



**TERI School of Advanced Studies  
10, Institutional Area, Vasant Kunj, New Delhi**

**TENDER DOCUMENT  
(Advertised number 2020 DBT 01 UCOST/25/01/2022)  
For  
“SUPPLY AND INSTALLATION OF  
SOLAR GREEN HOUSE HYDROPONICS SYSTEM  
AT UCOST, DEHRADUN”**

**for**

**TERI School of Advanced Studies. New Delhi**

**at**

**Uttarakhand State Council for Science and Technology  
Department of Information Technology, Science and Technology,  
Govt. of Uttarakhand,  
Vigyan Dham, Jhajra, Dehradun-248001, (Uttarakhand)**

**TERI SCHOOL OF ADVANCED STUDIES**  
**10, Institutional Area, Vasant Kunj, New Delhi**

Date: 25.01.2022

1) Nature of job/work:	Supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun (as per specifications provided in the tender document) on turnkey basis under two-bid system
2) Cost of Blank Tender form:	Rs. 5000/- (Rs. Five Thousand only) (Non-refundable) + 18% GST
3) Availability of tender document:	TERI School of Advanced Studies 10, Institutional Area, Vasant Kunj, Delhi Website link <a href="https://www.terisas.ac.in/announcement.php">https://www.terisas.ac.in/announcement.php</a>
4) Amount of E.M.D.	Rs. 5,00,000/- (Rs. Five Lakh only) (Without Interest, Refundable)
5) Last date and time of submitting:	05.02.2022 till 05.00 PM (By speed post/registered post/reputed courier service)
6) Date and time of Opening Technical Bid	07.02.2022 at 11.00 AM.

# TERI SCHOOL OF ADVANCED STUDIES

## Detailed Tender Notice

The Registrar, TERI SCHOOL OF ADVANCED STUDIES, Vasant Kunj, Delhi invites "Tender for supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun" which is enclosed herewith. The time allowed for execution of the work is 90 days after award of work/ from date of issue of purchase order.

1. Earnest money of Rs 5,00,000/- (Rs. Five Lakh only) (Refundable without interest) and tender fee Rs. 5000/- (Rs. Five Thousand only) (non-refundable) shall be deposited in the form of Demand Draft in favour of TERI SCHOOL OF ADVANCED STUDIES payable at Delhi along with the Tender document.

2. Reputed suppliers/integrators should fulfil the following criteria to make them eligible for the technical bid.

a) The bidder should have satisfactorily completed three similar works each costing Rs. 25 Lakhs OR two works each costing Rs. 35 Lakhs OR one work costing Rs. 80 Lakhs of similar nature during the last three years ending last day of 31 March 2021.

b) Similar or Similar Nature of work means Supply & Installation of Solar /Green House/ Hydroponics System in reputed Institute/ Organization.

3. Application for Tender supported by prescribed annexures 1 and 2 (with supporting documents) and Earnest money should be submitted in sealed envelope duly superscribed with the name of work, name & phone nos. of the bidder and due date of opening. The applications will be received up to 05.00 PM on 05.02.2022- in Admin office, TERI SCHOOL OF ADVANCED STUDIES Delhi and it will be opened on 07.02.2022 at 11.00 AM

4. The Bid shall be treated as a two-bid system. The Technical Bid shall be opened for bidders whose earnest money is found in order. Financial Bid shall be opened for the qualified bidders who have cleared the Technical Bid evaluation.

5. The prescribed tender documents should be submitted in one sealed envelope duly superscribed with

"Tender for supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun". This sealed envelope should contain 3 sealed envelopes marked A, B, & C, as prescribed as under:

a) Envelop A containing tender form fee of Rs.5000/- +18% GST and Earnest Money of Rs 5,00,000/- in the form of Demand Draft in favour of TERI SCHOOL OF ADVANCED STUDIES payable at Delhi. Tender shall be rejected if the tender form fee and Earnest money D.D.'s are not found in proper order.

b) Envelop B containing the Technical Bid (format in annexure 1) along with the supporting documents.

c) Envelop C containing the Financial Bid (format in annexure 2)

6. The complete tender document is to be signed with seal & is to be placed in the technical bid envelope along with the necessary required documents.

7. If any information furnished by the bidder is found to be incorrect at a later stage, s/he shall be liable to be debarred from tendering/taking up of work in TERI SCHOOL OF ADVANCED STUDIES Delhi. The TERI SCHOOL OF ADVANCED STUDIES reserves the right to verify the particulars furnished by the bidder independently.

8. TERI SCHOOL OF ADVANCED STUDIES reserves the right to reject any or all prospective bidders without assigning any reason and to restrict the list of tendered contractors to any number deemed suitable by it, if too many applications are received satisfying the basic criteria.

9. The bidder will submit the GST registration and PAN No. along with document of registration of the firm/company.



**Registrar**

TERI School of Advance Studies

Vasant Kunj, Delhi

**Registrar**

**TERI School of Advanced Studies**

**10, Institutional Area, Vasant Kunj**

**New Delhi-110 070**

## **SECTION I: BRIEF PARTICULARS OF THE WORK**

1. The detailed salient features of the work for which Tender is invited are mentioned in Annexure 3 of this document.
2. The work site is situated at Uttarakhand State Council for Science and Technology Department of Science and Technology, Govt. of Uttarakhand Vigyan Dham, Jhajra, Dehradun (UK) which can be visited any time during office hours (10 am to 5 pm) on all working days.
3. The Contact person for further information shall be Dr. Shashi Bhushan Tripathi (email: shashi.tripathi@terisas.ac.in, Contact no. 9811870528).

### **Note:**

- The above information is to give the bidders only an idea of the type of work involved.
- TERI SCHOOL OF ADVANCED STUDIES will have the option to change/select the material of fabrication of the components of work.
- TERI SCHOOL OF ADVANCED STUDIES has the right to call for the samples as per the specification specified in the tender document at its place of choosing.
- TERI SCHOOL OF ADVANCED STUDIES reserves the right to decide the execution or non-execution of work at any stage and the bidder/contractor shall have no objection for the same and shall comply with the same.
- TERI SCHOOL OF ADVANCED STUDIES reserves the right to place order or not to place order in full or part of it and the bidder/contractor shall have no objection for the same and shall comply with the same.

## **SECTION II: INFORMATION & INSTRUCTIONS FOR BIDDERS**



## **1. GENERAL**

1.1. All information called for in the enclosed forms should be against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even if no information is to be provided in a column, a "nil" or "no such case" entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as "not applicable". The bidders are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the bidder being summarily disqualified. Applications made by telegram or telex or fax or email and those received late will not be entertained.

1.2. The application should be printed; the bidder should sign each page of the application.

1.3. Overwriting should be avoided. Correction, if any, should be made by neatly by crossing out, signed and re-writing. Use of fluid (whitener) is not allowed, and such tenders shall be rejected. Pages of the tender document are numbered. Additional sheets, if any added by the contractor, should also be numbered by him. They should be submitted as a package with signed letter of transmittal.

1.4. The bidder may furnish any additional information which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is, however, advised not to furnish superfluous information. No information shall be entertained after submission of Tender document unless it is called for by the TERI SCHOOL OF ADVANCED STUDIES.

1.5. Any information furnished by the bidder found to be incorrect either immediately or at a later date, would render him liable to be debarred from tendering /taking up of the work in TERI SCHOOL OF ADVANCED STUDIES.

1.6. Prospective bidders may request clarification of the project requirements and Tender document from the TERI SCHOOL OF ADVANCED STUDIES.;

## **2. FINAL DECISION-MAKING AUTHORITY**

TERI SCHOOL OF ADVANCED STUDIES reserves the right to accept or reject any application and to annul the tender process and reject any or all applications at any time, without assigning any reason or incurring any liability to the bidders.

## **3. PARTICULARS PROVISIONAL**

The particulars of the work given in Section I are provisional. They are liable to change and must be considered only as advance information to assist the bidder. The bidder should utilise its expertise to provide a complete blueprint for the entire work.

## **4. SITE VISIT**

The bidder is advised to visit the site of work situated at Uttarakhand State Council for Science and Technology Department of Information Technology and Science & Technology, Govt. of Uttarakhand, Vigyan Dham, Jhajra, Dehradun, Uttarakhand at his own cost and examine it and its surroundings to himself collect all information that he considers necessary for proper assessment of the prospective assignment.

## **5. INITIAL CRITERIA FOR ELIGIBILITY IN FINANCIAL BID**

Bidders must fulfil the minimum conditions of eligibility (the “Conditions of Eligibility”) provided herein. Proposals of only those Bidders who satisfy the Conditions of Eligibility will be considered. The Bidders will be required to submit supporting documents for conditions of eligibility.

To be eligible for evaluation of their Proposal, the Bidder shall fulfil the following:

1. The tenders received after due date/or time will be summarily rejected.
2. The Bidder should have registered with PF & ESIC Govt. of India (Documentary proof to be attached)
3. The Bidder should have registered with IEC Govt. of India (Documentary proof should be attached).
4. The bidder shall have Annual turnover for last three financial (2018-19, 2019-20 and 2020-21) years, ending on 31 March 2021, should not be less than INR 25 Cr. in the field of similar type of facilities. The copies of the Profit & Loss statement also to be provided. The bidder should not be in loss in the last 03 financial years. The Turnover Certificate duly signed & stamped by Chartered Accountant is required to be provided.
5. The Bidder should provide ITR (Income Tax Return) for last three years (2018-19, 2019-20 and 2020-21).
6. The Bidder should have registered with ISO Certification.
7. The Bidder should have experience in installation of similar Type of Facility/ solar based Hi-Tech Green House in Govt./Semi Govt. Department. (Attach Documentary proof of work order with completion certificate).
8. The Bidder should provide proposed work plan with CAD Design/Drawing/Layouts.
9. The details of the Make and Complete Specification of the Material with year of manufacturing (preferably latest) should be clearly mentioned and catalogue/Leaflet/Brochure of the manufacturer should be submitted with the proposal.
10. The precision and accuracy of the equipment/material should be clearly mentioned in the submitted/ filled technical document.
11. The Bidder should have registered with Department of Scientific and Industrial Research (DSIR) Govt. of India (Documentary proof should be attached).
12. The performance security money equivalent to 5% of the purchase order value will be required to be submitted by the successful bidder in favor of the Registrar, TERI School of Advance Studies, Vasant Kunj, Delhi.
13. Joint Venture for the said project is not allowed.
14. Bidders Company/ organization should be a Private Limited/ Government Registered Company.
15. The Bidder must submit proposals with Technical Support Assurance letter for minimum one year after the commissioning of the project free of cost.

16. Tender fee of Rs. 5,000/- (Rs. Five thousand only+ 18% GST) (Non-refundable) to be submitted
17. Bidder need to submit an EMD of Rs. 5,00,000/- (Rs. Five Lakh only) to be eligible to participate in this tender.
18. The Bidder must have NSIC/MSME Certificate
19. An affidavit on Rs.100/- Stamp Paper from Public Notary shall be attached/uploaded by the bidder with following declaration/undertaking that: "The Bidder is not blacklisted by any State Government/GOI/Union territory/State and Central Educational Institutes etc. during last five years at the time of submission of tender bid for any item or by any reason."
20. All documents submitted by the bidder should be self-attested and the bid should be valid for 90 days after the last date of bidding of the tender.
21. The Bidder should quote for all items of the tender. Any tender for Part item will be rejected outrightly.
22. Bidder has to comply and quote as per technical specification attached.
23. All bidders may be asked to display the sample of materials to be used in fabrication of all the materials, component etc to be used for assessing the specification, quality, durability and finish of the material by the technical evaluation committee appointed by the TERI SCHOOL OF ADVANCED STUDIES. The bidder shall have to display the material at his own cost and TERI SCHOOL OF ADVANCED STUDIES shall not entertain any claim for the same. TERI SCHOOL OF ADVANCED STUDIES committee may also decide and see the manufacturing facility and quality of sample available before finalising the purchase order.
24. The bidder should conform to statutory compliances

## **6. EVALUATION CRITERIA FOR TENDER**

6.1. The technical evaluation committee shall evaluate the application on the criteria given below:

- Experience of similar work
- Manufacturing capability (ISO Certificates)
- Factory setup (Available Machinery)
- Financial Capabilities
- Profit & Loss in last 3 years

6.2. Even though a bidder may satisfy the above requirements, it may be liable to disqualification if it has:

- i. made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the pre-qualification document,
- ii. record of poor performance such as abandoning work, not properly completing the contract, or financial failure/weakness etc.



6.3. The date and time for opening of the Financial Bid of those bidders who qualify in the technical bid shall be intimated in due course of time by email. The bidders or their representative are expected to be present at the time of opening of the Financial Bid.

## **7. Evaluation Process, Marks Distribution and Technical Evaluation Marking Criteria**

### **Evaluation Process and Marks Distribution**

<b>Evaluation Type</b>	<b>Total Marks</b>	<b>Weightage</b>	<b>Qualifying Marks</b>
Technical Evaluation	100 (Technical Proposal Evaluation-70 marks) (Presentation-30 marks)	70%	60%
Financial Evaluation	100	30%	NA
Final Evaluation (QCBS)	For Final evaluation 70% weightage will be given to technical proposal & 30% to the financial proposal		

### **Selection Procedure & Marking System & Award of Contract:**

Considering the specific requirement of complex technology involved in the project, the contract shall be awarded on quality cum cost based system (QCBS). For Final evaluation 70% weightage will be given to technical proposal and 30% to the financial proposal.

### **Calculation of Technical Score (St):**

Technical Evaluation for quality shall be done in two stages viz.

Stage One: Technical Proposal evaluation for 70 marks

Stage Two: Technical Presentation for 30 marks

Total Technical score: Total of stage one and two

### **Calculation of Financial Score (Sf):**

The financial score of the price bids will be computed as indicated below:

Lowest price bid will get a financial score of 100 and remaining will get financial score inversely proportional to the price bid as explained in the example given below.

### **Combined Weighted Score for Final Evaluation (Scw):**

The total score, both technical and financial, shall be obtained by weighing the quality and scores and adding them up in the following manner:

$$Scw = (0.70 \times St) + (0.30 \times Sf)$$

### **Final Evaluation:**

Bidder shall be ranked on the basis of the combined weighted score quality and cost. The proposal obtaining the highest combined weighted score in evaluation of quality and cost

will be ranked as H-1 followed by the proposal securing lesser marks as H-2, H-3 and so on. The proposal securing the highest combined marks and ranked as H-1 will be invited for negotiations, if required and shall be recommend for award of contract.

**Example:**

In a particular case of selection of bidder, it was decided to have minimum qualifying marks for technical qualifications of as 60 and the weightage of the technical bids and financial bids was kept as 70:30. In response to the RFP/ Tender, 3 proposals, A, B & C were received. The technical evaluation committee awarded them with 75, 80 & 90 marks respectively. All the three proposals were, therefore found technically suitable and their financial proposal were opened after notifying date and time of bid opening to the successful participants/ bidders. The price evaluation committee examined the financial proposals and quoted prices as under:

**Cost given/ quoted in price bid:**

A: Rs.120.00 lakhs

B: Rs. 100.00 lakhs

C: Rs. 110.00 lakhs

Using the formula LPB/PB, where LPB stands for lowest price bid and PB stands for quoted price bid. The committee gave them the following points for financial proposals:

A:  $100/120 \times 100 = 83$  marks

B:  $100/100 \times 100 = 100$  marks

C:  $100/110 \times 100 = 91$  marks

In the combined evaluation, thereafter, the evaluation committee calculated the combined technical and financial score as under:

Proposal A:  $75 \times 0.70 + 83 \times 0.30 = 77.4$  points

Proposal B:  $80 \times 0.70 + 100 \times 0.30 = 86$  points

Proposal C:  $90 \times 0.70 + 91 \times 0.30 = 90.30$  points

The three proposals in the combined technical and financial evaluation were ranked as under:

Proposal A: 77.4 points: H3

Proposal B: 86 points: H2

Proposal C: 90.3 points: H1

Proposal C at the price bid of Rs. 110, therefore, declared as winner and recommend for negotiation / approval, to the competent authority.

**Technical Evaluation Marking Criteria**

**Technical proposal for evaluation for 70 marks**

(Based upon documents submitted under technical proposal)

	Marks
<b>1. Average Annual Turnover during last 3 years</b>	<b>10 marks (max.)</b>
Rs. 25-50 crores	5 marks
>Rs. 50 crores	10 marks
<b>2. Experience in Establishment of solar integrated green House</b>	<b>20 marks (max.)</b>
Solar integrated Green House Project of area $>6000 \text{ m}^2$	<b>20 marks</b>
(Where greenhouse roof is mounted with glass-glass PV module)	

Solar integrated house project of area >6000 m <sup>2</sup> (Where greenhouse roof is mounted with standard PV modules)	10 marks
<b>3. Experience in Establishment of Greenhouse</b>	
Each project of area >6000 m <sup>2</sup>	2 marks
<b>4. Experience and Expertise of Project Handling Team</b>	10 marks (max.)
<b>5. Design and layout of structure and essential components</b>	5 marks (max.)
<b>6. Product Specifications</b>	10 marks (max.)
Technical specification of material used	7.5 marks (max)
Technical specification of equipments installed	7.5 marks (max)

**Presentation for 30 marks:**

(Will be evaluated by the Technical Evaluation Committee based on presentation)

**Details to be presented**

- Concept and clarity
- Creativity and technical superiority
- Novelty
- Implementation Strategy
- Qualitative and Quantitative superiority
- Understanding and fulfilments of requirements
- Any other information that might strengthen bidder's claim

**Sample proforma for providing information on Team Expertise and Experience proposed to be engaged with the project installation/commissioning**

Sr. No.	Name	Designation	Expertise	Experience	Role in present Project

(Only one page CV of each team member, duly signed is to be attached)

**Sample Proforma for providing Information on Installation of Similar Structure**

Sr. No.	Location	Customer	Area	Weather Solar Integrated (Yes/No)	Weather Glass – Glass module (Yes/No)

(Documentary proof(s) is/ are required)

Finally, the selected bidder will be called to carry out the work under lowest quoted/ allocated amount of the project. In case, the first selected bidder refuses to conduct the work under sanctioned amount, the wait listed bidder will be offered to undertake the work.

(a) The TERI SCHOOL OF ADVANCED STUDIES reserves the right, without being liable for any damages or obligation, to inform the bidder about cancellation of the bid.

(i) The TERI SCHOOL OF ADVANCED STUDIES shall have the right at any time, by written notice, in the form of an amendment order, to make any changes it deems necessary, including, but not limited to, changes in specifications, design, delivery, testing methods, packing or destination. Price increase, extension of time for delivery and change in quantity shall not be binding on the TERI SCHOOL OF ADVANCED STUDIES.

(ii) The TERI SCHOOL OF ADVANCED STUDIES reserves the right to place the work order of the scope mentioned in the tender document for this work either to single or more than one bidders without being liable for any damages or obligation to inform the bidder.

a. TERI SCHOOL OF ADVANCED STUDIES shall issue award letter for the required quantity. However, the successful bidder shall be issued the time schedule for delivery / execution of the work in writing. The order shall remain valid up to 30 Days. TERI SCHOOL OF ADVANCED STUDIES can also place subsequent orders on these rates during the period of contract.

b. The successful bidder shall ensure delivery and installation of material within 90 days of written order to do so.

c. No request for cost escalation after finalization of bid will be entertained. Cost escalation, if any, shall be absorbed by the bidder.

d. The successful bidder shall be required to provide detailed drawings (CAD design/drawings) and 3-D model of the structure

e. Any effort on the part of the bidder or his agent to exercise influence or to pressurize the TERI SCHOOL OF ADVANCED STUDIES would result in rejection of his application. Canvassing of any kind is prohibited.

f. The Earnest Money of all unsuccessful bidders shall be returned to them without any interest. The Earnest Money of the successful bidder is liable to be forfeited, if the bidder fails to execute the work.

g. Security Money/Performance Security: The successful bidder shall furnish security money/Performance Security in the form of DD /pay Order/BG/FDR favouring TERI SCHOOL OF ADVANCED STUDIES, of an amount in INR equal to 5% of Purchase Order value.

f. The performance security shall remain valid for a period of One Year.

## **8. RATES AND TAXES**

a. The bidder shall quote their rates in INR which shall include all taxes (including GST), transportation, installation charges and nothing extra shall be paid on any account.

b. The rates must be quoted in both words and figures.

## **9. PAYMENT SCHEDULE:**

i. First instalment of 40% payment will be made upon completion of 40% of the work as well as total cost of purchase order.

ii. Second instalment of 30% payment will be made upon completion of 30% of the work as well as total cost of purchase order.

- iii. Third instalment of 20% payment will be made upon completion of 20% of the work as well as total cost of purchase order.
- iv. After final completion and installation followed by start of solar-greenhouse hydroponics system and upon confirmation of required solar energy generation, the last and final/ balance payment of 10% amount will be made.
- v. The payments will be made in an online mode for which successful bidder will provide his/ her bank account details needed for such transactions.
- vi. The payment to be made in four instalments will be made only upon recommendation of a Technical Evaluation Committee constituted for this purpose by UCOST, Dehradun.

#### **10. Penalty**

(a) In case of failure to supply the goods within the prescribed time and in accordance with the specifications given in the quotations, TERI SCHOOL OF ADVANCED STUDIES shall be free to cancel the order and make purchases from the next higher tenderer or from the open market as the case may be. In that case the loss sustained by TERI SCHOOL OF ADVANCED STUDIES shall be recovered from the defaulting supplier. TERI SCHOOL OF ADVANCED STUDIES will be at liberty to recover the loss from the payment of earnest money/or any other pending claims of the supplier without prejudice to its general right to effect recovery from the supplier.

#### **11. DELAY/Liquidated Damage Clause**

The bidder shall complete the work in the stipulated time period. In case of delay, a penalty of 2% per week for delay in execution (on part of the order delayed by the bidder) subject to a maximum of 5% of the total order value, shall be levied on the agency. The decision of the Technical Evaluation Committee, TERI School of Advanced Studies, New Delhi, shall be final and binding in this regard.

#### **12. WARRANTY**

- a. All products / material shall carry a warranty of minimum 12 months from the date of installation certificate by TERI School of Advanced Studies, New Delhi, against any manufacturing defect in the product.
- b. In case of any manufacturing defects (including damaged caused by termite) found in the product within 1 year from the date of installation, the same should be repaired/replaced and made good, on the cost of the supplier.

#### **13. JURISDICTION**

Notwithstanding anything court or courts having jurisdiction to decide the question(s) forming the subject matter of the reference if the same had been the subject matter of a suit, any and all actions and proceeding arising out of or relative to the contract (including any arbitration in terms thereof) shall lie only in the Court of Competent Civil jurisdiction in this behalf at Delhi and only the said Court(s) shall have jurisdiction to entertain and try any such action(s) and/or proceeding(s) to the exclusion of all other Courts.

#### **14. ARBITRATION**

All disputes and differences arising out of, or in any way, concerning this agreement (except those, the decision whereof is otherwise, hereinbefore provided for) shall be referred for sole arbitration by any person to be nominated by the Registrar, TERI SCHOOL OF ADVANCED



STUDIES of Vasant Kunj Delhi. The award of the arbitrator so appointed shall be final and binding on both the parties.

#### **15. RISK PURCHASE:**

In the event of the Bidder/Supplier's failure to supply the ordered equipment/stores of acceptable quality in scheduled delivery period, or the services as per the contract the purchaser reserves the right to procure the equipment/stores or services from any other source at the Bidder/Supplier's risk and cost and the difference in cost shall be borne by the Bidder/Supplier. Further, the purchaser shall retain the right or forfeiture of Performance Security and or any other action(s) as deemed fit.

## **Annexure 1: Format for Technical Bid**

### **(On Bidder's Letterhead)**

**From:**

Bidder's Name, Address

**To,**

**The Registrar**

**TERI SCHOOL OF ADVANCED STUDIES**

**Plot no. 10, Institutional Area, Vasant Kunj,**

**New Delhi-110070**

**Subject: Submission of Tender for Supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun**

**Reference: Your Advertisement Number**

Sir,

Having examined the details given in tender document for the above work, I/we hereby submit our tender and other relevant information.

1. I/We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statement are true and correct.

2. I/We have furnished all information and details necessary for tender and have no further pertinent information to supply.

3. I/We authorize the TERI SCHOOL OF ADVANCED STUDIES to approach individuals, employees, firms and corporation to verify our competence and general reputation.

4. I/We submit the following documents in support of our suitability, technical knowhow and capability for having successfully completed the following works:

**NOTE:** Mention here the documents being enclosed with the application. The documents should be pertaining to Supply / Installation of Solar/ Green-house structure in Government Building/ Educational Institution and should include work orders and completion certificates for such works.

Requisite tender document fee of Rs. 5000 + 18% GST and Earnest Money of Rs. 5,00,000/- in appropriate form as mentioned in the tender document are also enclosed herewith.

Thanking you.

Yours sincerely,

Signature(s)

Name of the authorized signatory

Bidder's organisation and contact information

Seal of bidder

**Annexure 2: Format for Financial Bid  
(On Bidder's Letterhead)**

**From:**

Bidder's Name, Address

**To,**

**The Registrar**

**TERI SCHOOL OF ADVANCED STUDIES**

**Plot no. 10, Institutional Area, Vasant Kunj,**

**New Delhi-110070**

**Subject: Submission of Tender for "Supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun"**

Sir,

1. I/We hereby offer to supply and install the Solar Green House Hydroponics System on turnkey basis (all items as a whole) at the price hereunder quoted and agree to hold this offer open till \_\_\_\_\_. I/We shall be bound to supply the store hereby offered upon the issue of the Purchase Order communicating to the acceptance thereof on or before the expiry of this tender offer.

	<b>Description</b>	<b>Quantity</b>	<b>Cost (Rs.)</b>	<b>GST%</b>	<b>GST (Rs.)</b>	<b>Total cost (Rs.)</b>
1	Supply & installation of Solar Green House Hydroponics System at UCOST, Dehradun as per the tender document with specifications mentioned in Annexure 3 (As per the Drawings and designs, Format for Financial Bid and Terms & Conditions attached)	One				
	<b>Total quoted price (in words)</b>					

2. I/We have understood the items of the tender mentioned in Annexure 3 and have thoroughly examined the specifications/drawing and /or pattern quoted or referred to herein and/are fully aware of the nature of the work required to be done and my/our offer is to supply and install the Solar greenhouse hydroponics system in accordance with the specifications/requirements mentioned in Annexure 3 subject to the terms and conditions contained in the Purchase Order, if communicated on the acceptance of this tender either in whole or in part.

(Name of the authorized signatory)

Signature(s)

Bidder's organisation and contact information

Seal of bidder

Date of submission:

Enclosures. As above

## **INFORMATION ABOUT THE BIDDER**

1. Name & Address of the bidder
2. Telephone No./Telex No./Fax No.
3. Legal status of the bidder (attach copies of original document) Defining the legal status
  - (a) An Individual
  - (b) A proprietary firm
  - (c) A firm in partnership
  - (d) A limited company or Corporation
4. Since when the bidder has been in business. Provide documentary proof.
5. Particulars of registration with various Government bodies (attach attested photocopy).
6. Place of registration
7. Registration No.
8. Names and Titles of Directors & Officers with designation to be concerned with this work
9. Designation of individuals authorized to act for the organization
10. Was the bidder ever required to suspend the works for a period of more than six months continuously after award of work. If so, give the name of the project and reasons of suspension of work.
11. Has the bidder, or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
12. Has the bidder, or any constituent partner in case of partnership firm, ever been debarred/black listed for tendering in any organization at any time? If so, give details
13. Has the bidder or any constituent partner in case of partnership firm, ever been convicted by a court of law? If so, give details.
14. Any other information considered necessary but not included above.

Signature of Bidder

Name and Address of Bidder

Seal/Stamp

Date:

**Annexure 3: Detailed specifications for Solar Green House Hydroponics System**

Category	S No	Item (s)	Specifications	Dimensions	Quantity
<b>Structure</b>	1	Outer <u>Structure</u> Structure/ <u>Infra</u>	Aluminum outer structure (should include EPDM gasket) and Galvanized steel inner structure with Polycarbonate covering  All galvanized steel (as per IS 1161) should be able to withstand wind speed of 120 km. /hour. End wall and side wall framing  Aluminum corner trims, aluminum ridge bar and Galvanized gutter trim Brackets & fasteners as required to assemble frame using Flange based European Technology, including internally divided Columns- 80mm x 50mm -2mm thick, Trusses- 50mm x 50mm into six equal - 2mm thick, Truss Bracing- 100mm and Purlins- 40mm x 38mm, gurt - 50mm x 50mm with tighten components, 100% welding free.	(L x W x Hc:s) (20m x 26.85 m x 6m:4m)  This area will be internally divided into six equal compartments	*
	2	Buffer zone/ <u>Vestibule</u>	At entry of green house with the provision of sterilization to avoid contamination with air curtain  36 sq ft area (Included in Utility Area)	*	1 or 2
	3	Shape of Green House	Shape and building design as per requirement of solar generation	*	*
	4	Maximum expected wind for wind load	Design as per 15875 standards and wind load up to 120 km/hr	*	*
	5	Screens	Harmony - Make Svensson with complete automation	*	*
<b>Computer and automation</b>	6	Irrigation/Fertigation system/ <u>Water</u> and <u>Nutrient Control</u>	Computer control and complete automation	*	*



Category	S No	Item (s)	Specifications	Dimensions	Quantity
<u>Automation System</u>					
	7	Climatic control system	<p><b>CONTROL PANEL FOR AUTOMATION:</b> Monitor Panel code no. 002264-00304-A, which includes Light, Temperature &amp; Humidity Control System. For details of Microprocessor Photosynthesis Monitor Panel kindly see the below data- <b>Temperature Control System</b></p> <ul style="list-style-type: none"> <li>- Temp. Range: 0.1 to 59.9°C. Accuracy: <math>\pm 1^\circ\text{C}</math>.</li> <li>- Hysteresis: <math>0.4^\circ\text{C}</math> with sensor probe Pt-100 Sensor cord 5 meters.</li> <li>- Input: 200-240VAC (110 VAC available on demand), phase-single.</li> <li>- Ambient: <math>5^\circ\text{C}</math> to <math>45^\circ\text{C}</math>, RH up to 85% normally.</li> </ul> <p><b>b) Relative Humidity Control System:</b> It maintains RH in the range of <math>\pm 4\%</math>.</p> <ul style="list-style-type: none"> <li>- Range: 30% to 90%.</li> <li>- Real RH: <math>\pm 2\%</math>. <math>\pm 1</math> digit (at 45%).</li> <li>- Input: 220VAC (110VAC available on demand), phase-single.</li> </ul> <p>Ambient: <math>5^\circ</math> to <math>45^\circ\text{C}</math>, RH up to 95%.</p>		*

Category	S No	Item (s)	Specifications	Dimensions	Quantity
	8	Light Sensor	Automated light sensor with data logger and computer interface. Range: 0 - 20 KLUX	*	*
	9	<u>Cooling System</u>	Computer control and complete automation / Active and Passive cooling	*	*
	10	Slow Speed Axial Flow Fan with pad	48 inches; single speed belt driven exhaust fan 1hp, 440V, 50 cycles, 3 phases Celdec Pad Size: 1.5m H ×: width 26.85 ×100mm thick evaporative CELDEC cooling pad complete with: All necessary framing material of Aluminum required supporting distribution & returning piping		5 Fans
	11	<u>Heating System</u>	Forced Air based gas heaters with air flow 440-650 m3/hr	*	*
	12	Tensiometer	TENSIOMETER/IRROMETER instrument indicate soil moisture levels by converting the reading loop current signal. The value is expressed in centibars (cb) or kilopascals (kPa) of soil water tension. OUTPUT: 4 to 20 mA loop current ACCURACY: ± 0.5% of Full Scale WEIGHT: 109 g DIMENSIONS: Body Length 12"/24"/36" SUPPLY VOLTAGE: 9 to 36 VDC SUPPLY CURRENT: 20 mA	*	2 sets

Category	S No	Item (s)	Specifications	Dimensions	Quantity
			<p>RANGE: 0-100 cb (kPa)</p> <p>OPERATING TEMPERATURE: 0 deg to 66 deg C)</p> <p>CONNECTION: 1/4 inch brass male NPT</p> <p>PROTECTION CATEGORY: IP65</p>		
	13	Germination chamber for Nursery	<p>Prefabricated germination chamber/room and vertical iron racks for germination in portrays. Movable benching system, Fogging system, LED Grow lights, Anti-Slippery and Anti-splash Flooring with proper drainage</p> <p>Incorporated in main greenhouse</p>	(LxWxH) 4m x 3m* x 3m	
<b>General</b>	14	Sides Ventilation /	Motorized opening & closing gear mechanism with gear box, driving shaft, rack arch pinion, shaft support plate, covered with 40 mesh nylon net from inside to generally used during power failure. Windows lift up to 1m wide & length as per chambers length		
	15	Fogging System	Fogging Nozzles, lateral pipe with supporting wire, pump with* screen filter		1 tank of 2000 liter
	16	Advance roof cleaning system / <b>German Standard Roof Cleaning system</b>	<p>Computer control and complete automation/semi-automatic (based on design)</p> <p>Greenhouse Roof/solar panel washing machine: It Include: Solar Telescopic Lance, Hose Assemble with coupler, Roller brush, Drive for roller brush, Hand trigger Gun, Pressurepro</p>	*	*

Category	S No	Item (s)	Specifications	Dimensions	Quantity
			solar clean RM 99 (10 L), Hose assembly TR hygiene DN8 25MPa, Adapter hose extension 9 TR		
	17	<u>High luminous flux PAR lamp Green Power 600W 240 V</u>	<p>Input Voltage : 240-277V(+/- 10%)</p> <p>Uboytyrrebt : 2,29 A</p> <p>High Pressure Sodium 600W</p> <p>Operation temp. : 0-35c</p> <p>Relative Humidity: 25-70% (non-condensing)</p> <p>Reflector: HR96 Reflector</p>	*	6 / As per project requirement
Hydroponics (Dutch Bucket)	18	Dutch Bucket	Dutch Bucket (11 liter) Type Growing System	*	For 100 plants
	19	Fertigation system for Automatic dosing system mechanical which runs without electricity, the technology has been tested internationally and fit* <u>Dutch Bucket / Dosing System</u>	<p><b>Automatic dosing system mechanical :</b></p> <p>• The system is installed directly in the water supply line; the system operates by using the flow of water as the</p>		1 set

Category	S No	Item (s)	Specifications	Dimensions	Quantity
			<p>power source as such no electricity is required for running the system.</p> <ul style="list-style-type: none"> <li>• The water activates the system, which takes up the required percentage of concentrate directly as set by the user from the container and injects it into the water.</li> <li>• Inside the system, the concentrate is mixed with the water, and the water pressure forces the solution downstream.</li> <li>• The dose of concentrate will be directly proportional to the volume of water entering the system, regardless of variations in flow or pressure, which may occur in the main line.</li> <li>• The system is very easy to operate and very efficient in performance.</li> <li>• Adjustable injection rate of nutrients</li> <li>• Integrated by-pass system of turning product injection on and off.</li> <li>• Concentrated ingestion of nutrients possible in the system</li> <li>• Nutrient Dosages, flow of water and other options available, additional support for fixed or mobile installations</li> </ul>		



Category	S No	Item (s)	Specifications	Dimensions	Quantity
			Various options allow adapting the technology of Dosing to adapt to your specific needs.		
	20	RO water system for Dutch Bucket	Appropriate capacity (200 liter/hour)	*	1
	21	Water Chiller for Dutch Bucket	For Cold Water Supply REQUIRED	*	1 set
Utility Area (600 Sq.ft) Hydroponics (inside)	22	<u>Utility Area (600 sq ft)</u>	600 sq ft Prefabricated /pre structured building with PV solar rooftop modules	*	1
	23	Service Area (packing and loading)	260 m <sup>2</sup> Prefabricated /pre structured building with PV solar rooftop modules		
	24	Control Room-cum-Office cum lab	Well-furnished for equipments and sitting arrangement of technical team and computers for control Unit (L xWxHc:s) 4m X 6m X 4.57m: 3m with two aluminium windows and aluminium sliding door 100 sq ft area (Included in Utility Area) To be part of the utility area (Total 600 sq ft)	*	1
	25	Service & store room	For seeds/fertilizers with racks, trolleys and machines (1. Automatic grow bag filling and seeding machine 2. Automatic potting & seeding machine)LxWxHc:s 8m X 6mX 4.57m: 3m with 2 windows and aluminium sliding door		1

Category	S No	Item (s)	Specifications	Dimensions	Quantity
			250 sq ft area (Included in Utility Area)		
Hydroponics (NFT)	26	<u>Hydroponic NFT Module (Complete in all respect)</u>	Hydroponic unit for leafy vegetables, Hydroponic Growing Gully (NFT Channels) for approx. 8500 plants in single storey* and 500 plants in three-storey arrangement, water tank		*
Solar	27	Electricity plant Capacity (71 kW)	Appropriate PV solar panels mounted on greenhouse roof top with state of art inverter and monitoring facility with 10%* battery backup for key components		*
	28	Raised Platform	1.5' raised floor, made by PCC (1:5:10) mm thick and over that tiled white color anti slippery hard material for 2 bay and one* bay is natural soil as it is		*
	29	Foundation wall	9 inch wide brick wall and 1' below earth's surface 1' above earth's surface with dully plastered, Frame base block height 3' x 9" x 9", each with plinth protection 3' wide 6" thick.		*
	30	Exhibitor window or viewing window	Exhibitor window or viewing window throughout the length on both sides of corridor at the	Height of 1.2 m to 2.0 m	*
	31	Miscellaneous Work	Water tap for irrigation, some necessary light, electrical work* etc.		*
	32	<u>Electrification work</u>	Some necessary lights in the green house		

Category	S No	Item (s)	Specifications	Dimensions	Quantity
Water Harvesting	33	Rainwater harvesting and divert storage	Rainwater runoff from the roof will be directed into gutters that and divert rainwater into downpipes. These will be plumbed* underground at both ends of green house and resurface 20m away from the green house.		1 tank/silos
Water storage	34	Water Storage Tanks	50 cubic meter covered storage capacity (plastic water storage tanks/water silos)	*	1 tank /silos