



INDIAN COUNCIL OF AGRICULTURAL RESEARCH
ICAR RESEARCH COMPLEX FOR N.E.H. REGION, TRIPURA CENTRE
LEMBUCHERRA -799210, TRIPURA
Phone: 0381 2865537; Fax: 0381-2865537

NOTICE INVITING TENDER

Sealed bids are invited from reputed organization / suppliers for supply and construction/installation of following items (As mentioned in the Annexure I) at **ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra -799210, Tripura** for implementation of the project "Field demonstration of tissue culture raised Sabri Banana in Tripura state", funded by Department of Biotechnology, Govt. of India, New Delhi through Tripura Biotechnology Council; Dept of Science, Technology & Environment, Govt. of Tripura. Sealed quotations may be submitted on or before, 15 February, 2017 up to 3 pm in office of the **Joint Director, ICAR Research Complex for NEH Regions, Tripura Centre, Lembucherra - 799 210, West Tripura**. The detail specifications of the item and terms & conditions etc. are as given below:-

- 1) The consolidate cost of Tender document **Rs.2500/- (Rupees two thousand five hundred)** only (Non Refundable) to be deposited **in favour of the Joint Director, ICAR Research Complex for NEH Region, Tripura Centre** by means of Demand Draft/ Banker's cheque payable at **State Bank of India, College of Agriculture Branch, Lembucherra -799210, Tripura**. Non - submission of the cost of Tender document shall lead to non - consideration of the Tender.
- 2) Each quotation should consist of two Bids, namely "Bid I - Techno - commercial bid" and Bid II - Financial bid". Both must be submitted in two separate envelopes to be sealed, superscribed as 'Bid I or Bid II' and must be put in a single outer main cover. The single outer main cover should be superscript as "**Tender No. F. No. RC/TC (C-2)2013/2205**; dated: 24.07.2017 for **Design, construction, testing & commissioning of green house, net house, fertigation unit, generator, water storage tank**" and addressed to "THE JOINT DIRECTOR, ICAR RESEARCH COMPLEX FOR NEH REGION, TRIPURA CENTRE, LEMBUCHERRA- 799210, TRIPURA, INDIA". The bidding firm should mention their complete address at the bottom left corner of the main cover. The cover letter, cost of the Tender and Earnest money for Rs.1.88 lakh/- (Rupees One lakh eighty eight thousand) only alongwith all other Technical details should be mandatorily kept in Techno - commercial Bid (Bid I). The Financial Bid (Bid II) should consist of the Rates, their detail break - up etc as mentioned at Annexure I and II. Non-compliance of these shall lead to non-consideration of the Bid. Financial bids of technically acceptable firms shall only be considered for further evaluation. The sample format for submitting Techno - commercial Bid and Financial bid are given in Annexure - I and II. Checklist of Bid document is attached as Annexure III and mandatory undertaking by firm is attached as Annexure III. In addition to Annexure IV Bidder has to give an additional undertaking (on a Non-judicial Stamp Paper worth Rs.100) duly notarized (as per Annexure-IV) that:
 - i. (a)I/ We have not been blacklisted during last three years by any Govt. Department/ Govt. Autonomous Body/ Institution, etc.;
 - ii. (b) I/ We have not submitted any fake/ forged certificates/documents and later, if any such 'Certificates/ Documents' found to be fake/forged or contains wilful wrong/ incorrect information; suitable legal action may be initiated against me/ us/ agency besides 'forfeiture of Earnest Money Deposit' and 'Blacklisting' etc.

iii. (c) I/ We shall not withdraw my/ our bid after opening of Technical Bid and if done so, the T.B.C shall be authorized to forfeit the EMD submitted by me/us.

- 3) **All Tender should be sent through Registered Post. Tenders to be hand delivered should be put in the Tender Box, kept in the office of the Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra - 799210. Bid document sent through Email shall not be considered.** The tender should reach to the office on or before 17.08.2017 up to 3.00 PM. Tenders received after due date and time shall not be considered under any circumstance.
- 4) The Firm should have minimum experience of 8 years of designing, installing and operations of similar works for Institute/Govt. Organizations within NE India. Furnishing of related documents like detailed specifications, technical literature, product certificate, company registration certificate/trade registration certificate, complete supply details of the last 3 years, minimum five similar Work orders with completion certificate etc. is mandatory, failing in which the quotation shall not be considered
- 5) Dealership /Authorization certificate from the principal firm should be enclosed if the rates are quoted by the dealers/agents.
- 6) Sales tax certificate, tax clearance (up to date), valid CST/VAT registration certificate, last 3 years financial standing etc. should be enclosed.
- 7) **The rates quoted should be up to installation site (Door delivery).** The quoted rate should be in Indian Rupees. The rates must be valid for a minimum period of one year from the date of quotation.
- 8) Price quoted (in INR) must be given per unit **including all packing, transport, forwarding, delivery charges, construction and installation charges at the site of installation & also including GST**, as may be applicable. The ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya - 793103, shall not be responsible for payment of transit insurance charges. If needed, necessary Road Permit will be provided by the Institute.
- 9) The bidder must have 'PAN Card' in the name of the agency concerned. All bidders should mandatorily give their valid PAN Card No. (Photocopy of the PAN card to be enclosed), along with the copies of 'ITR for last three financial years (i.e. 2012-13, 2013-14, and 2014-15). TAN (if any) and Bank A/C details (Name, Account No., Bank, Branch, IFSC Code and MICR Code etc.) along with the bid to enable the office for releasing the dues via e – payment.
- 10) The bidder must submit the attested copies of 'TIN Number' & 'Service Tax registration number'
- 11) The bidder having SE-1B CRISIL rating, will be given preference. The certified documentary proof of the same must be enclosed.
- 12) The bidder should have minimum Turnover of Rs.8.00 Crores in every year in last three financial years. The bidder(s) has to submit the copies of the audited Balance Sheets and Profit & Loss A/c for last three (03) financial years i.e. 2012-13, 2013-14, and 2014-15, duly certified by the registered Chartered Accountant.
- 13) Bidder must submit the "Solvency Certificate" for value up to Rs.5.00 Crores for execution of the said project.
- 14) The Firms shall have to deposit an earnest money of Rs.1.0 lakh/- (Rupees one lakh only) in the form of Demand Draft drawn in favour of the Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra - payable at State Bank of India, College of Agriculture, Lembucherra branch, as bid security along with the quotation. The cost of tender as well as the earnest money along with all other Technical Details should be mandatorily kept in the Techno commercial Bid only. Non - submission of the earnest money with bid document shall make the quotation liable to be rejected. The earnest money of non - successful bidder will be refunded after bids are finalized.
- 15) The firm must have ISO - 9001 : 2008 and ISI Certificate for Greenhouse and accessories
- 16) The successful Bidder has to deposit Performance Bank Guarantee (10% of the Supply order amount). The bank guarantee should cover the entire guarantee/warranty period which should be of at least 3 year duration. The Earnest Money will be refunded and payment will be released only after receipt of Performance Bank Guarantee
- 17) The construction and installation should be completed in time and with F.O.R. destination/ door delivery. The selected bidder must complete the supply/ installation/ demonstration within the

stipulated time limit to be mentioned in the supply order. Supply to be made by at supplier's risk otherwise specified. In case the firm fails to execute the construction / installation within the time limit, the bid security would stand forfeited and the supply order shall be deemed to be withdrawn without any notice.

- 18) The guarantee/warranty should be from the date of installation/completion. Minimum 3 year warranty certificate has to be invariably furnished.
- 19) No advance payment/ part payment shall be made against the order. No additional charges above the quoted price shall be entertained. Payment shall be made on successful installation and demonstration (which should be free of cost and must be completed before payment) by the firm/dealer, followed by verification & certification by the concerned official. Bill in triplicate should be submitted through the concerned Joint Director for release of the final payment after successful completion of work.
- 20) All bidders shall give an undertaking as given in Annexure IV on their official letter head duly signed along with official seal that they fully and unconditionally agree to abide by all the terms & conditions which, if needed, may be modified at the discretion of the Competent Authority in supply order, for which confirmation from the supplier shall be taken. Non - submission of the undertaking may lead to rejection/non consideration of the tender.
- 21) The bidders should mandatorily sign on every page of the Tender Document, which would show their unconditional acceptance of all the terms and conditions of the Tender Document.
- 22) Before furnishing any document, the bidder may undertake a visit to the site to analyze the site conditions and scope of work etc., at their own cost. ICAR, Tripura Centre will provide assistance to show the site.
- 23) The bidders shall arrange & maintain at their own cost all materials, T&P, security (for their man/materials), storage for material and facilities for worker for executing the work.
- 24) The Institute does not pledge itself to accept the lowest or any other tenders. The institute is also not bound to accept the tender in whole and Institute has right to accept the tender in parts. The tenderers are however, at liberty to tender for the whole or any portion of it or to state in the tenders that the rates quoted shall apply only if the tenders are considered fully. Other conditional tenders will not be accepted.
- 25) In case the successful company aborts from the offer within the validity of offer, the earnest money will be forfeited. Similarly, if successful company fails to commence the work within mutually agreed days from the date of issue of award letter, the amount of earnest money will here also be forfeited besides blacklisting the firm.
- 26) Time allowed for the work shall be strictly followed otherwise the vendor shall be liable to pay compensation at the rate of 1.5% of the tendered value of the work for 'per week of delay' on the part of the vendor subject to a maximum of 10% of the total tendered value of work. The decision of the Director/Joint Director about the delay shall be final and binding.
- 27) However, for any reason beyond the control of the vendor (due to unforeseen circumstances or natural calamities) the extension of time can be granted by the Joint Director, ICAR Research Complex for NEH Regions, Tripura Centre, Lembucherra- 799 210, West Tripura upon application by the company in writing. No claim for any compensation during the extended period shall be entertained and the Tripura Biotechnology Council's decision in this regard shall be final.
- 28) Land required for the job shall be made available by ICAR Tripura Centre at their cost. However, necessary piping, valve, wiring, cabling, lamps, switches & sockets, main switches, halogen/tube light fitting and tapping from existing line/connection including labour have to be arranged by the bidder at their own cost.
- 29) All materials brought at site shall be for this project only; not for other projects, if it is for some other project, prior approval needs to be taken from the concerned scientist.
- 30) The bidder shall be solely responsible for any accident/medical/health related liability/compensation for the personnel deployed by it at ICAR Tripura Centre. The ICAR Tripura Centre shall have no liability in this regard.
- 31) The personnel provided by the company will not claim to become the employees of ICAR Tripura Centre and there will be no Employee and Employer relationship between the personnel engaged by the company and ICAR Tripura Centre.

- 32) It may here be noted; that the entire staff and labour of the vendor will follow all the security instructions issued by the ICAR Tripura Centre from time to time.
- 33) The bidder should supply the entire material of good quality as per specification mentioned in the tender documents.
- 34) On completion of all work, vendor shall remove all surplus materials & leave the site in a broom clean condition, failing which the same shall be done at vendor's risk & cost.
- 35) The work shall be guaranteed for at least 3 year from the date of actual completion of the work for both material as well as workmanship.
- 36) The vendor shall ensure compliance of all statutory laws & bye laws of the central Govt./ State Govt./Municipal authorities related to the employment of their staff and all obligations under Minimum Wage Act, Workman Compensation Act, Provident Fund & Miscellaneous Provision Act, Bonus Act & Contract Labour Act 1970 etc. ICAR Tripura Centre will not be responsible for such purposes in anyway.
- 37) The Director, ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya 793103 reserves the right to reject any tender in part or full without assigning any reason thereof. The decision in this regard shall be final for any aspect of the contract and binding on all parties
- 38) Disputes arising, if any will be settled by mutual consultation and in case of failure of settlement dispute shall be referred to the sole arbitrator to be appointed by the Director, ICAR Research Complex for NEH Region, Umroi Road, Umiam, Meghalaya 793103. The decision of the sole arbitrator so appointed shall be final and binding on both the parties. Otherwise, all dispute arising related to this contract will be settled in the Court of Law at Agartala, Tripura and verdict of the Court of Law shall be binding to both the parties.
- 39) **Tender shall be opened on 18.08.2017 at 11.30 AM** in the office of the Joint Director, ICAR Research Complex for NEH Region, Tripura Centre, Lembucherra -799210. Interested bidders or their authorized representative(s) may attend the opening. No enquiry or unlawful pursuance about the quotations will be entertained.
- 40) If the above mentioned closing and opening day of the tender happens to be non-working day, the tender will be received and opened on the following working day at the same time.
- 41) Other terms and conditions, as may be decided by the Competent Authority will be intimated from time to time, depending upon the conditions and requirement of the supply. The intimation in this regard shall be provided well in advance and the bidder/ suppliers shall be bound by the said terms & conditions.
- 42) For any query/clarification, the undersigned may be approached at (Email) icartripura.jd@gmail.com on any working day (10.00 am to 4.00 pm).
- 43) The selected tenderers must complete the supply/installation/demonstration within 60 (sixty) days from the date of supply order due to time factor or the said orders shall be treated as cancelled and no further correspondence will be entertained.
- 44) Please read the instructions carefully and enclosed all the relevant documents along with bid so that quotation is accepted by the Institute.

Sd/-
Joint Director
Tripura Centre

Detail Specification/ number / unit etc of items to be supplied and installed

| S. No. | PRODUCT TECHNICAL DETAILS | UNITS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------|---|---|-----------|-------|--------------------------|--------------------|--------|------|--------------------------|--|-----------|--------|--|--------|--------|--|-------|-------|--|-----------------------|-------|--|-------------------------|-------|--|--------------|-----|--|------------------|------------------------|-------|-------|----------------------------|--------|------------------|
| 1 | <p>AEROPONIC GREENHOUSE FACILITY</p> <table border="1"> <thead> <tr> <th align="center">Main Particulars of Area</th> <th align="center">Dimension</th> <th align="center">Units</th> </tr> </thead> <tbody> <tr> <td>Total Area of Greenhouse</td> <td align="center">200 m²</td> <td align="center">01 No.</td> </tr> <tr> <td>Size</td> <td align="center">25.0 m. × 8.0 m. (L × W)</td> <td></td> </tr> <tr> <td>Bay width</td> <td align="center">8.0 m.</td> <td></td> </tr> <tr> <td>Length</td> <td align="center">25.0 m</td> <td></td> </tr> <tr> <td>Width</td> <td align="center">8.0 m</td> <td></td> </tr> <tr> <td>Side Height (minimum)</td> <td align="center">3.0 m</td> <td></td> </tr> <tr> <td>Centre Height (minimum)</td> <td align="center">4.2 m</td> <td></td> </tr> <tr> <td>Design/Shape</td> <td align="center">Arc</td> <td></td> </tr> <tr> <td>Double Door Room</td> <td align="center">2.1m x 2.1m x 2.43m (L</td> <td align="center">1 No.</td> </tr> <tr> <td>Doors</td> <td align="center">1.9m x 0.91m (tall & wide)</td> <td align="center">2 Nos.</td> </tr> </tbody> </table> | Main Particulars of Area | Dimension | Units | Total Area of Greenhouse | 200 m ² | 01 No. | Size | 25.0 m. × 8.0 m. (L × W) | | Bay width | 8.0 m. | | Length | 25.0 m | | Width | 8.0 m | | Side Height (minimum) | 3.0 m | | Centre Height (minimum) | 4.2 m | | Design/Shape | Arc | | Double Door Room | 2.1m x 2.1m x 2.43m (L | 1 No. | Doors | 1.9m x 0.91m (tall & wide) | 2 Nos. | 01 Complete Sets |
| Main Particulars of Area | Dimension | Units | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Area of Greenhouse | 200 m ² | 01 No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Size | 25.0 m. × 8.0 m. (L × W) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Double Door Room | 2.1m x 2.1m x 2.43m (L | 1 No. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Doors | 1.9m x 0.91m (tall & wide) | 2 Nos. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sl. No. | PRODUCT TECHNICAL DETAILS | UNITS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1a. | <p>STRUCTURE: Frame: Made of all galvanized steel and design as per IS875 standards to withstand of wind speed 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. Pipe:Pipes sections should be as below or equivalent : a) Columns: 80 mm × 50 mm in 2mm thick hot dip galvanized pipe. b) Trusses: Bottom cord 32mm x 2mm; Truss Members 48mm × 48mm 2mm; Bracing 25 mm, pipe; structural member will be fitted with zinc plated nuts & bolts without welding. c) Purlins: 32 mm × 2mm thick. 2) All G.I pipes should be galvanized. 3) Nuts and other metallic parts of high standard as per requirement.</p> | 1 Complete Set | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1b. | <p>ANTE ROOM: A) Double Door Room- of size 2.1m x 2.1m x 2.43m (L ×W×H) covered with 6mm thick polycarbonate sheet. B) Sliding Door:Size: 1.9m × 0.91m long & wide, normally lockable made with clear 6mm polycarbonate glazing, top & bottom tracks, jambs, flashings & installation hardware - 2 nos. C) Air Curtain with auto on/off when door opening /closing at main entry.</p> | <p>1 No.</p> <p>2 Nos.</p> <p>1 No.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| 1c. | <p>CLADDING:</p> <p>Cladding of roof, front wall, end wall, & sidewalls of the Greenhouse-sets and double door room should be with 6mm thick clear multiwall polycarbonate sheet, Aluminum Profile, EPDM gasket, Silicon sealant, and accessories. Roof and Side wall should be covered by 6mm, UV stabilized clear polycarbonate sheet with ten year warranty against discolorations, loss of light transmission, and / or loss of strength due to weathering. Should have outstanding impact performance over wide temperature range -40°C + 120°C and also after prolonged outdoor exposure. Should not break or buckle even after extreme weather conditions like storms and hails. Should be treated with antifungal treatment to enhance life.</p> | 1 Complete Set | |
| 1d. | <p>SHADING SYSTEM:</p> <p>A) External shading: 75% shading net (agro shade net) with rolling arrangement connecting pipe etc. can be rolled when not required.</p> <p>B) Internal shading: Reflective, thermal-aluminium-screen silver with a manually operated expanding & retracting mechanism inside the green house</p> | 1 Complete Set | |
| 1e. | <p>COOLING SYSTEM:</p> <p>A) Fan and Pad system or better with thick evaporative cooling pad complete with all necessary framing material, required supporting, distribution & returning piping. Slow Speed Axial Flow Fan: 36" single speed belt driven exhaust fan 1 hp, 220V, 50 cycles, 1 phase) 14,000 CFM each. Complete with PVC tanks , motor etc. The system should be able to bring down the ambient temperature inside the house by about 8-10 degrees in comparison to outside temperature under Tripura condition. Provision for dehumidifier.</p> | 1 Complete Set | |
| 1f. | <p>LIGHT:</p> <p>A) Photosynthetically Active Radiation Lamp / TLED lights, specific action spectra lamps for photosynthesis with electronic gear for research.</p> <p>B) LED' 4 nos will be fitted inside for visibility during dark time.</p> | 24 Nos. 4 Nos | |
| 1g. | <p>HEATING SYSTEM:</p> <p>Heat convectors with uniform heating provision for the entire house to raise inside temperature by 8-10 degrees than the outside ambient.</p> | 1 Complete Set | |
| 1h. | <p>AEROPONIC SYSTEM</p> <p>Growing boxes 4 (22m x 1.2m x 1.1m: L x W x H) to cover at least 105 sq m area inside the house.</p> <p>Grow Boxes: Grow boxes should have sides made from 50mm , extruded polystyrene foam having 30-32 kg/ cubic meter density , compressive strength of 300-310 kPa. Sheet size 2500 x 600 mm and 1250 x 600 mm. Polystyrene sheets should be pasted first with adhesive with each other than should be sandwiched between steel frame and 2mm thick aluminum strip of 3-5 cm wide SS screw /fastners.</p> <p>Boxes should be properly sealed & leak proofed for complete darkness inside. Growth chambers should be top drilled with holes of 20 mm diameter with specified spacing. Box top covers with grooves 60 x 8 mm</p> | | |

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| | <p>from sides all along the length. Top should be covered with first black polythene and then white flex sheet tied with plastic</p> <p>Nutrient Misting system in Growth Boxes: Two lines of hollow /solid cone misting nozzles (flange type/ non metallic/ceramic) . Upward side face fitted on PVC pipe to produce fine fog / mist to supply water and nutrient at discharge rate 30 plus minus 3 litre/hour with particle size 50-100 micron.</p> <p>Solution chamber: 1500-1600 litre capacity each, underground inside the polyhouse made of concrete lined with ceramic tiles for solution storage, covered with SS grill PVC sheet.</p> <p>Pump: Two monoblock pumps suitable capacity to operate at least 100 nozzles at one time at 4-5kg/cm square pressure.</p> <p>Piping: Non metallic pipes for pressurized delivery of nutrient solution and for collecting back same solution for recirculation, with proper insulation for maintaining solution temperature.</p> <p>Valves and pressure gauge: Non metallic ball valves to control flow of solution at all time at proper pressure</p> | | |
| 1i. | <p>CONTROL PANEL FOR AUTOMATION:</p> <p>Microprocessor based Monitor Panel including Light, Temperature & Humidity Control System : should have the following:</p> <p>a) Photoperiodic Timer</p> <ul style="list-style-type: none"> - Cycle: 24 hrs minimum ON/OFF period 30 minutes. - Accuracy: ±10 sec/day <p>b) Temperature Control System</p> <ul style="list-style-type: none"> - Temp. Range: 0.1 to 59.9°C. - Accuracy: ±1°C. <p>c) Relative Humidity Control System: It should maintain desired RH in the range of ±4%. Provision for dehumidifier.</p> | 1 Complete Set | |
| 1j. | <p>CIVIL WORK:</p> <p>A) Excavation and trenches for foundation</p> <p>B) Foundation: grouting of side poles (1' x 1' x 2.5') below earth surface in cement concrete (1:2:4, cement, sand and stone aggregate)</p> <p>C) Foundation wall for all sides of Green House along with the double door room. WIDE Based min 3 feet below earth's surface, 3 feet above earth's surface, as kick-board 9" wide. Frame base block height 2'.</p> <p>Plaster: 1:4 CM</p> <p>Painting : Painting of walls with 2 or more coat of cement paint of approved colour / shade.</p> <p>D)Floor: 75 mm thick base tiled with anti slippery hard tiles with drainage slopes.</p> <p>E)Plinth Protection: 2 feet wide all around the greenhouse along with buffer room.</p> | 1 Complete job in all respects | |
| 1k. | <p>ELECTRICAL WIRING:</p> <p>All wires and switches should be fire proof copper and desired load, fitted with MCB, wherever necessary, complete in all respect with A grade work.</p> | 1 Complete Set | |

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| 2 | SHADE NET HOUSE WITH MULTIPLE WALL CHAMBERS FOR DIFFERENT TYPES OF RESEARCH | | 01 Complete Set |
| | Sl. No. | PRODUCT TECHNICAL SPECIFICATION | |
| 2a. | <p>SHADE NET HOUSE : 1000 sq m</p> <p>Size: =1000sq.m.</p> <p>Pre-galvanized channel cum tubular structure/ Tubular Structure wherein crops are grown under a favourable controlled environment and other conditions viz. temperature, humidity, light intensity, soil media, disease control, irrigation, Fertigation and other agronomical practices throughout the season irrespective of the natural conditions outside.</p> <ul style="list-style-type: none"> • Shape : Flat Structure, • Height from ground level: 4 meters. • Foundation: GI Pipe = 2” (60mm OD), • Column: GI Pipe 1 ½” (48mm OD) thickness 2mm, length 3m; • Top pipe grid: GI Pipe 1 ½ “ (48mm OD) thickness 2mm, length 6m; • Boundary Purlin: GI Pipe 1 ½ “(48mm OD) thickness 2mm, length 6m; • Corners and pipe couplers: Size 1 ½ “(48mm OD) Thickness 2mm, Length 0.15m; • Column Brazing / X pipes: GI Pipe = 1 ¼” (OD 42mm) Thickness 2.0mm for all corners; • Nut Bolts, Clamps etc.: Nut bolt size size 3/8, galvanized. Clamps: 2mm thickness GI st4rip of 180 GSM Zinc coated; Angles (MS): 40mmx40mmx6mm thick to connect purlin to truss members; • Aluminium Profile: The shade nets are fixed to the structure by a locking profile made of extruded aluminum profile. Made of alloy aluminum (approximately 220-250g / running fmeter) Should be suitable for double spring locking. Thickness: Minimum 1.0mm; Zig Zag Spring: Made of minimum of 2.3 mm thick Steel that is coated with plastic & it will lock and hold nets in aluminum profile; • Top Net: Bird-Net: Bird Exclusion Netting made of high density polyethylene (HDPE) mesh. Knotted strand should have minimum 21 kg knotted breaking strength, UV Stabilized, for top. • Top Secondary Shade Net: Shade Net 50 % (UV Stabilized) which is made retractable with proper hooks & UV stabilized PP ropes. Shade net is supported with 12 gauge GI wire. Shade net is provided 50 cm below the top net. Shorter retractable arrangements with pulleys for easy retraction and spread; • Sides: Fitted with high quality insect net, UV Stabilized, for all the four sides. • Hinged door: 2 numbers (minimum 2m I, 1m width, GI frame locking arrangement. (Connected to the ante room); • Civil work: Cement + stand + jelly ration must be 1:2:4, pipe length at least 1 mtr & pit size of at least 2.5ft D x 1ft B x 1ftL (0.75x0.3x0.3m); • Drip irrigation system: 16mm inline drip lateral, class-2, discharge: 2 to 4 lph, emitter spacing 320-40mm PVC mains / sub mains, control valves, flush valves, proper sectioning based on water availability, disc | 1 complete set | |

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|----|---|-----------------|
| | <p>filter and ventury fertilizer injector with pressure gauge. Minimum of 3000m inline drip lateral pipe need to be provided for 1 acre area.</p> <ul style="list-style-type: none"> Fogging/ Misting system: should consist of four way anti leak fogger 28 lph flow rate and particle size 80-100 micron, 16 mm lateral, PVC pipe 6 kg/cm2, valves, filter, pump, panel with volt meter, MCB, relay, temp and humidity sensor etc. complete application rate 3mm/hr. Spacing from lateral line to lateral line is 2.5 m and fogger to fogger also 2.5 m all across the poly house along the GI pipes across. Piltz Timer with manual operation. <p>Underground Growth Boxes/Chamber inside shed net house: Concrete leak proof structures for filling with different types of soils / growing media- Size : 1.5 m deep, 2m wide, length should be of the total length of the house with concrete partitioning after each 8m length. Partitioning along the length shall have provision for use as walking path with cemented work. (Price for constructing the growth boxes should be quoted separately)</p> | |
| 3 | <p>FERTIGATION SYSTEM: complete with deep tube well, storage tank, iron removal, piping etc. (Should be able to cover the Aeroponic Greenhouse as well as the Shade net house in an integrated fashion)</p> <p><u>Fertigation Automation System, Nutrition dosing unit:</u></p> <ul style="list-style-type: none"> Venturi dosage system that can be connected to new and existing irrigation lines, with excellent mixing function. Accurate and reliable Flexible extension options Capacity sizes for up to one to 70 m3 /h Should have one or two mixing chambers with up to four dosing channels each. Up to eight individual and adjustable dosing channels Dual EC en pH measurements for protection and accurate control should have filter option for filtering the fertilizer solution inlet Should have option for optical flow meter in fertilizer inlet | 01 Complete Set |
| 4. | <p>Water storage tank</p> <p>Non Metallic, Light weighted and durable, Hygienic, Quality tested and approved by leading laboratories industries and institutes, maintenance free, ISI mark.</p> <p>Capacity- 2000 litres</p> <p>Colour-Black .</p> | 4 Nos. |
| 5 | <p>Skilled operator: skilled operator from company side who shall run the units for a period of 3 years on day to day basis</p> | 1 |

Financial Bid

Schedule of Work

| S. No. | Name of Item (s) | Specification (s) of Item | Quantity/ Unit | Rates quoted per unit (INR) | Total quoted rates (INR) |
|---------------|-------------------------|----------------------------------|-----------------------|------------------------------------|---------------------------------|
| 1. | | | | | |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
| 5. | | | | | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | Other Cost | | | | |
| 10. | Discount if any | | | | |
| 11. | Total | | | | |

(Signature of Bidder with seal)

(to be submitted on official letter head)

UNDERTAKING

I _____(Name of the Tenderer)_____

on behalf of _____(Name of the
Firm/Manufacturer/Dealer/Agent)_____ am fully and

unconditionally agree to abide by all the terms & conditions as mentioned in the Tender Notice

No. _____ for the work “ **Design, construction, testing &
commissioning of green house,net house, fertigation unit, generator, water storage tank** at ICAR

Research Complex for NEH Region, Tripura Centre, Lembucherra - 799210

Date:

Signature:

Place:

Name:

Official Seal:

Company has to give an undertaking on a Non-judicial Stamp Paper worth Rs.100/- , duly notarized.

I/ We (Company) hereby give an undertaking that:

(a) I/ We have not been blacklisted during last three years by any Govt. Department/ Govt. Autonomous Body/ Institution, etc.;

(b) I/ We have not submitted any fake/ forged certificates/documents and later, if any such 'Certificates/ Documents' found to be fake/forged or contains wilful wrong/ incorrect information; suitable legal action may be initiated against me/ us/ agency besides 'forfeiture of Earnest Money Deposit' and 'Blacklisting' etc.

(c) I/ We shall not withdraw my/ our bid after opening of Technical Bid and if done so, the ICAR, Tripura Centre shall be authorized to forfeit the EMD submitted by me/us.

(Signature of Company with seal)

Name:

Address:

Date:

Declaration by the Company

This is to certify that I/We before signing this offer have read and fully understood all the terms and conditions contained herein and undertake myself/ourselves to abide by them.

Encls:

- a) DD/Pay Order No.....
- b) Technical Bid along with Documents/proofs sought under Pre-qualification criteria
- c) Check list along with compliance against each item (with page no. , where it is kept).
- d) Financial Bid.

(Signature of Company with seal)

Name:

Address:

Date:

NOTE: Submission of all the documents mentioned above along with declaration, is mandatory. Non submission of any of the documents above will render the bid to be rejected.