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ಹೆಸರಗಟ್ಟ ಕೆರೆ ಅಂಚೆ, ಬೆಂಗಳೂರು-560 089

भा.कृ.अनु.प.- भारतीय बागवानी अनुसंधान संस्थान

हेसरघट्टा लेक पोस्ट, बेंगलूरु - 560 089

ICAR-Indian Institute of Horticultural Research
Hesaraghatta Lake Post, Bengaluru - 560 089

EPABX: 080-23086100 Extn: 218 & 217

FAX: 080-28466291 – Email: purchase.ihr@icar.gov.in



F.No.5-36/2020-21/SP/IIHR/

Dated: 12.06.2020

NOTICE FOR INVITING TENDER THROUGH E-PROCUREMENT

Online Bids are invited from interested firms under **Two bid system (Technical bid/financial bid)** for **Construction of polyhouse and related components of the RKVY project at ICAR-IIHR, Hesaraghatta, Bangalore**, Manual bids will not be entertained.

Tender documents may be downloaded from e-procurement website of CPPP
<https://eprocure.gov.in/eprocure/app> as per the schedule given in CRITICAL DATE SHEET as under:

CRITICAL DATE SHEET

| | |
|---|--|
| Tender No. | F.No.5-36/2020-21/SP/IIHR/ |
| Name of Organization | ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH, Hesaraghatta Lake Post, Bangalore |
| Date and Time for Issue/Publishing | 12.06.2020 at 04:00 PM |
| Document Download/Sale Start Date and Time | 12.06.2020 at 04:00 PM |
| Bid Submission start Date and Time | 12.06.2020 at 04:00 PM |
| Bid Submission End Date and Time | 25.06.2020 at 03:00 PM |
| Date and Time for Opening of Technical Bids | 27.06.2020 at 11:00 AM |
| Address for Communication | Asstt. Admn. Officer (Store Purchase), IIHR, Hesaraghatta Lake Post, Bangalore |

Sd/-
CHIEF ADMINISTRATIVE OFFICER

INSTRUCTIONS FOR ONLINE BID SUBMISSION

1. The Tender form/bidder documents may be downloaded from the <https://eprocure.gov.in/eprocure/app>. **Online submission of Bids through Central Public Procurement Portal (<https://eprocure.gov.in/eprocure/app>) is mandatory.** Manual/Offline bids shall not be accepted under any circumstances.
2. Tenderers/bidders are requested to visit the website <https://eprocure.gov.in/eprocure/app> regularly. Any changes/modifications in tender enquiry will be intimated by corrigendum through this website only.
3. In case, any holiday is declared by the Government on the day of opening, the tenders will be opened on the next working day at the same time. The Council reserves the right to accept or reject any or all the tenders.
4. The interested Firms are required to deposit (in original) **EMD of Rs.18,000/-** in the shape of Demand Draft in favour of **THE DIRECTOR, ICAR, UNIT-IIHR payable at Bangalore** may be address to **Asstt. Admn. Officer (Purchase), IIHR, Hessaraghatta Lake Post, Bangalore-560089** on or before **bid opening date and time as mentioned in the Critical Date Sheet.**
5. **Please note that only online Bids will be accepted. However hard copy of documents and technical brochures uploaded by the firm deposited to Asstt. Admn. Officer (Purchase), IIHR, Hessaraghatta Lake Post, Bangalore-560089 on or before bid opening date and time as mentioned in the Critical Date Sheet.**
6. Bidders need not to come at the time of Technical as well as Financial bid opening at IIHR. They can view live bid opening after login on CPPP e-procurement portal at their remote end. If any dispute arises, Within Bengaluru Jurisdiction only.
7. The firms are also required to upload copies of the following documents for Technical eligibility and Evaluation:-

• **Technical Bid**

1. **Scanned copy of Firm's Registration under Shops and Establishment Act/ copy of the documents Registered with PWD/CPWD/MES/Railways/PWD/Dept of Horticulture/SAUS etc**
2. **PAN Card copy**
3. **GST Number with Registration Certificate**
4. **Bank details of the firm.**
5. **Scanned copy of similar contracts to Government Departments.**
6. **Income Tax Returns for the last three years (2015-16, 16-17, 17-18 or 2016-17, 17-18, 18-19)**
7. **Profit and loss account & Balance Sheet which are audited & duly certified by the Chartered Accountant for the last three years.**
8. **Turnover of the business should be Rs.27.00 Lakhs per year, to be certified by Chartered Accountant as per Balance Sheets used for ITR filing.**
9. **Experience of having successfully completed similar works during last 5 years ending last day of month previous to the one in which bids are invited should be either of the following:**
 - a) **Three similar completed works costing not less than each or more than i.e. Rs.3,59,518/- (or)**
 - b) **Two similar completed works costing not less than each or more than i.e. Rs.4,49,397/- (or)**
 - c) **One similar completed work costing not less than each or more i.e. Rs.7,19,035/-**
(Similar work concepts means Excavation work relating to polyhouse/Net house etc)
10. **MSME or Udyog Aadhar or NSIC is a must for EMD Exemption otherwise, firms have to furnish EMD.**
11. **Tender acceptance letter (Annexure-V) is mandatory.**

- **Financial Bid:-**
 - a) Price Bid as BOQ XXX.xls

Sd/-
CHIEF ADMINISTRATIVE OFFICER

Annexure-II

Terms & Conditions

1. The tenderer shall quote rates, which will include the supply, installation & other incidental charges. GST, if any, should be indicated separately.
 2. The rates should be quoted as per the BOQ uploaded on the CPP Portal (reference may be obtained from Annexure-III). GST, if any, should be indicated separately. It must be noted that the contract shall be awarded to the firm which fulfils all the required terms and conditions and remains L-I for any particular items.
 3. The firm must also possess valid PAN No. & GST registration number and a copy of the same must also be enclosed with the tender document.
 4. Copy of Financial year 2015-16, 2016-17 & 2017-18 or 2016-17, 2017-18 & 2018-19, Income Tax Statement may be furnished.
 5. The firm should be in existence for over 05 (Five) years in the trade with the business turnover of not less than Rs.27 Lakhs per annum for 2015-16, 2016-17 & 2017-18 or 2016-17,2017-18 & 2018-19. Chartered Accountant certified profit and Loss account, Balance sheet to this effect may be enclosed.
 6. Modification in the tender documents after the closing date is not permissible.
 7. The successful firm shall **commence work** within 10 days from the date of confirmed **work order** and if the work not supplied in time then EMD shall be forfeited. The rates quoted shall be valid for one year from the date of opening of tender.
 8. The contractor/bidder or his representative may contact the undersigned at **Tel. No. 080-23086100 Extn: 218 & 217** for any further clarification. No variation in terms of quality of the items shall be entertained or else EMD/Security deposit shall be forfeited.
 9. The bidder is advised to visit the site of works at his own expenses and obtain all information that may be necessary for preparing the quotation. Submission of quotation is acceptance by the tenderer that he has inspected the site or he is aware of all conditions.
 10. The Director, ICAR-IIHR, shall have the right to reject all or any of the offers, accept more than one offer, and assign part of the job without assigning any reason.
 11. 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.
 12. The interested Firms are required to deposit (in original) an **Earnest Money Deposit of Rs.18,000/-** amount mentioned against item in the form of Demand Draft from any of the Commercial Bank in favour of **THE DIRECTOR, ICAR, UNIT-IIHR payable at Bangalore** may be address to **Asstt. Admn. Officer (Purchase), IIHR, Hessaraghatta Lake Post, Bangalore-560089 on or before bid opening date and time as mentioned in the Critical Date Sheet**. No quotation shall be considered without the earnest money deposit. Demand draft drawn in favour of any officer other than 'THE DIRECTOR, ICAR UNIT-IIHR payable at Bangalore' 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. The request letter for refund of EMD & performance security is to be submitted by the firm.
 13. Rates once finalized will not be enhanced/reduced during the currency of the contract.
 14. 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.
 15. The Director, ICAR-IIHR reserves the right to cancel the contract at any time during the currency period of the contract without giving any reason.
 16. The firm, to whom the tender will be awarded, will have to deposit the **performance security equal to 10% of the total amount within 21 days from the date of receipt of work order**. 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.
 17. If any dispute(s) arises between IIHR and the firm with reference to the contract, IIHR will decide it and its decision will be binding on the firms.
-

18. Bid Validity: 180 days

19. Payment:- No advance or part payment will be given. The payment will be released after satisfactory completion of the work and certificate from the Indentor.

Payment Terms: In order to facilitate for speedy settlement of payment you are requested to furnish the following details as below:

- 1. Name of the firm:**
- 2. Name of the Bank:**
- 3. IFSC Code of Bank:**
- 4. Name of the Account & Account No.:**
- 5. Branch Code:**
- 6. Amount to be paid:**
- 7. E-mail address of the party:**
- 8. GST No. and Pan No. Copies**

‘Terms & Conditions are acceptable’

Dated

(Authorized signatory of the firm)

Annexure-III

(Reference for BOQ) (To be quoted in format provided on CPP Portal)

Price bid for “**Construction of polyhouse and related components of the RKVY project at ICAR- IIHR, Hessaraghatta, Bangalore.**”

| Sl. No. | Name of item | Quantity | Per unit price* (in figures/words) (as per BOQ) |
|---------|-----------------------------------|------------|---|
| 01 | Construction of polyhouse* | 01 Unit | |

*Annexure-VIII

- Items should be of reputed make and suitable for high end elite users
- GST extra as applicable should be indicated separately in the column provided.
- **The work is to be done at at ICAR- IIHR, Hessaraghatta, Bangalore**

Note: The above mentioned Financial Proposal/Commercial bid format is provided as BoQ_XXXX/xls along with this tender document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download this BoQ_XXXX.xls as it is and quote their offer/rates in the permitted column and upload the same in the Financial bid. **Bidder shall not tamper/modify downloaded price bid template in any manner.** In case if the same is found to be tempered/modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with IIHR.

Annexure-IV

EPABX: 080-23086100 Extn: 218 & 217
FAX: 080-28466291 - Email: purchase.ihr@icar.gov.in



ICAR-INDIAN INSTITUTE OF HORTICULTURAL RESEARCH
HESSARAGHATTA LAKE POST, BANGALORE-560 089

Name of the Firm _____

Registered/Postal Address _____

| | | |
|---|---|--|
| 1 | Permanent Account Number (PAN) | |
| 2 | GST Registration No. | |
| 3 | Bank Details | |
| a | Bank Name | |
| b | Branch Address | |
| c | Account Number | |
| d | Type of account (current/saving) MICR No. | |
| e | IFSC Code | |

Date:

Name of the Authorized Signatory

Place:

Stamp & Signature

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date:

To,
The Director,
ICAR-IIHR,
Hesaraghatta Lake Post,
Bangalore-560089.

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 lime annexure(s), schedule(s), etc...) which form part of the contract agreement and I/We shall abide hereby the terms/conditions/clauses contained therein.
3. The corrigendum(s) issued from time to time by your department/organization 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 documents/corrigendum(s) in its totality/entirely.
5. I/we do hereby declare that our Firm has not been black-listed/debarred by any Govt. Department/Public sector undertaking.
6. I/we certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/organization shall without giving any notice or reason therefore or summarily reject that 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)

Annexure-VI

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

- 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.
- As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 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.
- 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.
- 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.
- Bidder then logs in to the site through the secured log-in by entering their users ID/password and the password of the DSC/e-Token.

SEARCHING FOR TENDER DOCUMENTS

- There are various search options built in the CPP Portal. To facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS/e-mail in case there is any corrigendum issued to the tender document.
- The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

PREPARATION OF BIDS

- **Bidder are requested to visit the site at the institute and discuss with Dr. Sujatha A Nair, PI, before preparing the bid clarify the doubts and understand the requirements.**
- Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 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.

- 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.
- 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

- 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 technical issues.
- The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- Bidder has to select the payment option as 'offline' to pay the tender fee/EMD as applicable and enter details of the instrument.
- 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.
- 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) cell 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.
- 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.
- 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.

- The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 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 and a bid summary will be displayed with the bid no. and the date and time of submission of the bid with all other relevant details.
- The bid summary has to be printed and kept as an acknowledgement of the submission of the bid.

ASSISTANCE TO BIDDERS

- Any queries relating to the tender documents and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contract person indicated in the tender.
- 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.

Details of Equipments & EMD

| Sl. No. | Purchase of item | Qty | Earnest Money in INR | File. No. for reference |
|---------|----------------------------------|------------|----------------------|---------------------------|
| 01 | Construction of polyhouse | 01 UNIT | Rs.18,000/- | F.No.5-36/2020-21/SP/IIHR |

Note: EMD defined on to the Portal is MINIMUM. Bidder has to submit the EMD as per item for which quoting for.

***WORK at ICAR- IIHR, Hessaraghatta, Bangalore.**

Technical Specification for CONSTRUCTION OF POLYHOUSE

Specification :

MINIMUM TECHNICAL SPECIFICATION, ESTIMATION FOR CONSTRUCTION OF NATURALLY VENTILATED POLYHOUSE AND RELATED COMPONENTS

| SN | ITEM | A. General specifications | | | | |
|----|---|--|-----------|---------|---------------------|---------------------------|
| 1 | Type | Single-span with top ventilation, tubular GI pipe structure polyhouse | | | | |
| 2 | Size | Area: 192 m ² X 1 unit | | | | |
| | | Width: 9.6 m | | | | |
| | | Length: 20 m with columns at 4 m interval | | | | |
| 3 | Grid size | 4 meter X 9.6 meter | | | | |
| 4 | Height | Gutter level: 4.0 m | | | | |
| | | Ridge level (central height): about 6.5m or more | | | | |
| 5 | Orientation | As per site condition | | | | |
| 7 | Site | Level land Vegetation removed and surface dressed will be made available | | | | |
| 8 | Structural component: | Hot dip Galvanized Iron (Galvanisation should not be less than 300 GSM), ISI, GI pipe wall thickness not less than 2mm for all the structural components. Tata, Zindal, Hiech, Soorya Prakash, Zenith, Laxmi or equivalents. | | | | |
| | SN | Component | OD (inch) | OD (mm) | Wall thickness (mm) | Weight/ meter length (kg) |
| | A | Pillar | 2 ½ | 75 | 2 | 3.75 |
| | B | Bottom horizontal chord of truss | 2 | 60 | 2 | 2.85 |
| | C | Purlin | 1½ | 48 | 2 | 2.30 |
| | D | Trusses, Column-bracing, gutter purlins | 1¼ | 42 | 2 | 2.10 |
| | E | Arch bracings, Cross bracings, Crop support bracing, | 1 | 33 | 2 | 1.60 |
| | F | Rolling pipe | ¾ | 27 | 2 | 1.30 |
| 9 | Top or ridge ventilation | Top (Roof vent): Top vent minimum of 120 cm of vertical gap. Covered with nylon net. Minimum overlap of top arch and bottom (small) arch should be 60 cm to avoid direct rain entering into the greenhouse from the vent. Rollable poly flap to be provided for top vent | | | | |
| 10 | Side ventilation | 3.5 m down from Eve (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 in all the four sides. | | | | |
| 11 | Withstand to Wind velocity: 130 kmph | | | | | |
| 12 | Fixtures to join structural members: Clamps, brackets, cleats, nut-bolts, washers, self tapping & driving screws etc should be cold galvanized with minimum coat of 120GSM. | | | | | |

| | |
|----|---|
| 13 | Polyethylene film: U.V. stabilized, 5-layered, poly film for cladding the roof, covering the side ventilation, Gable end sides |
| 14 | Insect proof net: UV stabilized, 40 mesh nylon net for the roof vent and sides. |
| 15 | Green shade net 75% fixed for top layer. Green shade net 25% manually retractable for bottom layer. Green shade net 75% all along side walls |
| 16 | Automatic sensor based fogging System - Fogging with a high pressure pump of 500 psi to 1000 psi to produce fogging droplets of < 30 micron. Brass nozzles of 0.2 mm of 100 nozzles with 100 m fogging pipe line to withstand the pressure. |
| 17 | Automatic timer based drip system - Pump - 2HP, 2 LPH nozzles 700 no's, 16 mm laterals, 500 m, Main line 40 mm dia, 50 m length, 6 kg/cm ² Underground Sintex tank of 2000 lit capacity |
| 18 | Structures for placing plants - vertical structures and flat bench |
| 19 | Drone system for spraying |

| B. Detailed Specification for 20mX9.6m (192 sq.m) polyhouse and accessories | | | | |
|--|------------------------------|---|-------------|-----------------|
| SN | ITEM | Specification | Unit | Quantity |
| 1 | Excavation | Excavation work for foundation to vertical pipes (0.45mX0.45mX0.90m; 14 Nos) | cu.mtr | 2.19 |
| 2 | Grouting the vertical member | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering – All work up to plinth level, 1:3:6 (1 Cement: 3 coarse sand: 6 graded stone aggregate 20mm nominal size) for vertical members | Cum | 2.19 |
| 3 | GI Pipe | Supplying and erection of superstructure frame work. The work shall include cutting/threading/ welding/ hoisting/ grinding/ finishing/ painting joints with approved primers or supply & fixing with Clamps, flats, cleats, fixtures, Joints, washers, Nuts & Bolts, Flanges, etc | | |
| 3a | | 76mm OD GI pipes for vertical member including foundation at minimum weight of 3.75kg/mtr X 70 rmt | kg | 262.50 |
| 3b | | 48mm OD GI pipes for end, top and perimeter purlins at minimum weight of 2.3kg/mtr X 180rmt | kg | 414 |
| 3d | | 48mm OD GI pipes for truss at minimum weight of 2.3kg/mtr X 200 rmt | kg | 460 |
| 3h | | 48 mm OD GI pipes for cross bracings, gable arch bracings, A-bracing and minimum weight of 2.3kg/mtr X 90 rmt | kg | 207 |
| 3j | | 27mm OD GI pipes for curtain pipe at minimum weight of 1.3kg/mtr X 60rmt | kg | 78 |
| 3k | | 27mm OD GI pipes for curtain handle at minimum weight of 1.3kg/mtr X 36m | kg | 47 |
| 4 | End Gutter | Providing and fixing of gutters made of 0.6mm thick Aluminium sheet, with proper slope, and support. Gutter end should have arrangement for water collection funnel leading to 6" PVC vertical pipe at two ends , interconnecting these two at ground level for | kg | 162 |

| | | | | |
|----|------------------------------|--|--------|------------|
| | | RWH. | | |
| 5 | Fixtures | Supply of Clamps, flats, cleats, fixtures, Joints, washers, Nuts & Bolts, Flanges, etc (Zinc coated/cold galvanized materials) | kg | 100 |
| 6 | Polyethylene film | Supplying and fixing of 200 micron thick, U.V. stabilized, 5-layer polyethylene film for roof, vertical area between eave and arch on gable ends, rollable flaps with the help of zig-zag spring. | sq.m | 600 |
| 8 | Aluminum Profile | Supply & fixing of locking profile made of extruded aluminum channels to the structure with the help of SDS. Profiles made of alloy aluminum (approximately 220-250g/running meter). Should be suitable for double spring locking. Thickness : minimum 1.0mm. Aluminium profiles have to be fixed with Galvanized 10 X 20 Patta Self Drilling Screw with washers as per requirement and with the best quality plating to have good anti-corrosiveness. SDS have to be fixed on profile for every 30cm distance | meter | 200 |
| 9 | Zig – zag Spring | Supply of Zig Zag spring made of minimum of 2.3 mm-thick steel that is coated with plastic & it will lock & hold poly film and nets in aluminum profile. A strip of polyethylene sheet is to be provided on the aluminium profile underneath the zig-zag spring. | meter | 300 |
| 10 | Self Drilling Screws | Supply & fixing Patta SDS with washers, and with best quality plating to have good anti-corrosiveness. SDS have to be fixed on aluminium profile for every 30cm distance. | No | 1000 |
| 11 | Nylon Net (insect proof net) | Supply & fixing of 40 mesh, white colour, UV stabilized, insect proof net for top vent and all four side ventilations with the help of zig-zag springs. | sq.m | 240 |
| 12 | Ante room (entry room) | Provision of ante-chamber. Size should be 2.5 m length x 2.5m width, 4m height made of GI pipe 1.25" dia OD. Covered with polycarbonate sheet from two sides and top. Other two sides have to be fixed with PC sliding doors. | No | 1 |
| 13 | Shade net | Green shade net 75% fixed for top layer and green shade net 75% all along side walls. Green shade net 25% manually retractable for bottom layer. | Sq. m. | 500 200 |
| 14 | Parapet wall | Parapet wall of 0.5 m above ground and 0.3 m belowground on 0.1m PCC base, made of 6" Cement block, plastered and painted on both sides. | | 9 cmt |
| 15 | Plinth protection | Plinth protection, width of 50cm, PCC 10cm thick. 60 m length | | 3cmt |

| | | | | |
|----|---------------------------------------|--|-----|----|
| 16 | Automatic sensor based Fogging System | Fogging with a high pressure pump of 500 psi to 1000 psi to produce fogging droplets of < 30 micron. Brass nozzles of 0.2 mm of 100 nozzles with 100 m fogging pipe line to withstand the pressure. | set | 1 |
| 17 | Automatic timer based Drip system | Pump - 2HP, 2 LPH nozzles 700 no's, 16 mm laterals - 500 m. Main line 40 mm dia, 50 m length, 6 kg/cm ² . Underground Sintex tank of 2000 lit capacity | set | 1 |
| 18 | Structures for keeping plants | 3.5 x 3.5 m square MS tubular structure made up of 40 mm square tube frame and having a 0.5 m base with 6 inch transportable wheel. Frame should be welded with 1 sq inch wire mesh for holding 60 potted plants of having a weight of 2 kg each. The entire structure will be powder coated. Flat bench (1m width x 8.4 m length - 1no) | No | 25 |
| 19 | Drone system for spraying | Drone system for spraying, 4 rotors, 10 lt pay load capacity for foliar spray. it should be programmable to move within the space of 50 cm and fly inside polyhouse in pre-programmed path. | No | 1 |
| 20 | Railing System | 2 Nos of 2 1/2" GI pipe of 20m to be provided on both sides of the polyhouse along the length side | Mtr | 40 |

Sd/-
CHIEF ADMINISTRATIVE OFFICER

