



भा. कृ. अनु. प. – केन्द्रीय शुष्क क्षेत्र अनुसंधान संस्थान

ICAR - Central Arid Zone Research Institute

जोधपुर (राजस्थान) 342 003/Jodhpur (Rajasthan) 342 003

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F. No. 47(1)2017-2018/Adm. IV/

Dated: 30.10.2017

NOTICE INVITING TENDER THROUGH E-PROCUREMENT

The Director, ICAR-Central Arid Zone Research Institute, Jodhpur on behalf of the President, Indian Council of Agricultural Research, New Delhi invites online bids under Two bid system from the Manufacturer/ authorised dealers/registered firms for the Supply and Installation of Naturally ventilated Poly House (Structure No. 1 of size 128 m²) and Net House Structure No. 2 of size 128 m²) at ICAR-Central Arid Zone Research Institute, Jodhpur

Critical Date Sheet

1.	Date and Time for Issue/Publishing	03.00 PM on 30.10.2017
2.	Document Download / Sale Start Date and Time	03.00 PM on 30.10.2017
3..	Document Download / Sale End Date and Time	2.00 PM on 18.11.2017
4.	Bid Submission start Date and Time	03.00 PM on 30.10.2017
5.	Bid Submission End Date and Time	02.30 PM on 18.11.2017
6.	Date and Time for Opening of technical Bids	2.30 PM on 20.11.2017
7.	Date and Time for opening of Financial Bid	After finalize the Technical Bid
	Tender Fee	Rs. 500.00 (not refundable)
	Bid Security (Earnest Money Deposit)	Rs. 5,800/-
	and	
	Performance Security	@ 5-10% of Contract value
8.	Bank details	"ICAR Unit- CAZRI, Jodhpur" Payable at State Bank of India, Branch Shastri Nagar, Jodhpur (Rajasthan)
9.	Address for Communication	Director, ICAR-CAZRI, Jodhpur-342003 (Raj.) India

Note : The tender form and other details are available on CAZRI's website www.cazri.res.in & CPPP. The interested Manufacturers/authorized dealer/Agency/firm of repute may download the tender document from above websites and upload the same after completing in all respect in the e-procure.gov.in portal as per guidelines mentioned in the portal by or before the due date & time.

**Encl. : Annexure- I to IX (for technical Bid Cover) &
Annexure- X (for Financial Bid Cover)**

**Asstt. Administrative Officer (S)
for Director**

F.No. 47(1)2017-2018/Admn.IV

Instructions for Online Bid submission

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: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which 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 / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's 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.

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/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 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” or “Other Important Documents” 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.

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can 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 “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (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.
- 6) 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.

- 7) 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. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), 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.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

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.

Technical Bid

Terms and Conditions

1. The tenderer shall quote rates, which will include the delivery (supply and installations)& other incidental charges. Taxes, if any, should be indicated separately.
2. The rates should be quoted as per the Financial Bid /BOQ format uploaded on the CPP Portal. Taxes, if any, should be indicated separately. It must be noted that the contract shall be awarded to the firm which fulfils all the required specifications, terms and conditions and remains L-1.
3. The firm must also possess valid PAN No., TIN No. & Service Tax registration number and a copy of the same must also be enclosed with the tender document.
4. Copy of latest Income Tax Return may be furnished.
5. Modification in the tender documents after the closing date and time is not permissible.
6. The successful firm shall have to supply the **item (from the date of confirmed supply order) within 45 days /as mentioned in the supply order(P.O.)** and if the materials are not supplied and installed in time then EMD shall be forfeited. The rates quoted shall be valid for 6 months from the date of opening of tender.
7. The contractor/bidder or his representative may contact the undersigned at Tel No.0291-2787152 for any further clarification. No variation in terms of quality of the items shall be entertained or else EMD/Security deposit shall be forfeited.
8. The Director, ICAR-CAZRI, Jodhpur shall have the right to reject all or any of the offers, accept more than one offer, and assign part of the job.
9. Merely quoting of lowest rates does not mean that order shall be given to that firm. The competent authority will finally decide on the basis of quality & performance of past installations.
10. The interested Firms are required to deposit/submit (in original) Tender fee (not refundable) and an Earnest Money Deposit (EMD) of the amount mentioned in Critical date sheet in the form of Demand Draft/Bankers cheque/Pay order from any of the Commercial Bank in favour of "ICAR Unit-CAZRI, Jodhpur", payable at Jodhpur may be addressed to Director, ICAR-CAZRI, Jodhpur on or before bid submission closing date and time as mentioned in critical date sheet. No quotation shall be considered without the earnest money deposit. Demand Draft drawn in favour of any officer other than "ICAR Unit-CAZRI, Jodhpur" payable at Jodhpur' will not be accepted and the tender will be rejected. The earnest money will be refunded only after the finalization of the procurement and no interest will be paid on earnest money.
11. Rates once finalized will not be enhanced/reduced during the currency of the contract. In case of foreign currency, conversion rates in INR will be taken on that day when financial bid will open.
12. In case, the successful bidder shows inability at any stage, after the contract is finalized and awarded, for whatsoever reason(s), to honour the contract, the earnest money / performance security deposited would be forfeited.
13. The Director, ICAR-CAZRI, Jodhpur reserves the right to cancel the contract at any time during the currency period of the contract without giving any reason.

14. The firm to whom the tender will be awarded, will have to deposit the performance security equal to 5% -10% of the total amount at the time of installation of the equipment. If the services are not found to be satisfactory, the performance security is liable to be forfeited. No interest will be paid on performance security.
15. If any dispute(s) arises between ICAR-CAZRI, Jodhpur and the firm with reference to the contract, ICAR-CAZRI, Jodhpur will decide it and its decision will be binding on the firms.
17. **Bid Validity** : 90 days
18. The contract will be given to Least one (L1).
19. The Institute is exempted from payment of excise duty if any. Hence, excise duty will not be paid to the firm.
20. **Payment-**
100% of the contract price on receipt of goods as per specifications by the consignee supported by satisfactory installation/working report.
21. **Installation :- Should be done within stipulated delivery period as per the order at the Institute in consultation with the indenting officer**, failing which Liquidated Damage clause shall apply. Liquidated Damage clause: It would be realized @ 0.5% (half per cent) of the base price (excluding taxes) of the delayed goods for each week of delay subject to maximum 10%.
22. **Price -**
 - i) The price quoted shall be on firm and fixed basis and should be reasonable living no scope for any further negotiation on price.
 - ii) For goods manufactured in India/abroad : The price of the goods should be quoted on FOR basis and in INR (including all kind of charges and taxes) installations commissioning charges, if any.
23. **Jurisdiction of Court :-** The court of the Jodhpur shall have a jurisdiction to decide any dispute arising out of or in respect of contract.
24. **Force Majeure Clause :-** The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure. For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods. Epidemics, quarantine restrictions, strikes, lockout or any act of war. Notice of the happening of any such event is given by either party to the other within 15 days from the date of occurring thereof. However either party at its discretion can terminate the contract in such cases.
25. **Termination of Contract :-** Time shall be the essence of the contract. The purchaser shall have the right to terminate the contract without any notice in part or in full in any of the following cases:
 - a) The delivery of the material is delayed for causes not attributed to Force Majeure after the scheduled date of delivery.
 - b) The seller is declared bankrupt or becomes insolvent.
 - c) The delivery material is delayed due to causes of Force Majeure by more than reasonable time.

- d) In case Performance Security is not furnished within the time period specified by the purchaser.
- e) Supply in the case of successful Tenderer should strictly confirm to the specifications of the equipment being purchased.
- f) Any change in Address/Telephone/Fax/e-mail of the tenderer should immediately be informed. The state of non-communication by the firm will make the offer liable for rejection.

26. **Acceptance or rejection of offer** :- The Director, ICAR-CAZRI, Jodhpur reserves the right to accept or reject any tender in part or full without assigning any reason thereof. The successful bidder should submit order acceptance letter within 10 days from the date of issue.

'Terms & Conditions are acceptable to us'.

Dated:

(Authorized signatory of the firm)

Technical Bid

Check list of documents to be uploaded by the tenderer in Technical bid cover

The Firms are required to upload copies of the following documents:-

S.No.	Documents required	✓ Attached with Technical bid X Not attached with Technical bid
a)	Scanned copy of Earnest Money Deposit (EMD) and tender fee/its exemption, if any.	
b)	Scanned copy of Firm's registration issued by the Central Govt./State Govt.	
c)	Scanned copy of TIN No. & GST Registration No.	
d)	RTGS detail of the firm	
e)	Scanned copy of Valid PAN issued by Income Tax Department	
f)	Scanned copy of Income Tax Return of last 2 years	
g)	Scanned copy of signed our terms and conditions	
h)	Tender acceptance letter	
i)	Scanned copy of signed Price Bid undertaking	
j)	Undertaking that firm has not black listed by any government organisation	
k)	Undertaking that items shall be supplied as detailed in tender document	
l)	Scanned copy of ink signed tender specific authorization from OEM (Original Equipment manufacturer).	
m)	User list, and Scanned copies of the Work Orders awarded to firm by the other Govt. dept./organizations etc. for the said item(s) of last 3 years.	
n	Any other, if any	

Signature of the Tenderer with seal

**Technical Bid
Details of the Firm**

Name of the firm :

Registered/Postal Address :

.....

.....

S.No.	Particulars	
1.	Phone number/Mobile number	
2.	E-mail Address	
3.	PAN No	
4.	GST / TIN / Service Tax Reg. No.	
5.	Applicable Bank Details : Bank Name : Branch Address with Phone No. Account No. Type of Account (Current/Saving)	
6.	RTGS/IFSC Code & Branch	

Signature of the bidder

Technical Bid
TENDER ACCEPTANCE LETTER
(To be given on Company Letter head)

Date:

To

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 annexure(s), schedule(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/ organisation 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. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

6. I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract , without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

Technical Bid

PRICE BID UNDERTAKING

From: (Full name and address of the Bidder) _____

To,

Dear Sir/Madam,

I submit the Price Bid for _____ and related activities as envisaged in the Bid document.

2. I have thoroughly examined and understood all the terms and conditions as contained in the Bid document, and agree to abide by them.

3. I offer to work at the rates as indicated in the price Bid, inclusive of all applicable taxes except Service Tax.

Yours
Faithfully,

Signature of the firm with seal

Technical Bid

MANUFACTURER'S (OEM) AUTHORISATION FORM

To

The Director,

ICAR- Central Arid Zone Research Institute,

Jodhpur, Rajasthan 342003

Ref : your Bidding Documents No.....dated.....

Dear Sir,

We....., who are established and reputable manufacturers of
(Name and description of the goods offered in the bid) having factories at.....
hereby authorize Messrs.....
(name and address of the agent) to submit a bid, negotiate (as and if necessary) and conclude the contract with you against your above mentioned Bidding Documents for the above goods manufactured by us.

No company or firm or individual other than Messrs
(name and address of the above agent) is authorized to bid, negotiate and conclude the contract against this specific Bidding Documents for the above mentioned goods manufactured by us.

We hereby extend our full guarantee and warranty as per the General Conditions of Contract, read with modification, if any in the Special Conditions of contract for the goods and services offered for supply against this Bidding Document by the above firm.

Yours faithfully,

(Signature name and designation)

for and behalf of Messrs.....

[name & address of the manufacturers]

Note: *This letter of authorization should be on the letter head of the manufacturing firm and should be signed by a person competent and having the power of attorney to legally bind the manufacturer. The authorization Certificate should be from the "Manufacturer" only and certificate from any other firm/person including OEM arrangements would not be accepted*

Technical Bid

(Printed on letter head of firm)

TO WHOM IT MAY CONCERN

We hereby certify that our firm M/s
..... has not been black listed by any Government,
or semi Government department in India.

(Signature of the Firm with Seal)

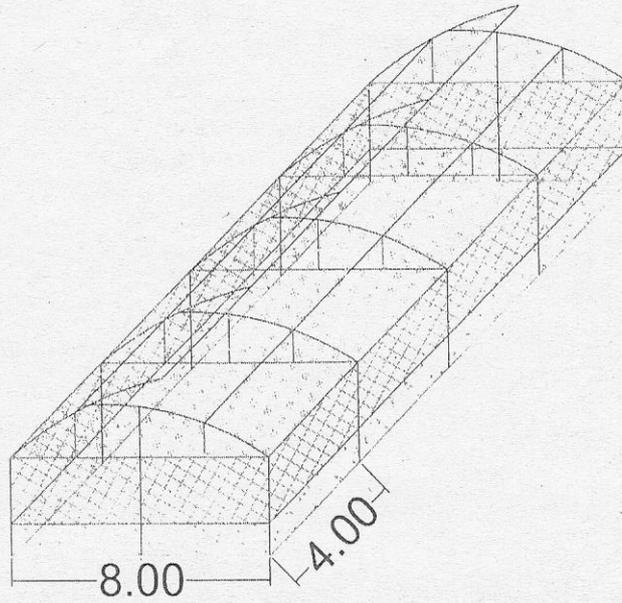
Technical Bid**Schedule to tender****Naturally ventilated poly house (Structure No. 1)**

Sl. No.	Item	General specification	Place of Supply and Installation
Structure 1: Naturally ventilated poly house			ICAR-CAZRI, Jodhpur
1	Structure type	Single span dome shape, tubular GI pipe structure	
2	Size	16 x 8 meter (128 m ²)	
3	Grid size	4 meter x 4 meter	
4	Height	Ridge height: 4.5 meter and Gutter level height: 3 meter	
5	Orientation	As per site	
6	Structural design	The structural design need to be sound enough to withstand wind speed minimum 150 km/hr. and minimum load of 25 kg/m ² .	
7	Structure	Hot dip Galvanized Iron (Galvanization should not be less than 300 GSM), ISI, GI pipe wall thickness not less than 2mm for all the structural components with standard accessories	
	Columns	48 mm OD, 2 mm thick	
	Trusses	Bottom & top cord 42 mm OD, 2 mm thick	
	Trusses member & purlin	33 mm OD, 2 mm thick	
	Purlin member & others	25 mm, 2 mm thick	
	Foundation of GI pipe column	Insert GI pipe of minimum 48 mm OD or more with cross bar (0.30 m) at the bottom to have foundation depth of 0.90m or more depending upon soil type and prevailing wind condition, grouted with cement concrete mixture of 1:2:4	
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized	
8	Top ventilation	Top (Roof vent): Top vent minimum of 100 cm of vertical gap. Covered with UV stabilized insect proof net of 40 mesh. Minimum overlap of top arch and bottom arch to avoid direct rain entering into the greenhouse from the vent.	
9	Side ventilation	3 m down from gutter level. Covered with 40 mesh UV stabilized insect proof nylon net. Over to that rollable polyethylene sheet has to be provided (200 micron UV stabilized) with manual cranking arrangements from three sides. 1 meter apron of HDPE material from ground level.	
10	Cladding material	Naturally ventilated poly house (UV stabilized 200 micron 5 layers co-extruded anti drip/mist, anti-dust, diffused, IR cooling having minimum 85% level of light transmittance) + (Inside on top UV Stabilized Shade net- 50 % shade factor)	

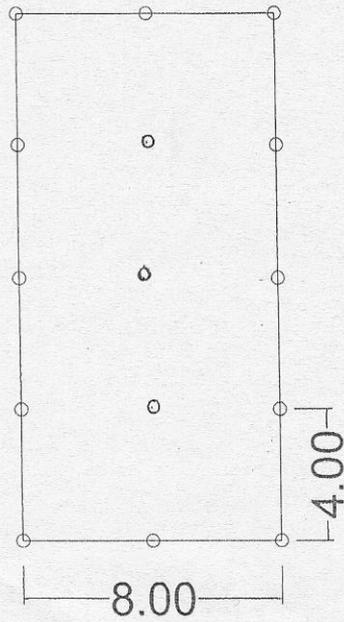
11	Fixing of cladding materials	C type GI profile to fix polyethylene sheet to the structure by means of self drilling screw. Self-drilling screw should be fixed on profile every 40 cm along the full length of the profile.	
12	Spring insert	Zig-zag high carbon steel with spring action wire of 2-3 mm diameter must be to fix shade net into GI profile.	
13	Masonry for boundary wall	0.45m below ground level (including 0.15m thick C:C (1:5:10) at the bottom of the foundation) and 0.30m above ground with brick / stone along with 20 mm cement plaster (1:6) (1 cement:6 coarse sand) at all exposed areas.	
14	Entrance door	Two hinge doors of size 1 m width and 2 m height double leaf made in FRP sheet mounted in suitable strong frame.	
15	Drip irrigation	Pressure Compensate (PC) In line drip laterals of 0.9 mm thick, 16 mm diameter, 4.0 LPH, 30 cm emitter spacing, having anti-siphon mechanism, UV resistance. Quantity required: 500 m, 16 mm flow control valve on each drip line and 50 no. end caps of 16 mm.	
16	Misting system	To increase the humidity up-to 80% ± 5% by providing fogging Nozzles hanging type, with 4 way discharge. Foggers with 16 mm lateral. Four laterals in each structure with 2 m spacing of fogging nozzles.	
17	Warranty	Free maintenance for one year from the date of installation	

Structure: 2: Naturally Ventilated Polyhouse.
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

NATURALLY VENTILATED GREEN HOUSE
8.00(S-1)X16.00(B-4)
= 128.00 SQ.MTR



ISOMETRIC VIEW



TOP VIEW

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

Technical Bid

Schedule to tender

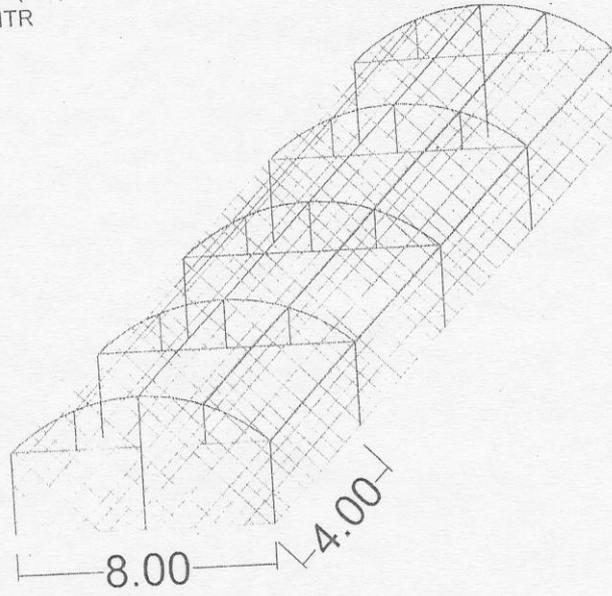
Supply and installation of Net House (Structure 2)

Sl. No.	Item	General specification	Place of Supply and Installation
Structure 2: Net House			ICAR-CAZRI, Jodhpur
1	Structure type	Single span dome shape, tubular GI pipe structure	
2	Size	16 x 8 meter (128 m ²)	
3	Grid size	4 meter x 4 meter	
4	Height	Ridge height: 4 meter and Gutter level height: 2.5 meter	
5	Orientation	As per site	
6	Structural design	The structural design need to be sound enough to withstand wind speed minimum 150 km/hr. and minimum load of 25 kg/m ² .	
7	Structural components	Hot dip Galvanized Iron (Galvanization should not be less than 300 GSM), ISI, GI pipe wall thickness not less than 2mm for all the structural components with standard accessories	
	Columns	48 mm OD, 2 mm thick	
	Trusses	Bottom & top cord 42 mm OD, 2 mm thick	
	Trusses member & purlin	33 mm OD, 2 mm thick	
	Purlin member & others	25 mm, 2 mm thick	
	Foundation of GI pipe column	Insert GI pipe of minimum 48 mm OD or more with cross bar (0.30 m) at the bottom to have foundation depth of 0.90 m or more depending upon soil type and prevailing wind condition, grouted with cement concrete mixture of 1:2:4	
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized	
8	Cladding material	Insect proof net house (UV stabilized white colour insect proof net of 40 mesh)	
9	Fixing of cladding materials	C type GI profile to fix shade net to the structure by means of self drilling screw should be fixed on profile every 40 cm along the full length of the profile.	
10	Spring insert	Zig-zag high carbon steel with spring action wire of 2-3 mm diameter must be to fix shade net into GI profile.	
11	Masonry for boundary wall	0.45 m below ground level (including 0.15m thick C:C (1:5:10) at the bottom of the foundation) and 0.30m above ground with brick / stone along with 20 mm cement plaster (1:6) (1 cement:6 coarse sand) at all exposed areas.	
12	Entrance door	Two hinge doors of size 1 m width and 2 m height double leaf made in FRP sheet mounted in suitable strong frame.	

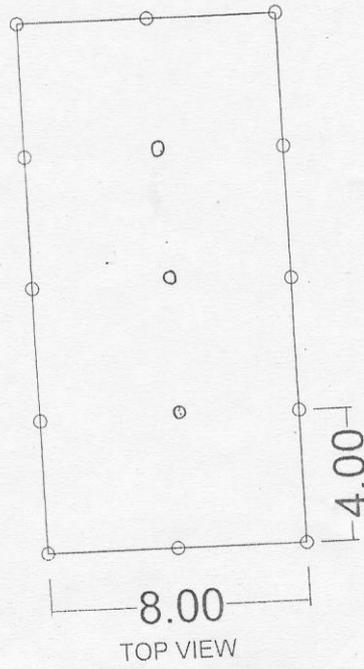
13	Drip irrigation	Pressure Compensate (PC) In line drip laterals of 0.9 mm thick, 16 mm diameter, 4.0 LPH, 30 cm emitter spacing, having anti-siphon mechanism, UV resistance. Quantity required: 500 m, 16 mm flow control valve on each drip line and 50 no. end caps of 16 mm.	
14	Misting system	To increase the humidity up-to 80% ± 5% by providing fogging Nozzles hanging type, with 4 way discharge. Foggers with 16 mm lateral. Four laterals in each structure with 2 m spacing of fogging nozzles.	
15	Warranty	Free maintenance for one year from the date of installation	

Structure: 2: Net House.
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

DOMESHAPE INSECT NET HOUSE
8.00(S-1)X16.00(B-4)
= 128.00 SQ.MTR



ISOMETRIC VIEW



TOP VIEW

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

FINANCIAL BID FOR STRUCTURE No. 1
(To be scanned and uploaded separately under financial bid cover)

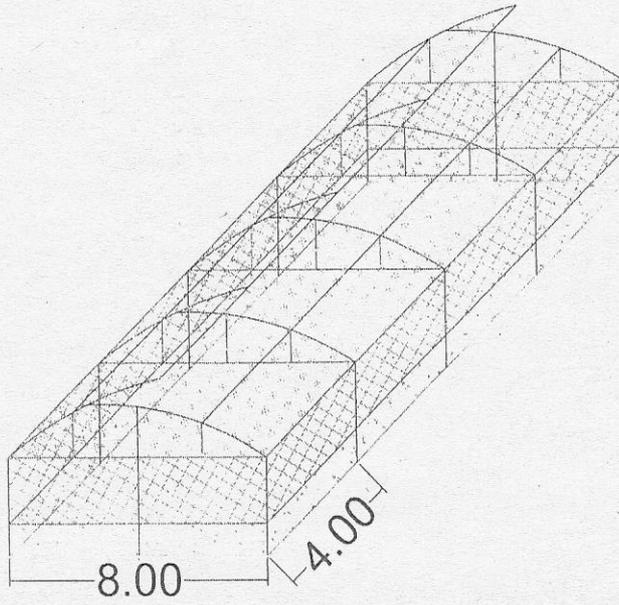
Structure No. 1

Sl. No.	Item	General specification	Rate	Amount
Structure 1: Naturally ventilated polyhouse				
1	Structure type	Single span dome shape, tubular GI pipe structure		
2	Size	16 x 8 meter (128 m ²)		
3	Grid size	4 meter x 4 meter		
4	Height	Ridge height: 4.5 meter and Gutter level height: 3 meter		
5	Orientation	As per site		
6	Structural design	The structural design need to be sound enough to withstand wind speed minimum 150 km/hr. and minimum load of 25 kg/m ² .		
7	Structure	Hot dip Galvanized Iron (Galvanization should not be less than 300 GSM), ISI, GI pipe wall thickness not less than 2mm for all the structural components with standard accessories		
	Columns	48 mm OD, 2 mm thick		
	Trusses	Bottom & top cord 42 mm OD, 2 mm thick		
	Trusses member & purlin	33 mm OD, 2 mm thick		
	Purlin member & others	25 mm, 2 mm thick		
	Foundation of GI pipe column	Insert GI pipe of minimum 48 mm OD or more with cross bar (1 feet) at the bottom to have foundation depth of 3 feet or more depending upon soil type and prevailing wind condition, grouted with cement concrete mixture of 1:2:4		
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized		
8	Top ventilation	Top (Roof vent): Top vent minimum of 100 cm of vertical gap. Covered with UV stabilized insect proof net of 40 mesh. Minimum overlap of top arch and bottom arch to avoid direct rain entering into the greenhouse from the vent.		
9	Side ventilation	3 m down from gutter level. Covered with 40 mesh UV stabilized insect proof nylon net. Over to that rollable polyethylene sheet has to be provided (200 micron UV stabilized) with manual cranking arrangements from three sides. 1 meter apron of HDPE material from ground level.		
10	Cladding material	Naturally ventilated polyhouse (UV stabilized 200 micron 5 layers co-extruded anti drip/mist, anti-dust, diffused, IR cooling having minimum 85% level of light transmittance) + (Inside on top UV Stabilized Shade net- 50 % shade factor)		
11	Fixing of cladding materials	C type GI profile to fix polyethylene sheet to the structure by means of self tapping screw. Self-drilling screw should be fixed on profile every 40 cm along the full length of the profile.		
12	Spring insert	Zig-zag high carbon steel with spring action wire of 2-3 mm diameter must be to fix shade net into GI profile.		
13	Masonry for boundary wall	1.5' below ground level (including 6" thick C:C (1:5:10) at the bottom of the foundation) and 1' above ground with brick / stone along with 20 mm cement plaster (1:6) (1 cement:6 coarse sand) at all exposed areas.		
14	Entrance door	Two hinge doors of size 1 m width and 2 m height double leaf made in FRP sheet mounted in suitable strong frame.		

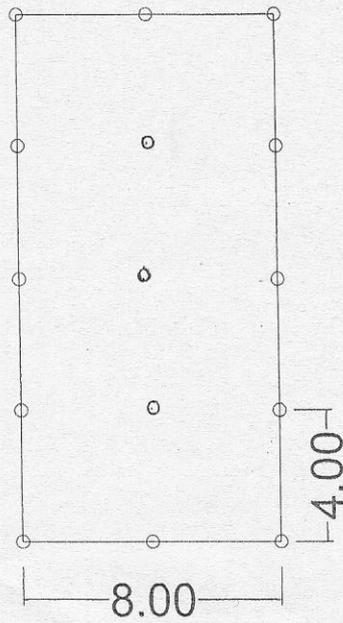
15	Drip irrigation	Pressure Compensate (PC) In line drip laterals of 0.9 mm thick, 16 mm diameter, 4.0 LPH, 30 cm emitter spacing, having anti-siphon mechanism, UV resistance. Quantity required: 500 m, 16 mm flow control valve on each drip line and 50 no. end caps of 16 mm.		
16	Misting system	To increase the humidity up-to 80% ± 5% by providing fogging Nozzles hanging type, with 4 way discharge. Foggers with 16 mm lateral. Four laterals in each structure with 2 m spacing of fogging nozzles.		
17	Warranty	Free maintenance for one year from the date of installation		
			Grant Total Rs.	

Structure: 1: Naturally Ventilated Polyhouse
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

NATURALLY VENTILATED GREEN HOUSE
8.00(S-1)X16.00(B-4)
= 128.00 SQ.MTR



ISOMETRIC VIEW



TOP VIEW

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

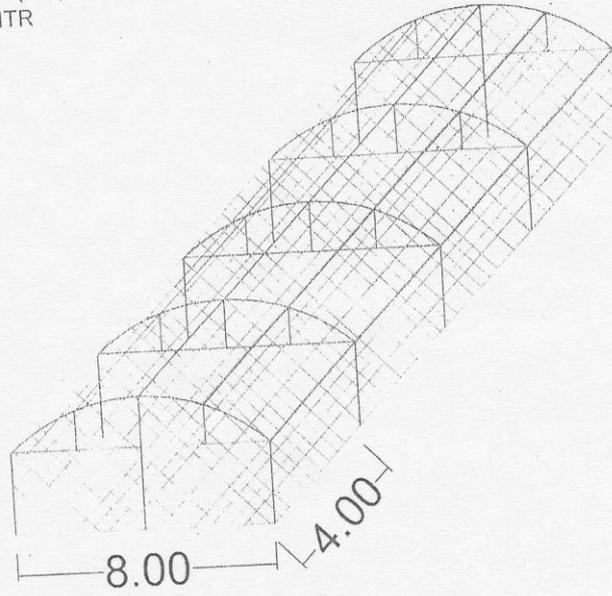
Schedule to tender

Structure 2:

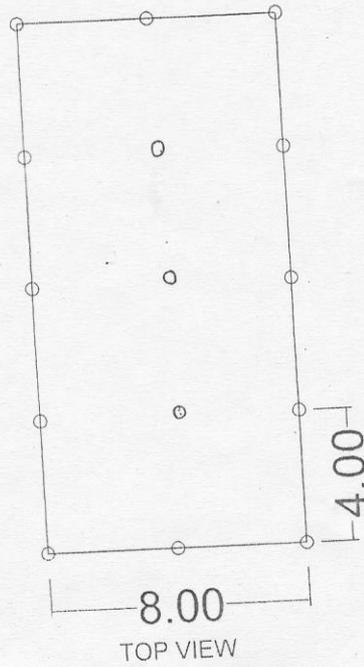
Sl. No.	Item	General specification	Rate	Amount
Structure 2: Net House				
1	Structure type	Single span dome shape, tubular GI pipe structure		
2	Size	16 x 8 meter (128 m ²)		
3	Grid size	4 meter x 4 meter		
4	Height	Ridge height: 4 meter and Gutter level height: 2.5 meter		
5	Orientation	As per site		
6	Structural design	The structural design need to be sound enough to withstand wind speed minimum 150 km/hr. and minimum load of 25 kg/m ² .		
7	Structural components	Hot dip Galvanized Iron (Galvanization should not be less than 300 GSM), ISI, GI pipe wall thickness not less than 2mm for all the structural components with standard accessories		
	Columns	48 mm OD, 2 mm thick		
	Trusses	Bottom & top cord 42 mm OD, 2 mm thick		
	Trusses member & purlin	33 mm OD, 2 mm thick		
	Purlin member & others	25 mm, 2 mm thick		
	Foundation of GI pipe column	Insert GI pipe of minimum 48 mm OD or more with cross bar (1 feet) at the bottom to have foundation depth of 3 feet or more depending upon soil type and prevailing wind condition, grouted with cement concrete mixture of 1:2:4		
	Fasteners	All nuts & bolts must be of high tensile strength and galvanized		
8	Cladding material	Insect proof net house (UV stabilized white colour insect proof net of 40 mesh)		
9	Fixing of cladding materials	C type GI profile to fix shade net to the structure by means of self tapping screw. Self-drilling screw should be fixed on profile every 40 cm along the full length of the profile.		
10	Spring insert	Zig-zag high carbon steel with spring action wire of 2-3 mm diameter must be to fix shade net into GI profile.		
11	Masonry for boundary wall	1.5' below ground level (including 6" thick C:C (1:5:10) at the bottom of the foundation) and 1' above ground with brick / stone along with 20 mm cement plaster (1:6) (1 cement:6 coarse sand) at all exposed areas.		
12	Entrance door	Two hinge doors of size 1 m width and 2 m height double leaf made in FRP sheet mounted in suitable strong frame.		
13	Drip irrigation	Pressure Compensate (PC) In line drip laterals of 0.9 mm thick, 16 mm diameter, 4.0 LPH, 30 cm emitter spacing, having anti-siphon mechanism, UV resistance. Quantity required: 500 m, 16 mm flow control valve on each drip line and 50 no. end caps of 16 mm.		
14	Misting system	To increase the humidity up-to 80% ± 5% by providing fogging Nozzles hanging type, with 4 way discharge. Foggers with 16 mm lateral. Four laterals in each structure with 2 m spacing of fogging nozzles.		
15	Warranty	Free maintenance for one year from the date of installation		
Grant Total Rs.				

Structure: 2: Net House.
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

DOMESHAPE INSECT NET HOUSE
8.00(S-1)X16.00(B-4)
= 128.00 SQ.MTR



ISOMETRIC VIEW



TOP VIEW

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