same nature of work in last 3 years with order value as mentioned in essential pre-bid criteria and uploaded the copies of relevant work orders and satisfactory installation certificates.	
5.	EMD and Tender Processing Fee: Have you submitted DD/transferred online EMD and Tender Processing Fee asked for separately and uploaded their proof of submission.	
6.	Have you uploaded the schedule of requirement indicating the make offered without indicating the pricing components along with the techno commercial unprized bid?	
7.	Have you uploaded the bids both techno commercial unprized and priced bid separately for each tender?	
8.	Have you enclosed the statement of deviations from financial terms and conditions, if any?	
9.	Have you submitted the Technical Compliance Sheet?	
10.	<b>Have you attached Manufacturer's Authorization certificate for this Tender?</b>	
11.	Have you attached the Declaration on the letter pad of Bidder?	
12.	Have you attached the signed Tender acceptance letter?	
<b>Price Bid (Cover 2)</b>		
1.	Have you signed and uploaded the priced bid form?	
2.	Have you uploaded the schedule of requirements duly priced i.e. BOQ and its pdf version?	

**SECTION 6**

**DECLARATION**

*(To be uploaded on the letter head of the firm submitting the bid)*

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, and I  
take full responsibility for the entire documents uploaded.
6. This is certified that our organization has been authorized (Copy uploaded) by the OEM to participate  
in Tender. We further certify that our organization meets all the conditions of essential eligibility  
criteria and technical specifications laid down in this tender document. Moreover, OEM has agreed to  
support on regular basis with technology / product updates and extend support for the warranty.
7. The prices quoted in the price bids are subsidized due to academic discount given to IIT (BHU),  
Varanasi.
8. We, further specifically certify that our organization has not been Black Listed/De Listed or put to  
any Holiday by any Institutional Agency/Govt. Department/Public Sector Undertaking in the last  
three years.

-----  
Signature of the Authorized Person

Date: -----

Full Name -----

Place: -----

Company Address with Seal

## SECTION 7

### TENDER FORM

**(Techno commercial un-priced Bid)**  
(On the letter head of the firm submitting the bid)

Tender No. ....

To

Dr. Ravi P. Jaiswal (P.I.)  
Department of Chemical Engineering & Technology  
Indian Institute of Technology (Banaras Hindu University)  
Varanasi – 221005, U.P

Dear Sir,

1. I/We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders;
2. I/We meet the eligibility requirements and have no conflict of interest;
3. I/We have not been suspended nor declared ineligible in India;
4. I/We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: *[insert a brief description of the Goods and Related Services]*;
5. I/We offer to supply the items as listed in the schedule to this tender hereto/portion thereof as you may specify in the acceptance of Tender at the price given in the said Schedule and agree to hold this offer open for a period of 90 days from the date of opening of the tender.
6. I/we shall be bound by a communication of acceptance issued by you.
7. I/We have understood the Instruction to bidders and Conditions of Contract in the form as enclosed with the invitation to the tender and have thoroughly examined the specifications quoted in the Schedule hereto and am/are fully aware of the nature of the goods required and my/our offer is to supply the goods strictly in accordance with the specifications and requirements.
8. **A proof of payment of Rs..... (Rupees..... only)**  
as Earnest Money in the aforementioned account of Registrar, IIT (BHU) has been uploaded.
9. The following have been uploaded to form part of this tender.
  - (a) Schedule of requirements, quoting the make only duly signed and stamped. (without indicating price)
  - (b) Scanned copy of PAN Card
  - (c) Copy of last three financial audited balance sheet and P&L account.
  - (d) Copy of Valid GST registration certificate.
  - (e) Copy of same relevant major purchase within last 3 years with order type and value as mentioned in essential pre-bid criteria.
  - (f) Copy of authorization letter from OEM in Case of authorized dealer only.
  - (g) Statement of deviations from financial terms & conditions, if any.
  - (h) Any other enclosure. (Please give details)

10. We undertake to execute all orders which have been placed to meet emergent requirements on priority basis.

11. Certified that the bidder is:

(a) A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor,

**Or**

(b) A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney.

**Or**

(c) A company and the person signing the document is the constituted attorney.

***(NOTE: Delete whatever is not applicable. All corrections/deletions should invariable be duly attested by the person authorized to sign the bid document).***

12. We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof shall constitute a binding contract between us.

13. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

14. We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process, other than alternative bids submitted;

15. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder\* .....

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* .....

Title of the person signing the Bid .....

Signature of the person named above .....

Date signed ..... day of .....

\* In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

\*\* Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Yours faithfully,

(Signature of bidder)

Dated this day of \_\_\_\_\_

**Address:** .....

Telephone No. : \_\_\_\_\_

FAX \_\_\_\_\_

E-mail \_\_\_\_\_

Company seal

## TENDER FORM

### (Priced Bid)

*(On the letter head of the firm submitting the bid document)*

To,

Dr. Ravi P. Jaiswal (P.I.)  
Department of Chemical Engineering & Technology  
Indian Institute of Technology (Banaras Hindu University)  
Varanasi – 221005, U.P.

**Ref: Tender No.....Dated: .....**

Sir,

Having examined the bidding documents and having submitted the techno commercial unpriced bid for the same, we, the undersigned, hereby submit the priced bid for supply of goods and services as per the schedule of requirements and in conformity with the said bidding documents.

1. We hereby offer to supply the Goods/Services at the prices and rates mentioned in the enclosed schedule of requirement.
2. We do hereby undertake that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule of requirement and that we shall perform all the incidental services.
3. The prices quoted are inclusive of all charges net F.O.R IIT (BHU) Varanasi. We enclose herewith the complete Price Bid as required by you. This includes:
  - a. Price Schedule (Bill of Quantity-BOQ) in .pdf format and .xls format
  - b. Statement of deviations from financial terms and conditions, if any.
4. We agree to abide by our offer for a period of 90 days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.
5. We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviations are only those mentioned in the statement of deviations from financial terms and conditions.
6. We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]**

Name of Recipient	Address	Reason	Amount

**(If none has been paid or is to be paid, indicate “none.”)**



7. We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

8. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of sole proprietor,

**Or**

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney,

**Or**

A company and the person signing the bid document is the constituted attorney.

***(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document.)***

We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.

Dated this day of \_\_\_\_\_

Signature of Bidder \_\_\_\_\_

Details of enclosures \_\_\_\_\_

Full Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone No. \_\_\_\_\_

Mobile No. : \_\_\_\_\_

Fax No. : \_\_\_\_\_

E-mail: \_\_\_\_\_

Company Seal

**TENDER ACCEPTANCE LETTER**

(To be given on Company Letter Head)

**Date:**

To

Dr. Ravi P. Jaiswal (P.I.)  
Department of Chemical Engineering & Technology  
Indian Institute of Technology (Banaras Hindu University)  
Varanasi – 221005, U.P

**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No.** \_\_\_\_\_

**Name of Tender/ Work: -**

\_\_\_\_\_  
\_\_\_\_\_

Dear Sir,

1. I/We have downloaded/ obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

\_\_\_\_\_  
\_\_\_\_\_

as per your advertisement, given in the above mentioned website(s).

2. I/We hereby certify that I/We have read the entire terms and conditions of the tender documents from Page No. \_\_\_\_\_ to \_\_\_\_\_ (including all documents like section(s), schedules(s) etc.), which form part of the contract agreement and I/we shall abide hereby by the terms/conditions/ clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organizations too have also been taken into consideration, while submitting this acceptance letter.

4. I/We hereby unconditionally accept the tender conditions of above mentioned tender document(s)/ corrigendum(s) in its totality/entirety.

5. In case any provisions of this tender are found violated, then your department/organization shall without prejudice to any other right or remedy be at liberty to reject this tender/bid including the forfeiture of the full said earnest money deposit absolutely.

**Yours faithfully,**

**(Signature of the Bidder, with Official Seal)**

**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 80,000/- (**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:



**ANNEXURE 1**

Sl.no.	Parameters / Features	Description
1.	<b>Type of solar cells</b>	<p><b>DSSC (Dye sensitized solar cell)</b></p> <p><b>Mono/ Multi crystalline silicon solar cells</b></p> <p>Thin film solar cells/ sub-modules (superstrate or substrate configuration) of the following types:</p> <ul style="list-style-type: none"> <li>o A-Si, CIGS/CZTS, CdTe, Heterojunction Si Solar cells.</li> </ul>
2.	<b>Spectral Wave Length Range</b>	300nm (or lower) to 1100nm (or higher)
3.	<b>Essential Measurement Parameters</b>	<ul style="list-style-type: none"> <li>• <b><u>Spectral response</u></b></li> <li>• <b><u>External quantum efficiency</u></b> (Both AC as well as DC measurements)</li> <li>• <b><u>Internal quantum efficiency</u></b> (Both AC as well as DC measurements)</li> <li>• <b><u>Reflectance</u></b></li> <li>• <b><u>Transmittance</u></b></li> </ul>
4.	<b>Measurement/System Quality</b>	<ul style="list-style-type: none"> <li>• The measurement repeatability in spectral range from 300 to 1100 should be 99% or better</li> <li>• The system should offer a quick measurement from 300 to 1100nm (with the interval is 5nm or better) within few minutes (less than 5min)</li> <li>• Light delivery system for probe beam should be based on reflection and have no chromatic/spherical aberration.</li> <li>• The system should be equipped to take calibration measurements using reference detectors and measure responsivity of device under test implementing these measurements.</li> </ul>
5.	<b>Light Source</b>	<ul style="list-style-type: none"> <li>• <b><u>Dual light source</u></b> in single housing with software control for <u>automatic switchover</u> at higher wavelength (to avoid spikes) would be <u>preferred</u></li> <li>• <b><u>Xenon arc lamp</u></b> (Ozone free) 75W (minimum) with elliptical optics to ensure optimal light coupling (please include data quantifying the effectiveness of light coupling).</li> <li>• The system should include highly stable Xe lamp system having intensity variation less than 1% in 48 hours.</li> <li>• <b><u>Quartz Halogen lamp</u></b> 100 W (minimum) with constant current power source</li> <li>• Computer controlled selection mirror</li> </ul>
6.	<b>Monochromator</b>	<ul style="list-style-type: none"> <li>• Wave length range: 300nm (or lower) to 1100nm (or higher)</li> <li>• Focal length: minimum 250mm.</li> <li>• Czerny Turner layout</li> <li>• Automated <b><u>double grating</u></b> (minimum) turret with grating: 1200 l/mm blazed at 500nm</li> <li>• Resolution &lt; 0.5 nm @1200 l/mm</li> <li>• Scanning interval: 0.1nm or higher</li> </ul>

		<ul style="list-style-type: none"> <li>• Order sorting and stray light attenuation filters in UV in one filter wheel, automatic selection using software.</li> <li>• Spot size: 1 mm or bigger (<u>adjustable</u>)</li> <li>• Wave length resolution: &lt;0.7 nm or better for all gratings, &lt;0.4nm in UV-VIS</li> <li>• Wavelength Accuracy: <math>\pm 0.4\text{nm}</math> or better for all gratings</li> <li>• Spectral band width: adjustable fixed slit, 5 nm or lower.</li> <li>• Efficient working distance: 10 cm or higher</li> </ul>
7.	<b>Light bias source</b>	<ul style="list-style-type: none"> <li>• <u>Xenon arc lamp</u> 50W (minimum) or Quartz halogen source 100W (minimum).</li> <li>• <u>Adjustable intensity up to 0.1-1 sun</u> (or higher)</li> <li>• Light delivery should preferably be done through co-axial with probe beam</li> <li>• Constant current power supply</li> <li>• Beam size: minimum 10 mm x 10 mm (or bigger)</li> <li>• Software controlled shutter</li> <li>• Set of appropriate filters to enable measurement</li> <li>• Switching for AC to DC mode and vice-versa within a minute</li> </ul>
8.	<b>Measurement Modes; Chopped and DC</b>	<p>Minimum range: 10 Hz to minimum 450Hz (or higher)</p> <p>Resolution: 0.01Hz, stability: <math>&lt; \pm 0.05</math> Hz. Stable time to change the frequency <math>&lt; 3</math> seconds.</p>
9.	<b>Measurement Conditions</b>	<ul style="list-style-type: none"> <li>• <b>Voltage Bias; White light bias;</b></li> <li>• <b>AC and DC modes;</b></li> </ul>
10.	<b>DSP Lock-In Amplifier</b>	<ul style="list-style-type: none"> <li>• Input Range: 0 to 10V</li> <li>• Reference Input 0- 5V</li> <li>• Gain Accuracy <math>\pm 0.15\%</math></li> <li>• Sensitivity: 1nA or better</li> <li>• Output Stability: 5ppm/<math>^{\circ}\text{C}</math> to 500ppm/<math>^{\circ}\text{C}</math> depending on sensitivity</li> <li>• Time Constant: 10ms to 10s</li> <li>• ADC Resolution: 16 bit (or better)</li> <li>• Maximum acquisition speed <math>&lt; 25 \mu\text{s}</math> (signal)</li> <li>• Control Front panel/ USB</li> </ul>
11.	<b>Sample holder</b>	Superstrate Mounts with micro positioners, Maximum sample size 60x60mm (should be equipped to measure front/front, front/back, back/back contacts.
12.	<b>Contact probes</b>	2 Contact probes with micro positioners for superstrate mount mentioned.
13.	<b>Detectors</b>	<p>NMI Calibrated Detectors for 300 (or lower) -1100 nm. 1.Si detector: 300 nm (or lower) -1100 nm</p> <p><b><u>Calibration certificate for all detectors should be supplied with NMI traceable report.</u></b></p>
14.	<b>Integrating sphere</b>	<ul style="list-style-type: none"> <li>• For measuring transmittance, diffused/specular and total reflectance</li> <li>• <b>Port Fraction to be <math>&lt; 4\%</math> to adhere to CIE, ASTM standards</b> for all kinds of reflectance, transmittance measurements.</li> <li>• <b>Diameter: 150 mm (minimum)</b></li> <li>• Integrating sphere aperture: 1.4 cm or more</li> <li>• Measurement capability with/without specular reflection</li> <li>• <b>Integrating sphere</b> switchable to EQE and IQE modes without physically remove or attach the integrating sphere would be <u>preferred.</u></li> </ul>
16.	<b>Software</b>	The Quantum Efficiency & Spectral Response Measurement System should operate automatically under the control of a computer with an appropriate operating system. The system software controls the equipment, gathers the instrument readings, and maintains the calibration information.

		Software must have following features: <ul style="list-style-type: none"> <li>Plotting of Spectral response, internal and external quantum efficiency, reflectance, and transmittance</li> <li>Estimate short-circuit current density (Jsc) of solar cell.</li> <li>Controlling of monochromator and chopper frequency through software</li> <li>Provision for upgradation</li> </ul>
17.	Light Tight Chamber	Light tight chamber should be offered to facilitate all measurements (EQE, IQE) without requirement of a dark room.
18.	EQE/IQE measurement:	<ul style="list-style-type: none"> <li>The EQE to IQE switching should be done just by toggling and without physically attaching or removing the integrating sphere or any optics.</li> <li>EQE and IQE can be measured at the <u>same point</u>.</li> </ul>
19.	Verification of QE measurement:	<ul style="list-style-type: none"> <li>The Jsc (short-circuit current density) calculated by integrating EQE over the AM1.5 spectrum must be shown to be close to the Jsc of the same device measured under a different in-house solar simulator</li> </ul>
20.	Computer	<ul style="list-style-type: none"> <li>Laptop with necessary Quantum Efficiency &amp; Spectral Response Measurement System software</li> <li>Windows OS, Intel core i7 (7<sup>th</sup> gen or better), 13"-16" display, 8GB RAM, 1TB HDD, SSD 128GB (minimum)</li> </ul>
21.	General terms/preferences	<ul style="list-style-type: none"> <li>System should have at least One year warranty</li> <li>Supplier should have minimum <u>5 installations</u> of the same QE system in India which should be supported by their installation certificates and customer references (contact details).</li> <li>Party's trained service engineers should provide on-site installation and training of the complete PV system during and after commissioning of the same. The terms and conditions for training are to be presented clearly in the proposal.</li> <li>The party should clearly state parameters compliance against technical specifications as mentioned in above table. The compliance statement is required to be supported by technical literature/brochure, wherever possible.</li> </ul>

**\*\*Additional optional accessories which are required for the set-up should be indicated separately along with their price. The above specs are desirable and the actual numbers achievable for your system should be indicated.**

**OTHER TERMS:**

- Price of the instrument may be quoted in Indian currency or foreign currency  
**Payment will be made 90% by Bill Basis or by letter of credit i.e. 90% payment against shipment and rest 10% on successful installation and submission of PBG after satisfactory installation and submission of PBG@10% of order value valid for period of 60 days beyond all warranty obligations.**
- Price should be quoted **F.O.R to IIT (BHU), Varanasi.**
- Custom Clearance will be the responsibility of the supplier and IIT (BHU) will provide Custom Exemption Certificate.
- Indian agency commission:** Should be clearly stated in the financial bid in Indian currency.
- 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%.
- Bank Guarantee (BG):** 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) 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 100% on bill basis after satisfactory installation.
8. **User List:** Provide users for last 2 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. Preferably Two years comprehensive warranty should be included with the offer
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 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.

**Dr. Ravi P. Jaiswal (PI)**  
**Department of Chemical**  
**Engineering & Technology**  
**IIT (BHU), Varanasi-221005**

## TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

S. No.	Technical Requirement	Yes/No
1	Can be used for DSSC (Dye sensitized solar cell), Mono/ Multi crystalline silicon solar cells and Thin film solar cells	
2	Wave Length Range from 300nm (or lower) to 1100nm (or higher) would be covered	
3	Spectral response, External and Internal quantum efficiency (Both AC as well as DC measurements), Reflectance and Transmittance can be measured	
4	The measurement repeatability has been verified to be 99% or better in the spectral range from 300 to 1100	
5	Light delivery system for probe beam should be based on reflection and have no chromatic/spherical aberration.	
6	The system should be equipped to take calibration measurements using reference detectors and measure responsivity of device under test implementing these measurements	
7	Dual light source are installed in a single housing to avoid spikes at high wavelength, with software control for automatic switchover at higher wavelength	
8	Xenon arc lamp (Ozone free) 75W (minimum) and Quartz Halogen lamp 100 W (minimum) for AC mode	
9	The system should include highly stable Xe lamp system having intensity variation less than 1% in 48 hours	
10	Monochromator with automated <u>double grating</u> (minimum) turret with grating: 1200 l/mm blazed at 500nm to cover wave length range: 300nm (or lower) to 1100nm (or higher)	
11	Resolution < 0.5 nm @1200 l/mm and Scanning interval: 0.1nm or higher	
12	Spot size: 1 mm or bigger ( <u>adjustable</u> )	
13	The focal length (Monochromator) should be 250mm (minimum)	
14	Working distance: 10 cm or higher	
15	Additional <u>Xenon arc lamp</u> 50W (minimum) or Quartz halogen source 100W for DC mode	
16	Light delivery should preferably be done through co-axial with probe beam	
17	Adjustable for the DC mode light source intensity up to 0.1-1 sun (or higher)	
18	Beam size: minimum 10 mm x 10 mm (or bigger)	
19	Minimum measurement range: 10 Hz to minimum 450Hz (or higher); 0-2 Hz DC chopping (for slower response cells like DSSC)	
20	Measurement Conditions: Voltage Bias and White light bias; AC and DC modes;	
21	DSP Lock-In Amplifier: Input Range (0 to 10V), Reference Input (0- 5V), Gain Accuracy ( $\pm 0.15\%$ ), Sensitivity (1nA or better), Output Stability (5ppm/ $^{\circ}$ C to 500ppm/ $^{\circ}$ C), Time Constant ( 10ms to 10s), ADC Resolution (16 bit or better)	
22	Sample holder: Superstrate Mounts with micro positioners for maximum sample size 60x60mm. It should be equipped to measure front/front, front/back, back/back contacts.	
23	2 Contact probes with <u>micro positioners</u> for superstrate mount	



	mentioned.	
24	NMI Calibrated Si detector Detectors for 300 (or lower) -1100 nm. <u>Calibration certificate for all detectors should be supplied with NMI traceable report.</u>	
25	Integrating sphere: Diameter: 150 mm (minimum) for measuring transmittance, diffused and total reflectance (with/without specular reflection)	
26	Integrating sphere: Aperture: 1.4 cm or more. Port Fraction to be < 4% to adhere to CIE, ASTM standards for all kinds of measurements.	
27	Integrating sphere switchable to EQE and IQE modes without physically remove or attach the integrating sphere	
28	Light tight chamber to facilitate all measurements (EQE, IQE) without requirement of a dark room.	
29	The Quantum Efficiency & Spectral Response Measurement System operate automatically under the control of a computer with an appropriate operating system. The system software controls the equipment, monochromator and chopper frequency through software, gathers the instrument readings, and maintains the calibration information.	
30	EQE and IQE can be measured at the <u>same point.</u>	
31	The EQE to IQE switching should be done just by toggling and without physically attaching or removing the integrating sphere or any optics.	
32	Software must plot Spectral response, internal and external quantum efficiency, reflectance, and transmittance	
33	Software should estimate short-circuit current density (Jsc) of solar cell.	
34	Verification of QE measurement: The Jsc (short-circuit current density) calculated by integrating EQE over the AM1.5 spectrum has been found to be close to the Jsc of the same solar device measured under a solar simulator	
35	A laptop with necessary Quantum Efficiency & Spectral Response Measurement System software. Specification: Windows OS, Intel core i7 (7 <sup>th</sup> gen or better), 13"-16" display, 8GB RAM, 1TB HDD, SSD 128GB (minimum)	
36	System should have at least One year warranty	
37	The supplier should have minimum <u>5 installations</u> of the same QE system in India which should be supported by installation certificates and customer references (contact details).	
38	Party's trained service engineers should provide on-site installation and training of the complete PV system during and after commissioning of the same.	

**Signature of the Authorized  
Official with Seal**

**PREVIOUS SAME ORDER EXECUTED**

Please quote best minimum prices applicable for a premier Educational and Research Institution. The party must give details of purchase orders identical or same equipment supplied to any IITs/NITs/University/CFTIs as per below Format in last Three years (to be uploaded in Cover 1) along with the final price paid, these details are mandatory.

Name of the Firm \_\_\_\_\_

Order placed by (Full address of Purchaser)	Order No. and Date	Description and quantity of ordered equipment	Value of Order	Date of completion as per contract	Has the Equipment being installed satisfactorily (Attach a Certificate from the Purchaser/ Consigner)	Contact Person along with Telephone No., Fax No. and e-mail address.

*(Kindly enclose the scan copy of aforementioned purchase orders)*

**Details of Technical Expert**

<b>Name of application specialist/Service Engineer who have the technical competency to handle and support the quoted product during the warranty period.</b>		
<b>Name of the organization</b>	<b>Name of Contact Person</b>	<b>Contact No.</b>

Signature and Seal of the Manufacturer / Bidder \_\_\_\_\_

Place: \_\_\_\_\_

Date: \_\_\_\_\_

**BID SUBMISSION****Online Bid Submission:**

The Online bids (complete in all respect) must be uploaded online in **two** covers as explained below:

<b>Cover – 1</b>			
(Following documents to be provided as .pdf file)			
<b>Sl. No.</b>	<b>Document</b>	<b>Content</b>	<b>File Types</b>
1.	Technical Bid	Technical Compliance Sheet, Bidder information form	.PDF
2.		Organization Declaration Sheet, Compliance sheets for Essential Pre Bid Criteria	.PDF
3.		Checklist given in Section 5, Tender Acceptance, Tender Form, etc.	.PDF
4.		List of organizations/clients where the same products have been supplied (in last two years) along with their contact number(s). (Annexure-3)	.PDF
5.		Technical supporting documents in support of all claims made at Annexure-1	.PDF
6.		EMD and Tender fee submission proof	.PDF
7.		Brochure of quoted product and other documents, if any	.PDF
<b>Cover – 2</b>			
<b>Sl. No.</b>	<b>Document</b>	<b>Content</b>	
1	Price Bid	Duly filled and signed Tender form (Price Bid)	.PDF
2.		Duly signed BOQ in .pdf format	.PDF
3.		BOQ in .xls Format	.XLS