



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. 56(1)2019-2020/Adm. IV/

Dated: 05.09.2019

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 Poly House.

Critical Date Sheet

1.	Date and Time for Issue/Publishing	06.00 PM on 05.09.2019
2.	Document Download / Sale Start Date and Time	06.00 PM on 05.09.2019
3..	Document Download / Sale End Date and Time	02.00 PM on 25.09.2019
4.	Bid Submission start Date and Time	06.00 PM on 05.09.2019
5.	Bid Submission End Date and Time	02.30 PM on 25.09.2019
6.	Date and Time for Opening of technical Bids	02.30 PM on 26.09.2019
7.	Date and Time for opening of Financial Bid	After finalize the Technical Bid
8.	Address for Communication	Director, ICAR-CAZRI, Jodhpur-342003 (Raj.) India
9.	Tender Fee Bid Security (Earnest Money)	Tender Fee Rs. 1000/- Bid Security Rs. 64000/- in the form of Demand Draft/Bankers cheque/Pay order to be drawn in favour of "ICAR Unit- CAZRI, Jodhpur", payable at Jodhpur

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 (Cover-I) &
Annexure- X (for Financial Bid Cover (Cover-II))

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

F.No. 56(1)2019-2020/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. & GST registration number and a copy of the same must also be enclosed with the tender document.
4. Copy of Income Tax Return of last 2 years 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 30 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/tender 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.
16. **Bid Validity** : 90 days.
17. The contract will be given to Least one (L1).
18. The Institute is exempted from payment of excise duty if any. Hence, excise duty will not be paid to the firm.
19. **Payment-** 100% of the contract price on receipt of goods as per specifications by the consignee supported by satisfactory installation/Demonstration and working report.
20. **Installation :- Should be done within stipulated delivery period as per the order at the location as mentioned in the tender 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%.
21. **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.
22. **Jurisdiction of Court** :- The court of the Jodhpur shall have a jurisdiction to decide any dispute arising out of or in respect of contract.
23. **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, it's 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.
24. **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.

25. **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 Bid Security (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 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 2 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.	TIN No. GST 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/GST.

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)

F.No. 56(1)2019-2020/Admn.IV**TECHNICAL BID**
Schedule to tender**TECHNICAL SPECIFICATION OF Supply and Installation of Poly House**

S. N.	Item	Broad Specification	Place of Supply
		Supply and Installation of Poly House	ICAR-CAZRI, Jodhpur
1	Area	1200 sqm, approx. (size: 25m x 48m)	
2	Section/ chamber	3 interconnected individual chamber (Multispan/ Dome)	
3	Chamber size	16 m (Width) x 25 m (Length)	
4	Gutter height	3.0m	
5	Ridge height	4.5-4.75 mtr	
6	Gutter slope	1-2 % to drain rain water without clogging (With rain water harvesting arrangements)	
7	Buffer room	1 No. of size 3.5m x 4m for smooth functioning of Control Unit (Micro-processor-based control panel & data logger) under extreme environments, along with space for storing WS-fertilizers/ chemicals, and Sampling Platform. Buffer room- located on the front side of first chamber using 40mm self-supporting Puff insulated Pre-fabricated Panels Both side PPGI (All four sides and Roof) along with One Table of 0.75m x 3m x 0.75 with Granite Top and standard electrical points and One number of 1.5 TR window Air-conditioner. Provision of ventilation Fan, Light, CC floor, foot bath with drain out system. Stainless Steel Sink with Tap. It consists of main entrance door of 1.2m x 2.0m hinge type with 1.2m x 2.0m sliding door for entry into first chamber. Two additional Sliding Doors as above for interconnection between chambers.	
8	Structure (welded)	Complete structure should be welded made from Galvanized tubular steel pipes or equivalent section confirming Indian standards having wall thickness 2mm, 60mm x 60mm / 70mm x 50mm, 48mm x 48mm, 38mm x 38mm, 32mm x 32mm structural member should be joined properly.	
9	Glazing	With 5-layer Ginegar Polysheet of 200 micron UV Stabilized, Anti drip, Diffused features.	
	Locking profile	Aluminium locking profile and zigzag spring PVC coated	
10	Shade net	UV stabilized Alumini Net inside green house with collapsible gear arrangement for easy operations.	

11	Cooling System & Heating System	<p>Evaporative cooling with Fan & Pad to reduce Inner Temperature as per follows:</p> <ul style="list-style-type: none"> - Exhaust fans (3 Nos. in each chamber) of 50'' (1250mm - sweep size) with 1.5 hp motor axial belt driven with galvanized body, with Aluminium/ GI louvers. - Cooling Media: Celdek cellulose cooling pads of size height 2.0m and 150mm thick size along with water circulation systems including heavy quality aluminium frame and water collecting gutter, profile to fix pads, UPVC water distribution system with plastic screen filter, pump, fitting and accessories. Protection by providing UV stabilized insect proof net fixed on cooling pad from backside. - Provided with 2000 L. UV stabilized Polymer water storage tank and placing in the ground and 1.5 HP monoblock pumpset (individual for each chamber). - Heating system: 2.5 KW Paralytic heating system (6 Nos. in only ONE chamber, provided with dual safety measures). - Modulated Air modulation system should be made available on upper side of gutter level using 600mm Axial Flow fans with thermal controls and Modulated Actuated Damper made of Galvanized frame duly fitted with Honeywell/equivalent, Direct coupled Actuator (80lb-in / 9N; 230V AC 50/60 Hz) on opposite walls in each chamber (Total 12 Nos). 	
12	Control panel	<p>Microprocessor Control Panel (individual for each chamber) for automation for temperature and relative humidity duly fixed with Lt/Schneider contractors and miniature circuit breakers with rigid standard of safety along with microprocessor based programmable Data logger Accuracy +/- 2.0% RH and +/- 0.3°C and inbuilt real time clock calendar with lithium battery (Back up min 10Years).</p> <p>Specifications: -</p> <p>Display: 4 + 4 seven segment red and green LED display.</p> <p>Sensor: Digital pre-calibrated sensor SHT15 or equivalent, Digital Interface of sensor with micro controller.</p> <p>Temperature Range: 0.0°C to 60.0°C; Humidity Range: 0.0% RH to 100.0% RH. Accuracy: +/- 2.0% RH and +/- 0.3°C.</p> <p>Calibration: Digital pre-calibrated sensor.</p> <p>Inbuilt real time clock calendar with lithium battery (Back up min 10Years). Duly fitted in Powder Coated Panel using high standard quality FR grade copper wires and SMS based Remote Alarm System for Temperature and SPPR/OV/UV protection.</p> <p>Must be provided with override Facility (Auto / Manual) for individual Chambers.</p>	
13	Lighting & Electric Fitting	<p>IP65 LED lights (30W) for visibility uniformly distributed inside each chamber and buffer room. Complete Electrical wiring with high standard quality FR grade copper wire for fan motors and cooling pad pump from panel, MCB, Main switch, light/power points as per requirement duly fixed over cable trays and casing capings.</p>	
14	Rain water harvesting	<p>Provision of gutter in centre and sides with PVC pipe for collection of roof rain water of size 110 mm connected from funnel at gutter level up to the ground and further connected to rain water harvesting structure at a distance of 60m from the construction site.</p>	
15	Drip irrigation system	<p>Common drip system for all three chambers consist of standard quality sand and disc/screen filter, pressure compensating valves having release valve, air & flush valve, with ventury and manifold, fixed on stable platform.</p> <p>Dripline PC-AS/ PCND 16mm Inline lateral 2lph dripper spaced at 30 cm with accessories, ISI standard PVC pipe 50-63 mm/6 kg cm2.</p>	
16	RO System and	<p>Providing & Fixing of industrial grade RO water unit/system with minimum 250 litres/hr. capacity to provide filtered water suitable</p>	

	Water storage tank	for soilless culture, and also provide and fix Polymer storage water tank (4 layers) of 5000 litres capacity (1 No.) on stable structured elevated platform so as to smoothly supply of water to all other tanks of polyhouse with plumbing fittings etc, complete in all respect. Provision of one Monoblock pump-set of desired capacity for supplying water from existing water storage tank to elevated water storage tank and/ or directly to tanks of polyhouse.	
17	Fogging system	Consist of overhead, four way anti leak foggers, Discharge 28-30 lph to give very fine droplet size (100 μ), screen filter, control valve assembly over spacing of 2.5 m x 2.5 m duly fixed with the help of PVC coated twisted galvanised ropes.	
	Roof Sprinkler	Provision of roof sprinkler system 100 -150 lph at spacing 3-4 m to attain extra cooling by maintaining the roof cool and also for washing roof sheets, PVC ball valves- separate for each chamber, connected to common pump & filtration unit for all three chambers, separately.	
	Head Unit	Head Unit common for Roof sprinkler & Foggers: It consists of Pump centrifugal, self priming, high head suitable for above system; White UV Polymer water tank 2000 litre; PVC pipe 50-63 mm/6 kg cm ² ; Disc/ Screen Filter; Control Valve 63 mm/ 50mm; By-pass Assembly. (All above separate for each chamber i.e., Total 3 sets).	
18	Air Circulator	Hanging type of size 400mm, stainless steel to mix and circulate air universally inside the poly house (Total Nos. 12).	
19	Ventilation	Providing openable/closed window above pads & fans protected by 40 mesh insect proof net along the width of each chamber. Duly openable using Gear mechanism and standard locking facility; and Providing Top Ventilation Fans electrically operated 400mm, inverted taper design for rain leak proof, anti-aging durable life, minimum 3yrs warrantee (Total fans 18 Nos.)	
20	Foundation for columns	Construction of foundation for main column, mid column, corridor and door in CM ratio 1:2:4 of size of 0.4 m x 0.4 m x 0.9 m	
21	Brick wall	Construction of brick/stone wall in CC 1:4, 0.23 m thick, 0.30 m above ground and 0.60 m below ground, for all side of greenhouse duly plastered on both side with cement mortar ratio 1:6 along with 0.45m plinth protection all along the side walls of entire Green House.	
22	Path	100 cm wide all through the sections passing by the sliding doors	
23	Trellising system	To support crop by providing Steel twisted wire 3mm main to support crop and 4 mm cross two line per bed along with 2000 Nos. Roller hooks to support plants.	
24	Benches	Size 12'x 4'x 3' (LxWxH) made of GI pipes 15-25mm for keeping pots, hydroponic pipes, etc. Total benches. 4 Nos.	
25	Warrantee	Structure warrantee of minimum 5 years under Jodhpur climatic conditions. Operational warranty on All Electrical & Electronic appliances, and complete warranty on RO system and drip system for 3 years.	
26	Optional	Quote rate for Annual Maintenance Contract	

Note : Installation and demonstration of the Poly House.

(Signature of the Firm with Seal)

