

**BHARAT SANCHAR NIGAM LIMITED**  
(A Government of India Enterprise)

**TENDER DOCUMENT**

**Name of work:**

**Supplying & Installation of Poly Houses, Primary and Secondary Hardening Chamber, Shade Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar.(2<sup>nd</sup> Call)**

NIT No. **39/2019-20/BCD/E.P/BBSR**

**Estimated Cost - Rs 64,01,388.00**(Rupees Sixty Four lakh One Thousand Three Hundred Eighty Eight only)

**E.M.D. - Rs 1,28,030.00** (Rupees One Lakh Twenty Eight Thousand Thirty only)

**Completion period: 5 (five) months**

**O/o CHIEF ENGINEER (CIVIL)  
BSNL ODISHA CIVIL ZONE  
BHUBANESWAR**

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The D.N.I.T. contains 52(Fifty Two) pages only.

**PART – A**  
**INFORMATION AND INSTRUCTIONS TO BIDDERS FOR e-TENDERING**

The Executive Engineer(Civil), BSNL Civil Division-I, Bhubaneswar invites item rate e-tenders on behalf of **RPRC, Bhubaneswar** from **SPECIALISED AGENCIES** of poly houses for the following work:

- | Sl.No. | Description  | Details   |
|--------|--|---|
| i.     | NIT No. <b>39/2019-20/BCD/E.P/BBSR</b>   |   |
|        | Name of Work: <b>Supplying &amp; Installation of Poly Houses, Primary and Secondary Hardening Chamber, Shade Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar.</b>   |   |
| ii.    | Estimated Cost <b>Rs 64,01,388.00</b> (Rupees Sixty Four lakh One Thousand Three Hundred Eighty Eight only)  |   |
| iii.   | Earnest Money (In Rs.)   | : <b>Rs 1,28,030.00</b>   |
| iv.    | Period of Completion   | : <b>5 (five) months</b>  |
| v.     | Last date and time of online submission of tender:   | <b>18.00 hours on 29.10.2019</b>  |
| vi.    | Time and date of online opening of Documents:  | <b>11.30 hours on 30.10.2019</b>  |
| vii.   | Time and date of opening of Online Financial Bids :  | <b>15.30 hours on 31.10.2019</b>  |
| viii.  | Period during which hard copies of EMD, undertaking and other Documents to be submitted to Division office by only the lowest Tenderer.  | To be submitted during office hours within a week from the date of opening of Financial Bid. In case the last day happens to be closed holiday, these Documents shall be submitted on the next working day. |
| 1.     | The intending bidder must read the terms and conditions of Tender document carefully. He should submit his bid if he considers himself eligible and he is in possession of all the certificates / documents required.  |   |
| 2.     | Information and Instructions for bidders for e-tendering posted on website shall form part of bid document.  |   |
| 3.     | The bid document consisting of NIT, plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from <a href="http://www.tenderwizard.com/BSNL">http://www.tenderwizard.com/BSNL</a> or <a href="http://www.odisha.bsnl.co.in">www.odisha.bsnl.co.in</a> or <a href="#">Central Public Procurement Portal (CPPP)</a> free of cost. Any corrigendum(s) will be uploaded in these web sites . The tenderers are requested to verify the corrigendum(s), if any before submitting the online bid. |   |

4. But the bid can be submitted only through <http://www.tenderwizard.com/BSNL> after depositing e-tender Processing Fee in favour of ITI Limited and uploading the mandatory scanned documents as specified. The scanned copy of Demand Draft or Pay order or Banker`s Cheque or Deposit at call Receipt or Fixed Deposit Receipt (**Preferably FDR**) towards EMD in favour of **BSNL HQ ND Collection Bank A/C payable at New Delhi** is also to be uploaded.
5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The intending bidder must have valid class-III digital signature to submit the bid. After submission of the bid online the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.
7. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of JPG format, PDF format and any other format as permissible by the e-tendering portal.
9. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in dark yellow colour and the moment rate is entered, it turns sky blue.  
In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".  
Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).
10. If the contractor is found ineligible after opening of bids, his bid shall become invalid and e-Tender Processing Fee shall not be refunded.
11. For the Eligibility Documents uploaded online, if any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the contractor the bid shall become invalid and e-Tender Processing Fee shall not be refunded.
12. Copies of certificates of work experience and other eligibility documents as specified in the Notice Inviting Tender shall be scanned and uploaded to the e-tendering website within the period of tender submission. However, certified copies of all the scanned and uploaded documents as specified shall have to be submitted by the lowest bidder along with physical EMD (of the scanned copy of EMD) uploaded within ONE WEEK physically in the office of tender opening authority.

**List of eligibility Documents to be scanned and uploaded within the period of bid submission:**

- a) **Treasury Challan / Demand Draft / Pay order or Banker`s Cheque / Deposit at Call Receipt / FDR against EMD.**
- b) Certificate of GST registration
- d) Certificates of Work Experience **as per details at 1.2.1 of BSNL W-6**
- e) (i) If the bidder is a firm in **Partnership :- Copies of Form "A" and partnership deed .**  
  
(ii) If the bidder is a **Company :- Copies of Memorandum of Association, Articles of Association and authorization to the person who signs the tender.**
- f) **An undertaking that "The Physical EMD shall be deposited by me/us with the EE calling the bid in case I/we become the lowest bidder within ONE WEEK of the opening of financial bid otherwise BSNL may reject the bid and also take action to withdraw my/our enlistment/debar me/us from tendering in BSNL."**

**Note:- The tenderers are requested not to upload any other certificates or documents. Only the required experience certificates are to be uploaded.**

**DECLARATIONS TO BE GIVEN BY THE TENDERERS**

**It is to certify that**

- a) I /We have gone through BSNL W-8 amended up to correction Slip No.6 as available on website [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in) or in the office of Executive Engineer(c) and I/We agree with the terms and conditions of it and understood that it will form part of the agreement.

**Date: -**

**Signature of the Tenderer**

- b) "I, .....S/o Shri ..... resident of ..... hereby certify that none of my relative(s) as defined in para 15 of BSNL W-6 is/are employed in BSNL Civil Zone, Odisha. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit without any prior intimation to me".

NOTE: - (To be certified by all the partners in case of partnership firms, by all the directors in case of companies).

**Date: -**

**Signature of the Tenderer**

1. Other partners    2. Sri \_\_\_\_\_ S/o Sri \_\_\_\_\_ Signature:  
3. Sri \_\_\_\_\_ S/o Sri \_\_\_\_\_ Signature:  
4. Sri \_\_\_\_\_ S/o Sri \_\_\_\_\_ Signature:
- c) **"The Physical EMD shall be deposited by me/us with the EE calling the bid in case I/we become the lowest bidder within ONE WEEK of the opening of financial bid, otherwise BSNL may reject the bid and also take action to withdraw my/our enlistment/debar me/us from tendering in BSNL."**

**Signature of the Tenderer**

**BHARAT SANCHAR NIGAM LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)**

**NOTICE INVITING e-TENDER**

The Executive Engineer (Civil),BSNL Civil Division-I, Bhubaneswar invites Item rate e-tenders on behalf of **RPRC, Bhubaneswar** from **SPECIALISED AGENCIES** of poly houses for the following work:

**Supplying & Installation of Poly Houses, Primary and Secondary Hardening Chamber, Shade Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar.**

**The intending bidder eligible to submit bid has to scan and upload the following documents within the period of bid submission:**

- a) Treasury Challan / Demand Draft / Pay order or Banker`s Cheque / Deposit at Call Receipt / FDR against EMD.
- b) Certificate of GST registration.
- d) Certificates of Work Experience **as per details at 1.2.1 of BSNL W-6.**
- e) (i) If the bidder is a firm in **partnership - Copies of Form "A" and partnership deed .**  
  
(ii) If the bidder is a **Company – Copies of Memorandum of Association, Articles of Association and authorization to the person who signs the tender.**
- f) **An undertaking that "The Physical EMD shall be deposited by me/us with the EE calling the bid in case I/we become the lowest bidder within ONE WEEK of the opening of financial bid otherwise BSNL may reject the bid and also take action to withdraw my/our enlistment/debar me/us from tendering in BSNL."**

**Note:- The tenderers are requested not to upload any other certificates or documents. Also only the required experience certificates are to be uploaded.**

1.1 The work is estimated to cost **Rs 64,01,388.00**(Rupees Sixty Four lakh One Thousand Three Hundred Eighty Eight only) This estimate, however, is given merely as a rough guide.

1.2 Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:

1.2.1 Criteria of eligibility for submission of bid document for all the tenderers--

The applicant should have completed works as per details below during the last seven years ending last day of the month previous to the one in which the tenders are invited.

- a) Three similar completed works each costing not less than the amount equal to **40% of estimated cost.**  
or
- b) Two similar completed works each costing not less than the amount equal to **50% of estimated cost.**  
or
- c) One similar completed works costing not less than the amount equal to **80% of estimated cost.**

Similar work means **"Poly House / Green House Works"** The value of executed works shall be brought to current costing level by enhancing the actual value of executed work at simple rate of 7% per annum; calculated from the date of completion to last date of submission of tenders and shall be rounded off to the nearest hundred rupees. **Above works should have been carried out in Central Government/ Central Public Sector Undertakings.** The experience certificate given by an officer not below the rank of Executive Engineer, shall indicate clearly the nature of the work and the satisfactory completion of the work along with value of work done and actual date of completion and shall be in original / attested. Certificates indicating annual turnover or different works done under a rate contract /annual contract shall not be considered as one work. *Certificates without satisfactory completion and/ or actual date of completion will be considered as invalid.*

2. Agreement shall be drawn with the successful tenderer on prescribed Form No.BSNL W-7/8 amended up to correction slip no.6, which is available on BSNL website : [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in) or in the office of the Executive Engineer (Civil) BSNL Civil Division Bhubaneswar. Tenderer shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **5(five) months** and shall be reckoned from **10<sup>th</sup> day** after the date of issue of **letter of acceptance** of the tender or from the first day of the handing over of the site whichever is later, in accordance with phasing, if any, indicated in the tender document.
4. The site for the work is available.
5. The bid document consisting of NIT, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from <http://www.tenderwizard.com/BSNL> or [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in) or Central Public Procurement Portal (CPPP) and the General conditions of contract upto Correction Slip No.6 can be seen from BSNL website [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in) or in the office of the Executive Engineer (Civil) BSNL Civil Division Bhubaneswar.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.



7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last date and time of submission of bid as notified.
8. Earnest Money in the form of Treasury Challan or Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (**Preferably FDR**) drawn in favour of **BSNL HQ ND Collection Bank A/C payable at New Delhi** shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

The physical EMD (of the scanned copy of EMD) uploaded shall be deposited by the lowest bidder within ONE WEEK after opening of financial bid failing which the bid shall be rejected and enlistment of the agency shall be withdrawn by the enlisting authority. The agency shall be debarred from tendering in BSNL.

The following undertaking in this regard shall also be uploaded by the intending bidders:-

*"The Physical EMD shall be deposited by me/us with the EE calling the bid in case I/we become the lowest bidder within a week of the opening of financial bid otherwise Organization may reject the bid and also take action to withdraw my/our enlistment/debar me/us from tendering in BSNL."*

Interested contractor who wish to participate in the bid has also to make following payments within the period of bid submission:

***e-tender Processing Fee: e-Tender Processing Fee amounting to Rs. 3777.00 is to be paid through online to the account of M/s ITI Limited through their e-gateway by credit/debit card, internet banking or RGTS/NEFT facility. E-Tender processing fee paid through Demand draft shall not be accepted.***

The intending bidder has to fill all the details of Demand Draft or Pay order or Banker's Cheque or Deposit at call Receipt or Fixed Deposit Receipts (bankers name, amount, number and date) against payments for EMD in the drop down menu of the e-tendering portal.

Copy of certificates of work experience and other documents as specified in the notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. ***However, SELF certified copy of all the scanned and uploaded documents as specified in notice shall have to be submitted by the lowest bidder along with physical EMD within ONE WEEK physically in the office of tender opening authority.***

Online bid documents submitted by intending bidders shall be opened only of those bidders, ***who has deposited e-Tender Processing Fee with M/s ITI Limited and Earnest Money Deposit and other documents scanned and uploaded are found in order.***

The bid submitted shall be opened at **11.30 Hrs on 30.10.2019** and financial bid shall be opened at **15.30 Hrs on 31.10.2019**

9. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
  - (i) The bidder is found ineligible.

- (ii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid document ***including the undertaking about deposition of physical EMD of the scanned copy of EMD uploaded.***
  - (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted ***physically by the lowest bidder*** in the office of bid opening authority.
  - (iv) In case the eligibility credentials are not found genuine at any stage i.e. before award of work or during execution of the work or after completion of the work, the contractor will be debarred from tendering in BSNL for three years including any other action under the contract or existing law
  - (v) ***The lowest bidder does not deposit physical EMD within a week of opening of bid.***
10. In case of works having estimated cost below Rs. 15,00,000/-, the successful tenderer shall be required to execute an agreement with the Engineer-in-charge in the performa annexed to the tender document, within 15 days of the issue of letter of award by the BSNL. In the event of failure on the part of the successful tenderer to sign the agreement, the earnest money will be forfeited and tender cancelled. In case of works of estimated to cost Rs.15,00,000/- and above, the successful tenderer, upon issue of letter of acceptance of Tender, shall be required to furnish Performance Guarantee @ 5% of the tendered value in the form of irrevocable Bank Guarantee of requisite amount to the Engineer-in-charge in the Performa annexed to the tender document, within 10 days of the issue of letter of award of Tender by BSNL. In the event of failure on the part of the successful tenderer to furnish the Bank Guarantee within 10 days, including the extended period if any, the earnest money deposited by the contractor shall be forfeited automatically without any notice to the contractor, and tender will be cancelled.
11. **The description of the work is as follows:**
- 1- Supplying, Fixing and Installing Poly House of area 560 sqm – 3nos. and of 392 Sqm-1 no**
  - 2- Supplying, Fixing and Installing Primary hardening Chamber and Secondary hardening Chamber of area 108 Sqm. each.**
  - 3- Supplying, Fixing and Installing Shade Net House of area 192Sqm – 1no.**
  - 4- Repairing of existing High tech Green Houses and Shade Net Houses.**
- Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which

stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

12. The competent authority on **behalf of BSNL** does not bind himself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.
13. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.
14. The competent authority on **behalf of BSNL** reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
15. The company or firm or any other person shall not be permitted to tender for works in BSNL Civil Zone in which his near relative (s) (directly recruited or on deputation in BSNL) is/are posted in any capacity either non-executive or executive employee. Near relative (s) for this purpose is/are defined as:

- (i) Member of Hindu Undivided family (HUF).
  - (ii) They are Husband and Wife.
  - (iii) The one is related to other in the manner as father, mother, son(s) & Son's wife (daughter-in-law), Daughter(s), Daughter's husband (son-in-law), brother(s), brother's wife, sister(s), sister's husband (brother-in-law).
- The contractor shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relative to any executive employee/ Gazetted officer in the BSNL or Department of Telecom or in the Ministry of Communications.

All the intending tenderers will have to give a certificate that none of his/her such near relative(s) as defined above is/are working in the concerned BSNL Civil Zone where he is going to apply for tender/work. The format of the certificate is as under:

"I, \_\_\_\_\_ s/o Shri \_\_\_\_\_ Resident of \_\_\_\_\_ hereby certify that none of my relative (s) as defined above is/are employed in concerned BSNL Civil Zone. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit without any prior intimation to me".

The certificate in case of Proprietorship Firm shall be given by the proprietor, for Partnership Firm certificate shall be given by all partners and in case of Limited Company, by all Directors of the company. However, Government of India / Financial Institutions nominees and independent non-official part-time Directors appointed by Govt. of India or the Governor of the State are excluded from the purview of submission of this certificate while submitting tenders by Limited Companies.

Any breach of these conditions by the Company or Firm or any other person, the tender/work will be cancelled and Earnest Money/ Security Deposit/Performance

guarantee will be forfeited at any stage, whenever it is so noticed. BSNL will not pay any damages to the company or Firm or the concerned person but damages arising on account of such cancellation to be borne by the contractor. The Company or Firm or the person will also be debarred for further participation in the tender in the concerned BSNL Civil Zone. Further, any breach of this condition by the tenderer would also render him liable to be removed from the approved list of contractors or BSNL. If however the contractor is registered in any other Department he shall also be debarred from tendering in BSNL for any breach of this condition.

16. No Engineer of Gazetted rank or other Gazetted Officer employed in engineering or administrative duties in an Engineering Department of the Government of India/State Government or PSU's is allowed to work as a contractor for a period of two years after his retirement from Govt. service, without previous permission of the Govt. of India or BSNL in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Govt. of India/State Government or PSU's as aforesaid before submission of the tender or engagement in the contractor's service.
17. The tender for the work shall remain open for acceptance for a period of **45(Forty Five) days** from the date of opening of the tenders. If any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or, makes any modifications in the terms and conditions of the tender which are not acceptable to the BSNL, then the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid.
18. This Notice Inviting Tender (BSNL W-6) shall form a part of the Contract Document. In accordance with clause 1 of the contract, the letter of acceptance– shall be issued first in favour of the successful Tenderer/Contractor. After submission of the performance guarantee, the letter of award shall be issued. The contract shall be deemed to have come into effect on issue of letter of acceptance of the tender. On issue of letter of award, the successful Tenderer/Contractor shall, within 15 days from such date, formally sign the agreement consisting of: -
  - a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
  - b) Standard BSNL W-7/8 updated upto correction slip no-6 as on BSNL website [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in)
  - c) Agreement signed on non-judicial stamp paper as per Performa annexed to the tender document.
19. Payment to the contractors shall be *made by the BSNL* through e-payment system like ECS & EFT
20. *The bills shall be submitted by the contractor in Computerized Measurement Books(CMB) as per procedure laid down in Clause 6A of BSNL W-8 which will form part of the agreement. The bills shall be submitted by the contractor by 25<sup>th</sup> of every month.*

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21. First running account bill shall be paid only after
  - (a) signing of the Agreement/Contract by both the parties, and
  - (b) Progress chart has been prepared as required under Clause 5 and approved by the competent authority and
  - (c) After obtaining labour licence, EPF Registration, ESIC Registration, whatever applicable in this three for this contract or the contractor.
22. General conditions of contract for works amended upto Correction Slip No. 6 in BHARAT SANCHAR NIGAM LIMITED are available on BSNL website [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in) as well as in the office of the Executive Engineer.
23. For e-Tendering of this tender BSNL has engaged e-portal maintained by M/s ITI, New Delhi. The agency intending to participate in tendering process shall have to register with ITI, New Delhi.
24. The intending bidder can get registered with ITI, New Delhi. For details kindly visit website <http://www.tenderwizard.com/BSNL> or contact Shri SANJIB MOHAPATRA mobile no 9937488749 or 7377708585.
25. If any terms and conditions under General Rules and Directions, (which can be seen in general conditions of contract available in BSNL website [www.odisha.bsnl.co.in](http://www.odisha.bsnl.co.in)) is in contravention to terms and conditions as above, the terms and conditions as above shall prevail.

Signature and Name of

**Executive Engineer (Civil)**  
**For & on behalf of the**  
**RPRC, Bhubaneswar.**

BHARAT SANCHAR NIGAM LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)

STATE: ODISHA

CIRCLE: BHUBANESWAR

DIVISION: BHUBANESWAR-I

ZONE: ODISHA

SUB-DIVISION:-no III BHUBANESWAR

**Percentage Rate Tender / Item Rate Tender & Contract for Works:**

Tender for the work of: **Supplying & Installation of Poly Houses, Primary and Secondary Hardening Chamber, Shade Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar.**

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- (i) To be submitted by **18.00 hours on 29.10.2019**
- (ii) To be opened in presence of tenderer who may be present at **11.30 hours on 30.10.2019** in office of Executive Engineer (Civil) **BSNL Civil Division Bhubaneswar** and financial bid shall be opened at **15.30 Hrs on 31.10.2019** .

**T E N D E R**

I/ We have read and examined notice inviting tender, schedule, A, B, C, D, E & F. specifications applicable, Drawings & Design, General Rules and Directions, Conditions of Contract, Clauses of Contract, Special conditions, Schedule of Rate & other documents forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and Rules referred to in the Conditions of Contract and all other contents in the tender document for the work.

I/ We hereby tender for the execution of the work specified for the **RPRC, Bhubaneswar** within the time specified in schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of the contract and with such materials as are provided for, by and in respect in accordance with, such conditions so far as applicable.

I/ We agree to keep the tender open for **45 (Forty Five) days** from the due date of submission thereof and not to make any modifications in its terms and conditions. If I/we withdraw my/our tender before the said period or issue of letter of acceptance, whichever is earlier, or, makes any modifications in the terms and conditions of the tender which are not acceptable to the BSNL, then the BSNL shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid.

A sum of Rs \_\_\_\_\_(Rupees \_\_\_\_\_) only has been deposited in prescribed manner as earnest money.

If I/We fail to commence the work specified, I/We agree that the said Bharat Sanchar Nigam Limited shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely otherwise the said earnest money shall be retained by competent authority on **behalf of the Bharat Sanchar Nigam Limited**

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towards Security Deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form.

I/We agree that, in case of works of estimated cost exceeding Rs.15,00,000/-, to deposit an amount equal to 5% of Tendered value of the work as performance guarantee in the form of bond of any Scheduled Bank of India in accordance with the proforma prescribed or in the form of Fixed Deposit Receipt etc., within 10 days of the issue of letter of acceptance of Tender by the BSNL. I/We am/are aware that in the event of failure on my/our part to furnish the Bank Guarantee within 10 days, the earnest money will be forfeited and tender cancelled.

I/ We hereby intimate that for receiving payments I/we have an account in \_\_\_\_\_ Bank with account No. \_\_\_\_\_ where the ECS/EFT facility of e-payment is available.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information derived there-from to any person other than a person to whom I/We am/are authorised to communicate the same or use the information in any manner prejudicial to the safety of the State.

I/We agree that should I/We fail to commence the work specified in the above memorandum, an amount equal to the amount of the earnest money mentioned in the form of invitation of tender shall be absolutely forfeited to the Bharat Sanchar Nigam Limited and the same may at the option of the competent authority on **behalf of the Bharat Sanchar Nigam Limited** be recovered without prejudice to any right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/us under this contract or otherwise.

The information in respect of works in hand is as per proforma enclosed.

"I/we agree that this contract is subject to jurisdiction of Court at **Bhubaneswar** only."  
(Where the NIT/Tender has been issued)

Dated.....

Witness:

Address:

Occupation:

( )

Signature of Contractor

Postal Address: -

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# DNIT

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## ACCEPTANCE

The above tender (as modified by you (Contractor) and as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the **RPRC, Bhubaneswar** for \_\_\_\_\_ a \_\_\_\_\_ sum \_\_\_\_\_ of Rs \_\_\_\_\_ (Rupees \_\_\_\_\_)

The letters referred to below shall form part of this Contract Agreement:-

- (a) \_\_\_\_\_
- (b) \_\_\_\_\_

For & on behalf of the **RPRC, Bhubaneswar.**

Signature \_\_\_\_\_

Dated.....

Name and designation



# DNIT

## PROFORMA OF SCHEDULES

(Operative Schedules to be supplied separately to each of the intending tenderer)

### SCHEDULE "A"

#### Schedule of Quantities - ENCLOSED

### SCHEDULE "B"

Schedule of Materials to be issued to the contractor

S. No.	Description of Item	Quantity	Rates in figures & words at which the materials will be charged from the contractor	Place of issue
1	2	3	4	5
NIL				

### SCHEDULE "C"

Tools and Plants to be hired to the contractor

S. No.	Description of Item	Hire charges per day	Place of issue
1	2	3	4
DELETED			

### SCHEDULE "D"

Extra schedule for specific requirements/documents for the work, if any.

1. LIST OF PREFERRED MAKES for various items of work
2. Additional Conditions of contract.
3. Additional Conditions(General)
4. Conditions for other Taxes and Royalties.

### SCHEDULE "E"

Schedule of component of Materials, Labour etc. for escalation.

### CLAUSE 10

Component of Materials expressed as percent of Total Value of Work	"X"	75%
Component of Labour expressed as percent of Total Value of Work	"Y"	25%
Component of POL expressed as percent of Total Value of Work	"Z"	0%

# DNIT

## SCHEDULE "F"

(Reference to General Conditions of Contract)

**Name of Work: - "Supplying & Installation of Poly Houses, Primary and Secondary Hardening Chamber, Shade Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar."**

Estimated cost of Work: **Rs 64,01,388.00** (Rupees Sixty Four lakh One Thousand Three Hundred Eighty Eight only)

Earnest Money **Rs 1,28,030/- (Rupees One Lakh Twenty-eight Thousand and Thirty) only.**

### Performance Guarantee

(5 % of the tendered value in the form of Bank Guarantee from Scheduled Bank in respect of works with estimated cost put to tender exceeding Rs.15 Lakhs)

Rs\_\_\_\_\_\*\*\*\_\_\_\_\_(  
Rupees\_\_\_\_\_\*\*\*\_\_\_\_\_)

**(It shall be deposited within 10 days from the date of issue of letter of acceptance by the EE©, which can also be extended to a specified period as per the discretion of the NIT approving authority).**

### Security Deposit

(5 % of the tendered value of civil part in the form of Bank Guarantee from Scheduled Bank in respect of works)

Rs\_\_\_\_\_  
(Rupees\_\_\_\_\_)

Officer inviting tender

Executive Engineer (Civil),  
BSNL Civil Division-I, Bhubaneswar.

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clause 12.2 & 12.3

**50%**

### Definitions

2(v) Engineer-in charge

### See below

Executive Engineer (Civil),  
BSNL Civil Division-I, Bhubaneswar.

2(viii) Accepting Authority

Superintending Engineer(C)/  
Chief Engineer(C),  
BSNL Civil Odisha Zone,  
Bhubaneswar.

2(x) Percentage on cost of materials and labour to cover all overheads and profit

**15 %**

2(xi) Standard Schedule of Rates

local market rates

## DNIT

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9(ii) Standard BSNL Contract Form

BSNL W 7/8 form as amended upto and including correction slip No.6

### Clause 2

Authority for fixing compensation under Clause 2-

Superintending Engineer©/  
Chief Engineer©  
BSNL Civil Odisha Zone  
Bhubaneswar

### Clause 2 A

Whether Clause 2A shall be applicable

NO

### Clause 3 A

Whether Clause 3A shall be applicable

NO

### Clause 5

i) Time allowed for execution of work.

5(five) Months

ii) Authority to give fair and reasonable extension of time for completion of work.

Superintending Engineer©/  
Chief Engineer©  
BSNL Civil Odisha Zone  
Bhubaneswar

### Clause 6 A

Whether Clause 6 A shall be applicable

YES

### Clause 7

Gross value of work to be done together with net payment / adjustment of advances for materials collected, if any, since the last such payment for being eligible to interim payment.

Contract Amount  
2xCompletion period in months.

### Clause 10A

Reinforcement steel to be used in the work shall have to be procured as below :

not applicable

### Clause 10 C

Not applicable

### Clause 10 CA

not applicable

### Clause 10 D

Not applicable

### Clause 11

Specification to be followed for execution of work

National Horticulture Board Technical standard for Poly house & Net house &.CPWD Specifications Volume I & II 2009

# DNIT

## Clause 12

12.2 & 12.3 Limit for value of any item

50%( fifty percent)

## Clause 16

Competent authority for deciding reduced rates.

Superintending Engineer(C)/  
Chief Engineer (C),  
BSNL Civil Odisha Zone,  
Bhubaneswar

## Clause 36(i)

Requirement of Technical Staff and rate of recovery in case of non-compliance shall be as per the following table:

Value of Work	Sl.No	Minimum qualification of Technical Representative	Discipline	Designation (Principal Technical/ Technical representative)	Minimum Experience in years	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36(i)	
							figures	words
For Agreement amount upto Rs 150 lakhs	1	Graduate Engineer OR Diploma Engineer	Civil	Principal Technical representative	2 years for Graduate Engineer / 5 years for Diploma Engineer	1	Rs 15,000/-	Rs Fifteen Thousand only

## Clause 37(i)

Extent of **GST** payable by **Contractor** for Building and Construction works

**GST of 18% is Applicable. Any change in the rate of GST while making payment to the contractors will be adjusted accordingly.**

**Clause 42 NOT APPLICABLE**

# DNIT

## SCHEDULE - D

### LIST OF PREFERRED MAKES

	PREFERRED MAKE
Non Metallic hardener compound	Fosroc, STP, Pidilite, CICO, FERROUS
CRCA frames	TATA, SAIL
Dash/Anchoring Fasteners	HILTI/Fischer, BOSCH
Nuts/Bolts & Screws	GKW/Atul
Flush door shutters	Century, Greenply, Archid, Mayur Alishan
Hardware fittings	DORMA, EARL BIHAR, HETTICH, LAXMI, DOORSET, OZONE, EVERITE
Locks and Handles	Dorset, Godrej, Europa, Ozone, Everite, HETTICH, DORMA
Drawer multilock	KEYMAN/Earl Behari
Cylindrical lock	SECUR, DORSET, GODREJ
Mortice latch & lock	Godrej, Sheel
MS Tubes	Jindal, Tata, SAIL
Stainless steel sections	Jindal, Salem
Glue	Fevicol, Vamicol, Pidilite, Dunlop
CP fittings & accessories	Parko, Kingston, Esso, Plumber, Crab tree, Jaguar, ROCA, Kerovit
Screws	Nettlefold/, GKW Ltd
Hydraulic door closer	Hardwyn, Dormia, Ozone, Yale, Everite, Godrej, Doorset
Welding Electrodes	Advani, ESAB India
Fire check wood doors	Godrej, Global, Radient, Navair
Tinted film	Garware, Meditech, 3M

## DNIT

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Privacy film	3M
PVC door shutter	Rajshri, Sintex, Duroplast
PVC Pipes and Fittings	Astral, Supreme, Finolex, Prince, Skipper, Ashirwad, Truebore
UPVC Pipes/fittings	Finolex, Supreme, Astral, SFMC
PVC water tank	Sintex(with ISI mark embosing only)
G. I. Pipes	Jindal, SAIL, Tata,
G. I. Fittings	Unik, Zenith, HB
Gun metal valves	Leader, ZOLOTO, DRP

## **ADDITIONAL CONDITIONS OF CONTRACT**

The following “Additional conditions” shall be added to the standard conditions to take into account the special requirement of the work.

1. The intending tenderers shall note that the work is to be completed within the stipulated period.
2. The tenderers shall take into consideration the Drawings and Specifications and quote the rates accordingly. The quoted rates shall be inclusive of all charges such as Insurance, transportation, taxes fixed by the Central/State Government etc. Nothing extra shall be payable over the quoted rates.
3. In case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the contractor shall obtain clarifications in writing from the Engineer-in-Charge before execution.
4. The contractor shall take instructions from the Engineer-in-Charge for stacking of materials in any place. No excavated earth or building materials shall be stacked on areas where other buildings, roads, services of compound walls are to be constructed.
5. The structural drawings for the work shall be issued in stages taking into consideration the approved programme as well as the actual progress.
6. The manufactured materials used on the work shall have ISI mark. In case of materials for which no manufacture has been licensed to manufacture, the materials with ISI marking, the material shall conform to the provision of the CPWD specifications. In the case of non-ISI marked materials, tests shall be conducted to ensure that they conform to the specifications or codes mentioned above. BIS marked materials may also be got tested if felt necessary by the Engineer-in-Charge.
7. All materials for which testing is mandatory before being allowed for incorporation in the work shall be purchased well in advance of their actual requirement in the work at site, so as to afford enough availability of time for getting the material tested and obtaining the approval of the Engineer-in-Charge.
8. Other agencies doing works related with this project will also simultaneously execute the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying / burying in the work of pipes, cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for other agencies, conduits for electrical wiring / cables will be laid in a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same.
9. Royalty, if any, at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle, sand and bajri etc. collected by him for the execution of the work direct to the Revenue authority or authorized agent of the State Government concerned or Central Government.
10. The rates quoted shall include all taxes, royalty, seignior age charges that are applicable from time to time as per statutory rules of State / Central Government.

11. The contractor shall make his own arrangements for obtaining electric / water connections, if required, and make necessary payments directly to the Department concerned.
12. The work shall be carried out in a manner complying in all respects with the requirements of relevant byelaws of the Municipal Committee / Municipal Corporation / Development Authority / Improvement Trust under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-Charge and nothing extra shall be paid on this account.
13. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of the work.
14. No compensation / payment shall be payable to the contractor for any damage caused by rains, snow fall, lightning, wind, storm, floods tornadoes, earthquakes or other natural calamities during execution of work. He will make good all such damages at his own cost and no claim on this account will be entertained.
15. Some restrictions may be imposed for regulating the construction/work activities, storage of materials, entry and movement of the personal/workers for security reasons by the competent security in-charge or by the Engineer-in-Charge or his representative and in such case the contractor shall be bound to follow all such restriction/instructions and nothing extra shall be payable on this account.
16. The contractor shall also be bound to observe and follow all the provisions of "The Building and other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996" and "The Building and other Construction Workers Welfare Cess Act 1996" and all the rules framed there-under. Nothing extra on this account shall be paid to the contractor.
17. Unless otherwise specified in the Schedule of quantities of items, the rate for all items of the work shall be inclusive of pumping out or bailing out water encountered from any sources such as rain, sub-soil water, flood or any other causes whatsoever. The foundation pits, trenches etc. shall be kept free from water while the works below ground level are in progress. Nothing extra on this account shall be payable to the contractor.
18. Unless otherwise provided in the schedule of quantities of item of work, the rates tendered by the contractor shall be for all heights, lifts and leads and depth of the building and nothing extra shall be payable to the contractor on this account.
19. Portland Pozzolona Cement (flyash blended) conforming to IS: 1489(Part 1) shall be used in the work. The certificate from PPC manufacturer indicating the percentage of flyash shall be submitted to the Engineer-in-charge before using the cement in the work. Hence, the tenderers may quote their rates for the items requiring cement considering the rate of PPC.



**ADDITIONAL CONDITIONS (GENERAL)**

(Para 3.1 to Para 3.2.6 ( in pages 102 to pages 104) under Additional conditions in BSNL booklet on General conditions of contract for building works may be treated as deleted)

**3.0 INSPECTION OF SITE**

The Contractors are advised to inspect and examine the site and its surroundings and satisfy themselves with the nature of site, the means of access to the site, the constraints of space for stacking material / machinery, labour etc. constraints put by local regulations, if any, weather conditions at site, general ground / subsoil conditions etc. or any other circumstances which may affect or influence their tenders. The site is available for work. The contractor shall, immediately on issue of letter of acceptance of tender, make arrangements for starting the work.

**4.0** The Contractor shall, if required by him, before submission of the tender, inspect the drawings in the Office of the Engineer-in-Charge. The Department shall not bear any responsibility for the lack of knowledge and also the consequences, thereof to the Contractor. The information and data shown in the drawings and mentioned in the tender documents have been furnished, in good faith, for general information and guidance only. The Engineer-in-Charge, in no case, shall be held responsible for the accuracy thereof and / or interpretations or conclusions drawn there from by the Contractor and all consequences shall be borne by the Contractor. No claim, whatsoever, shall be entertained from the Contractor, if the data or information furnished in tender document is different or in-correct otherwise, or actual working drawings are at variance with the drawings available for inspection or attached to the tender documents. It is presumed that the Contractor shall satisfy himself for all possible contingencies, incidental charges, wastages, bottlenecks etc. likely during execution of work and acts of coordination, which may be required between different agencies. Nothing extra shall be payable on this account.

**5.0** The nomenclature of the items given in the schedule of quantities gives in general the work content but is not exhaustive i.e. does not mention all the incidental works required to be carried out for complete execution of the item of work. The work shall be carried out, all in accordance with true intent and meaning of the specifications and the drawings taken together, regardless of whether the same may or may not be particularly shown on the drawings and / or described in the specifications, provided that the same can be reasonably inferred there from.

**6.0** Before tendering for the work, the contractor shall visit the site and assess the manner in which he is able to arrange the facilities required for work. The contractor will not be permitted to erect labour huts in CPRI site. He shall make his own arrangements for stores, field office etc. Material go-down, site office etc required for the work and constructed by him should be dismantled and removed from the site soon after completion of work. The Engineer-in-Charge shall in no way be responsible for any delay on this account and no claim, whatsoever, on this account shall be entertained. Nothing extra shall be

payable on this account.

**7.0** All ancillary and incidental facilities required for execution of work like, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, telephone, etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, barricading, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary ( for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities unless otherwise specified. Nothing extra shall be payable on this account.

## **8.0 SUBMISSIONS AFTER AWARD OF WORK**

The Contractor shall submit the following details after award of work:

- a. List of Equipments proposed to be deployed for this work is to be mandatorily provided and deployed by the contractor.
- b. Site organization chart with Bio-data of Site Engineer and Key Personnel proposed to be deployed at site.
- c. The contractor shall prepare and submit a tentative integrated Bar Chart (for Civil and E & M services) clearly indicating the various activities, in a manner to complete the entire work covered under this tender within the stipulated period and as per milestones.

**9.0** The Contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by any statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor. He shall protect and indemnify BSNL and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts.

**10.0** Royalty at the prevalent rates shall be paid by the Contractor or the RMC supplier as per the terms of supply between them on all materials such as boulders, metals, sand and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Nothing extra shall be payable on this account.

**11.0** The Contractor shall assume all liability, financial or otherwise in

connection with this contract and shall protect and indemnify BSNL from any and all damages and claims that may arise on any account. The contractor shall indemnify BSNL against all claims in respect of patent rights, royalties, design, trademarks of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify BSNL in all respects from such actions, costs and expenses. Nothing extra shall be payable on this account.

## **12.0 SIGN BOARDS**

The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, client / owner, etc. Nothing extra shall be payable on this account.

## **13.0 FACILITIES FOR SITE OFFICE**

The Contractor shall provide, construct and maintain at all times during execution and till the completion of work, a temporary site office with adequate electric light fittings, fans, electric/ power points, switches etc for use of the Engineer- in-Charge and his authorized representatives. Such office shall be provided with suitable partitions, doors, windows, locking arrangement and water and electricity facility. The entire site office and its surroundings shall be maintained in a neat and clean condition by the Contractor for the entire duration of the construction. The premises / facilities provided by the contractor shall be demolished/ dismantled / disconnected and material carted away by him at his own cost after the completion of work or as directed by Engineer-in-Charge. The rates quoted by the Contractor shall be inclusive of providing and maintaining such facilities and nothing extra shall be payable on this account.

## **14.0 SPECIALIZED AGENCIES:**

14.1 The tenderer shall submit list of Specialized Agencies for the specified items of the Civil work for executing the work and furnish the name of Specialized Agencies for each of the various works.

14.2 The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material or engaging any specialized agencies. The Contractor shall make a detailed submittal with catalogues and highlighted proposed specifications. A list of works executed by the specialized agency, is to be furnished to the Engineer-in-charge, for seeking prior approval. The specialized agency should have successfully completed at least one work of similar nature.

14.3 Save in exceptional circumstances, the main contractor shall not

change the specialized agency. However, if the change is warranted, he may do so with the approval of Engineer-in-Charge. This shall however be without any change in the accepted rates of the contract agreement and without any cost implications to the Department.

## **15.0 PROTECTIVE / SAFETY MEASURES**

Necessary protective and safety equipment shall be provided to the Site Engineer, workers & Supervisory staff by the Contractor at his own cost and used at site.

**16.0** The Contractor shall do proper sequencing of the various activities by suitably staggering the activities within various pockets in the plot so as to achieve early completion. The agency may deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the Contractor that all the equipment, Tools & Plants, machineries etc provided by him are maintained in proper working conditions at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the Contractor, on site of work or his work shop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted / removed from site without the permission of the Engineer-in-Charge.

**17.0** Use of Personal protective Equipment and safety devices relevant to site activities shall be arranged by the contractor or as directed by Engineer-in-Charge and the cost on this account shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts

The stacking of materials on the access points should be avoided so as to facilitate the movement of the workmen. Proper illumination in the access area will be also ensured. Suitable platforms are to be provided before allowing any workmen to work at height. The openings are to be strictly avoided in the working platforms to avoid fall of person & materials from Heights. All scaffolds must be satisfying specified standards and it should be checked before erection of the same at site. Throwing the scaffold materials from height is to be avoided.

Safety nets shall be used to arrest the falling of the construction material and debris. The size of the safety net shall be as per site requirement. Any opening, hole or gap on floors, grating or walking / working surface, where person, tools or materials can be subject to potential fall, shall be appropriately covered and / or guarded. Covers when applied shall be of substantial strength. Where scaffold planks are used as cover, they must be properly held together to act as one cover assembly. Guard rails shall be made of solid materials (i.e. scaffold tubing) and shall be capable to sustain load without failure.

Multilevel working at same places (i.e. work within shafts, floor edges) one above the other shall not be permitted. Proper protection with safety nets &

PPE shall be provided prior to allowing some critical multilevel working. The erection jobs shall be performed only under the supervision of competent personnel. The transport of construction material/ debris to/from work site shall be done during lean hours of the day and necessary supervision shall be ensured to prevent any untoward instances. The area of erection shall be cordoned off and Danger signage's shall be displayed. Nothing extra shall be paid for the above and the cost on this account shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. The work shall be so planned so as to provide temporary approach for vehicular movement to the occupants of the building at all times. If required, a diversion shall be provided for access to the building.

## **18.0 DISPLAY PERMISSIONS**

The Contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc under various labour laws and other regulations applicable to the works, at his site office.

## **19.0 REMOVAL OF CONSTRUCTION DEBRIS ETC. FROM SITE**

The Contractor shall not stack building material / construction debris / muck on the land or road of the local development authority or on the land owned by the client, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in- Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account unless otherwise specified. In case, the Contractor is found stacking the building material / debris as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

## **20.0 TOOLS AND PLANTS**

No tools and plants including any special T&P etc. shall be supplied by the Department and the Contractor shall have to make his own arrangements at his own cost. No claim of hindrance (or any other claim) shall be entertained on this account

## **21.0 COORDINATION WITH OTHER AGENCIES**

The Contractor shall conduct his work so as not to interfere with or hinder the progress of the work being performed by other Contractors or by the Engineer-in-Charge. As far as possible, he shall arrange his work and place, so as not to interfere with the operations of other Contractors or shall arrange

his work with that of the others, in an acceptable and coordinated manner and shall perform it in proper sequence.

## **22.0 FACILITIES BY THE CONTRACTOR TO THE OTHER CONTRACTORS / AGENCIES**

The Contractor shall cooperate with and provide the facilities to other agencies working at site for smooth execution of the work. The Contractor shall :

- a. Properly co-ordinate their work with the work of other Contractors.
- b. Provide control lines and benchmarks to other Contractors.
- c. Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
- d. Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.
- e. Resolve the disputes with other Contractor amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator. The contractor shall indemnify the Department against any claim(s) arising out of such disputes.

**23.0** The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The Contractor shall take all care to prevent any water- logging at site. The wastewater, slush etc. shall not be allowed to be collected at site. It may be directly pumped into nearby drains with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable on this account.

## **24.0 PREVENTION OF NUISANCE AND POLLUTION**

The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general. The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipment for execution of the work, so as to cause minimum environmental pollution of any kind during construction, to have minimum construction time and minimum inconvenience to road users and to the occupants of the buildings on the adjacent plot and public in general, etc. He shall make good at his own cost and to the entire satisfaction of the Engineer in Charge any damage to roads, paths, cross drainage works or public or private property whatsoever caused, due to the execution of the work or by traffic brought

thereon, by the Contractor. Further, the Contractor shall take all precautions to prevent any pollution of streams and waterways. All waste or superfluous materials shall be carted away by the Contractor, entirely to the satisfaction of the Engineer-in-Charge. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/ users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Contractors are advised to visit site and get first hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

## **25.0 SCAFFOLDING**

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed, by the Contractor. It shall be suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. It shall be ensured that no damage is caused to any structure due to the scaffolding. Charges for Double scaffolding shall be payable under relevant agreement item.

**26.0** The Contractor shall maintain all the work in good condition till the completion of entire work. The Contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer-in-Charge shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the Contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor at his own cost.

**27.0** For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.

**28.0** In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any.

**29.0** The Contractor shall make all necessary arrangements for protecting from rains, the work already executed and for carrying out the further work,

during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account.

### **30.0 SECURITY & TRAFFIC ARRANGEMENTS**

In event of any restriction being imposed by the Department, traffic or any other statutory authority having control over the project, on the working or movement of labour, materials, etc., the Contractor shall strictly follow all such restrictions or instructions issued regarding the same and nothing extra shall be payable to the Contractor on account of such restrictions or instructions.

### **31.0 STORAGE OF MATERIAL AT SITE**

No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules/instructions issued by the relevant authorities and as per the direction of Engineer-in-Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

### **32.0 NO WAIVING OF LEGAL RIGHTS AND POWERS**

The Engineer-in-Charge shall not be precluded or stopped from taking any measurements, and framing of estimates or detaining any certificates made either before or after the completion and acceptance of the work and payment, from showing the true amount and character of the works performed and materials furnished by the Contractor and from showing that any such measurements, estimates or certificates untrue or incorrectly made and that Engineer-in-Charge shall not be precluded or stopped from recovering from the Contractor such damages as it may be sustained by reasons of his failure to comply with the terms and conditions of the contract.

### **33.0 FINAL TESTING OF THE INSTALLATION**

The Contractor shall demonstrate trouble free functioning of all the Civil and E & M installations and services. The Engineer-in-Charge or his authorized representatives shall carry out final inspection of the various Civil and E & M services and installations. Any defect(s) noticed during demonstration shall be rectified by the Contractor at his own cost to the entire satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

**34.0** No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.

### **35.0 PLUMBING WORK.**

The contractor shall employ the specialized agency for executing of plumbing



work with the prior approval of Engineer – in – Charge.

### **36.0 COMPUTERIZED MEASUREMENTS AND BILLING**

- a) The measurements shall be recorded and entered in computerised format in the first instance by the contractor, and a hard copy shall be submitted to the BSNL.
- b) These measurements shall be got checked by the Junior Telecom Officer / Sub Divisional Engineer/Executive Engineer. The contractor shall incorporate all such changes or corrections, as may be done during these checks, to their draft computerised measurements, and submit to the BSNL the corrected computerized measurements in the form of a book, duly hard bound in red colour, and with its pages duly numbered.
- c) The Computerised Measurement Book shall be allotted a serial number by BSNL.
- d) The Computerized Measurement Book given by the contractor, duly bound, with its pages duly numbered, shall have no cutting or overwriting.
- e) In case of any error, the Computerised Measurement Book shall be cancelled, and the contractor shall resubmit a fresh Computerized Measurement Book. This should be done before the corresponding computerised bill is submitted to the BSNL for payment.
- f) The contractor shall submit as many copies of Computerised Measurement Books as may be required for the purpose of reference and record in the various offices of the BSNL.
- g) Nothing extra shall be paid on the above account.

## CONDITIONS FOR OTHER TAXES AND ROYALTIES

1. **The rates offered should be inclusive of GST liable to be paid by contractors. GST rate is mentioned under clause 37(i) in the schedule F. Any increase in the rate of GST while making payment of bills will be compensated to the contractor. Any decrease in the rate of GST while making payment of bills will be recovered from the bills of contractor .Contribution towards EPF, ESIC and all other taxes as applicable. Insurance, loading, unloading, transportation etc should be included on the quoted rates. The rate shall be firm & final.**
2. **Income Tax and surcharges** over Income Tax etc. at the rates fixed by the Ministry of Finance. Government of India shall be deducted from all the running and final bills of the contractor. Should there be any increase in rate of Income Tax and surcharge during execution of the contract, the same shall be payable by the contractor
3. **Cost for the welfare of construction workers shall also be deducted from the bills of the contractors.**
4. **Royalty** shall have to be paid by the contractor on all materials such as stone, bricks, boulders, metal, shingle, bajri, stone aggregate, coarse sand and fine sand etc. or any other materials used for the execution of the work direct to the Revenue Authority of the District/ State Govt. concerned.

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SCHEDULE OF QUANTITIES		SCHEDULE-A			
N/W: Supplying & Installation of Poly Houses, Primery and Secondary Hardening Chamber, Shed Net House, Repairing of existing Green House, Shade Net Houses in the RPRC compound, Bhubaneswar.					
SN	Description of item	Quantity	Unit	Rate	Amount
1	<b>Supplying, Fixing and Installing double arch Naturally ventilated Poly Houses of area 560 Sqm (20m x 28m) and maximum ridge hight up to 6.50m along with an entrance room of size 4.00m x 3.00m with following salient components and features:</b>	3.00	Each		
a	<b>STRUCTURE:</b> - Structure consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned below. Out of <b>25 No</b> main columns, 21 No @ 07No each in in left, right and middle rows shall be of length 4.00mtr above formation level and 04 nos columns i.e @ 02 nos each in front and back row shall be of length 6.00mtr above formation level. <b>24 no</b> outer corridor columns (inclined) shall be of length <b>4.50m above formation level</b> . <b>02 no</b> other columns for the buffer / entrance room shall be of length 3.00mtr spaced at <b>4.0mtr</b> apart. Foundation tube for main and other columns shall be 50mm nominal bore GI pipes of wall thickness <b>3.60mm</b> . The poly house structure will be aerodynamic on all four sides with balcony / Corridor. Corridors are used along length of Poly house to stop displacement of main column from heavy wind resulting more strength to structure. All members of the poly houses shall be joined with G.I fixtures like brackets, cleats, clamps, nuts & bolts, washers, self tapping & drilling screws etc of approved quality with minimum coat of 120 GSM.				
i	Main and other Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
ii	Corridor Columns : 50mm nominal bore GI tube of 3.60mm wall thickness				
iii	Foundation : 50mm nominal bore GI tube of 3.60mm wall thickness				
iv	Top Purlins : 40mm nominal bore GI tube of 3.20mm wall thickness				
v	Gutter Purlins : 32mm nominal bore GI tube of 3.20mm wall thickness				
vi	Top Arches (Big & Small Arc) : 40mm nominal bore GI tube of 3.20mm wall thickness				
vii	Bottom Chord of the Truss : 50mm nominal bore GI tube of 3.60mm wall thickness				
viii	Internal bracings of the Truss : 25mm nominal bore GI tube of 3.20mm wall thickness				
ix	Curtain Runner : 32mm nominal bore GI tube of 3.20mm wall thickness				
x	Flap Control pipe: 15mm nominal bore GI tube of 2.6mm wall thickness				
xi	Curtain Shaft: 20mm nominal bore GI tube of 2.6mm wall thickness				
xii	Cross Bracing : 25mm nominal bore GI tube of 3.20mm wall thickness				

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<b>b</b>	<p><b>FOUNDATION:</b> Hot dipped galvanized tube made of TATA, SAIL, JINDAL with proper marking on it for embedding in cement concrete for foundation shall be supplied by the tenderer. 25 no Main columns and 2 no other columns are fitted over ground and bolted to the inserted pipes of 50mm nominal bore. Corridor columns shall be continued below formation level with same size. Foundation tube (embedded length plus inserted length) for the main columns and other columns shall be of length <b>1.80mtr</b>. <b>24 no</b> corridor columns shall be extended <b>1.20mtr</b> below formation level for embedment in concrete. Foundation is not in the scope of tenderer, but he shall supervise the fixing of the foundation tube for level and position.</p>				
<b>c</b>	<p><b>TRUSSES:</b> Top Arches (Big Arc &amp; Small Arc) and other member of the of the Trusses consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned at "1.a". Minimum overlap of top arch over second (small) arch should be 600mm to avoid direct rain entrance in to the green house from the vent.</p>				
<b>d</b>	<p><b>BUFFER ROOM:</b> Entrance room of size <b>3.00m x 4.00m</b> shall be projected (outside / inside as per site condition) from the front/side with two PVC doors, one of size 1.00m x 2.00m (sliding) in the back and another of size 2.00m x 2.00m (double leaf &amp; side hung) in the front. The door shutter frame including one vertical and one horizontal member in the middle shall be of Hot dipped galvanized tube made of TATA, SAIL, JINDAL of size 25mm nominal bore with 3.20mm thick covered with 6mm thick FRP / polycarbonate sheet fitted with door frame using suitable fixtures.</p>				
<b>e</b>	<p><b>GUTTER:</b> Gutters shall be of trapezoidal section of perimeter 450mm made out of 2mm thick G.I sheet of 120 GSM galvanisation placed 4.00m to 4.50m above bed level of poly houses slopped @ 1% to 2% towards back. PVC rain water pipes of dia 110mm shall be provided at the end of gutter to the ground,</p>				
<b>f</b>	<p><b>COVERING:</b> The Poly Houses shall be covered with 200 micron thick, U.V stabilized, diffused (Light diffusion should be maximum up to 75% but not less than 50%), IR, Anti fog / drip, sulphur Resistant, themic, anti-drip, anti-mist, anti-dust diffused multilayer polythene film of approved make conform to <b>IS-15827:2009</b> fixed smoothly with GI locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.</p>				
<b>g</b>	<p><b>APRON:</b> Apron (made up using high quality high density polyethylene with suitable combination of UV and Anti Block and other high performance additives) of width 1.50mtr shall be provided at ground level on four sides in external corridor walls of poly houses with G.I fixing arrangement. Bottom portion of the apron beyond GI fixing arrangement (0.30mtr) to be embedded in soil.</p>				
<b>h</b>	<p><b>CURTAIN:</b> Manual operable side roll-up curtains of width 2.00mtr with handles shall be provided on two long sides above apron top with poly film on inner side below the curtains.</p>				

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<b>i</b>	<b>INSECT NET:</b> UV stabilized Insects net 40 mesh of minimum weight 100 GSM of approved make shall be provided to protect direct entry of insects in to the poly houses. 6 no yellow adhesive strips for insect trap shall also be provided. Special arrangement shall be made while fixing the insect nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>j</b>	<b>SHADE NET:</b> UV Stabilized Shade net of Black colour, <b>50%</b> shading net with manual collapsible mechanism shall be provided below gutter level. Opening and closing arrangement either manual or auto should be provided to the shading net to increase its utility. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>k</b>	<b>BENCHES (Movable):</b> Benches shall be placed inside the poly house @ 8 Nos per Poly house and consists of hot dipped galvanised steel structure of length 20 mtrs in suitable parts, width 0.90mtr and height up to 0.90mtr with supporting legs of size 20mm x 40mm x 2mm thick G.I rectangular pipes spaced @ 860mm c/c along the width and not more than 1.55mtr c/c along the length. All table legs shall be provided with rubber shoes at bottom and connected with 20mm x 40mm x 2mm thick GI rectangular tubes at top in both directions to support the GI wire fabric 75x25 mm mesh of weight not less than 7.75 Kg/ Sqm and also braced suitably at bottom in both directions at a height 150mm above floor level. GI angle of size 25mmx25mmx5mm shall be provided at all edges of the tables to cover the edges of the GI wire fabric.				
<b>l</b>	<b>MICRO IRRIGATION SYSTEM:</b> It consist of aqua master 70 lph at 3m x 3m spacing, 4kg/sqcm PVC main of 63mm dia and sub main pipes of 40mm / 50mm outer dia, PVC Ball Valves, Ventury Assembly, Air release Valve, Flush Valve, connected to Common Plastic Disc Filter, Fitting and Accessories.				
<b>m</b>	<b>FOGGING SYSTEM:</b> It consist of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned so as to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16mm lateral class-3 PVC pipe 6 kg/sqcm, valves, filter, pump panel with volt meter, MCB, relay, temperature and humidity sensor etc. complete application rate 3mm/hr. All material shall be of approved quality and manufacturer.				
<b>n</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				

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	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
2	<b>Supplying, Fixing and Installing Single arch Naturally ventilated Poly Houses of area 392 Sqm (14m x 28m) and maximum ridge height up to 6.50m along with a buffer / entrance room of size 3.00m x 4.00m with following salient components and features:</b>	<b>1.00</b>	<b>Each</b>		
a	<b>STRUCTURE:</b> - Structure consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned below. Out of <b>16 No</b> main columns, 14 No @ 07 <b>No</b> each in left and right rows shall be of length <b>4.00mtr</b> above formation level and 02 nos columns i.e @ 01 no each in the middle of front and back row shall be of length <b>6.00mtr</b> above formation level. <b>20</b> no outer corridor columns (inclined) shall be of length <b>5.00m above formation level</b> . <b>02 no</b> other columns for the buffer / entrance room shall be of length 3.00mtr spaced at <b>4.0mtr</b> apart. Foundation tube for main and other columns shall be 50mm nominal bore GI pipes of wall thickness <b>3.60mm</b> . The poly house structure will be aerodynamic on all four sides with balcony / Corridor. Corridors are used along length of Poly house to stop displacement of main column from heavy wind resulting more strength to structure. All members of the poly houses shall be joined with G.I fixtures like brackets, cleats, clamps, nuts & bolts, washers, self tapping & drilling screws etc of approved quality with minimum coat of <b>120 GSM</b> .				
i	Main and other Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
ii	Corridor Columns : 50mm nominal bore GI tube of 3.60mm wall thickness				
iii	Foundation : 50mm nominal bore GI tube of 3.60mm wall thickness				
iv	Top Purlins : 40mm nominal bore GI tube of 3.20mm wall thickness				
v	Top Arches (Big & Small Arc) : 40mm nominal bore GI tube of 3.20mm wall thickness				
vi	Bottom Chord of the Truss : 50mm nominal bore GI tube of 3.60mm wall thickness				
vii	Internal bracings of the Truss : 25mm nominal bore GI tube of 3.20mm wall thickness				
viii	Curtain Runner : 32mm nominal bore GI tube of 3.20mm wall thickness				
ix	Flap Control pipe: 15mm nominal bore GI tube of 2.6mm wall thickness				
x	Curtain Shaft: 20mm nominal bore GI tube of 2.6mm wall thickness				
xi	Cross Bracing : 25mm nominal bore GI tube of 3.20mm wall thickness				

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<b>b</b>	<p><b>FOUNDATION:</b> Hot dipped galvanized tube made of TATA, SAIL, JINDAL with proper marking on it for embedding in cement concrete for foundation shall be supplied by the tenderer. 16 no Main columns and 2 no other columns are fitted over ground and bolted to the inserted pipes of 50mm nominal bore. Corridor columns shall be continued below formation level with same size. Foundation tube (embedded length plus inserted length) for the main and other columns shall be of length <b>1.80mtr</b>. 20 no corridor columns shall be extended <b>1.20mtr</b> below formation level for embedment in concrete. Foundation is not in the scope of tenderer, but he shall supervise the fixing of the foundation tube for level and position.</p>				
<b>c</b>	<p><b>TRUSSES:</b>Top Arches (Big Arc &amp; Small Arc) and other member of the of the Trusses consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned at "2.a". Minimum overlap of top arch over second (small) arch should be 600mm to avoid direct rain entrance in to the green hous from the vent.</p>				
<b>d</b>	<p><b>BUFFER ROOM:</b> Entrance room of size <b>3.00m x 4.00m</b> shall be projected (outside / inside as per site condition) from the front/side with two PVC doors, one of size 1.00m x 2.00m (sliding) in the back and another of size 2.00m x 2.00m (double leaf &amp; side hung) in the front. The door shutter frame including one vertical and one horizontal member in the middle shall be of Hot dipped galvanized tube made of TATA, SAIL, JINDAL of size 25mm nominal bore with 3.20mm thick covered with 6mm thick FRP / polycarbonate sheet fitted with door frame using suitable fixtures.</p>				
<b>e</b>	<p><b>COVERING:</b> The Poly Houses shall be covered with 200 micron thick, U.V stabilized, diffused (Light diffusion should be maximum up to 75% but not less than 50%), IR, Anti fog / drip, sulphur Resistant, themic, anti-drip, anti-mist, anti-dust diffused multilayer polythene film of approved make conform to IS-15827:2009 fixed smoothly with GI locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.</p>				
<b>f</b>	<p><b>APRON:</b> Apron (made up using high quality high density polyethylene with suitable combination of UV and Anti Block and other high performance additives) of width 1.50mtr shall be provided at ground level on four sides in external corridor walls of poly houses with G.I fixing arrangement. Bottom portion of the apron beyond GI fixing arrangement (0.30mtr) to be embedded in soil.</p>				
<b>g</b>	<p><b>CURTAIN:</b> Manual operable side roll-up curtains of width 2.00mtr with handles shall be provided on two long sides above apron top with poly film on inner side below the curtains.</p>				
<b>h</b>	<p><b>INSECT NET:</b> UV stabilized Insects net 40 mesh of minimum weight 100 GSM of approved make shall be provided to protect direct entry of insects in to the poly houses. 6 no yellow adhesive strips for insect trap shall also be provided. Special arrangement shall be made while fixing the insect nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.</p>				

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i	<b>SHADE NET:</b> UV Stabilized Shade net of Black colour, <b>50%</b> shading net with manual collapsible mechanism shall be provided below gutter level. Opening and closing arrangement either manual or auto should be provided to the shading net to increase its utility. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
j	<b>MICRO IRRIGATION SYSTEM:</b> It consist of aqua master 70 lph at 3m x 3m spacing, 4kg/sqcm PVC main of 63mm dia and sub main pipes of 40mm / 50mm outer dia, PVC Ball Valves, Ventury Assembly, Air release Valve, Flush Valve, connected to Common Plastic Disc Filter, Fitting and Accessories.				
k	<b>FOGGING SYSTEM:</b> It consist of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned so as to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16mm lateral class-3 PVC pipe 6 kg/sqcm, valves, filter, pump panel with volt meter, MCB, relay, temperature and humidity sensor etc. complete application rate 3mm/hr. All material shall be of approved quality and manufacturer.				
l	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and T beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
3	<b>Supplying, Fixing and Installing Poly House with fan and pad cooling system for Primary Hardening Chamber of area 108 Sqm (12m x 9m) and of grid size 6.00m x 3.00m (excluding corridor) with maximum ridge hight of 5.00m, side hight of 4.00m and hockey/corridor hight 4.30mtr along with an entrance room of size 3.00m x 4.00m with following salient components and features:</b>	1.00	Each		



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<b>a</b>	<p><b>STRUCTURE:</b> - Structure consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned below. Out of <b>12 No</b> main columns, 10 No @ 05No each in left and right rows shall be of length <b>4.00mtr</b> above formation level and 02 nos columns i.e @ 01 no each in the middle of front and back row shall be of length <b>5.00mtr</b> above formation level. <b>10</b> no outer corridor columns (inclined) shall be of length <b>4.30m above formation level</b>. <b>02 no</b> other columns for the buffer / entrance room shall be of length 3.00mtr spaced at <b>4.0mtr</b> apart. Foundation tube for main and other columns shall be 50mm nominal bore GI pipes of wall thickness <b>3.60mm</b>. The poly house structure will be aerodynamic on two sides with balcony / Corridor. Corridors are used along length of Poly house to stop displacement of main column from heavy wind resulting more strength to structure. All members of the poly houses shall be joined with G.I fixtures like brackets, cleats, clamps, nuts &amp; bolts, washers, self tapping &amp; drilling screws etc of approved quality with minimum coat of <b>120 GSM</b>.</p>				
i	Main and other Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
ii	Corridor Columns : 50mm nominal bore GI tube of 3.60mm wall thickness				
iii	Foundation : 50mm nominal bore GI tube of 3.60mm wall thickness				
iv	Top Purlins : 40mm nominal bore GI tube of 3.20mm wall thickness				
v	Top Arches : 40mm nominal bore GI tube of 3.20mm wall thickness				
vi	Bottom Chord of the Truss : 50mm nominal bore GI tube of 3.60mm wall thickness				
vii	Internal bracings of the Truss : 25mm nominal bore GI tube of 3.20mm wall thickness				
viii	Curtain Runner : 32mm nominal bore GI tube of 3.20mm wall thickness				
ix	Flap Control pipe: 15mm nominal bore GI tube of 2.6mm wall thickness				
x	Curtain Shaft: 20mm nominal bore GI tube of 2.6mm wall thickness				
xi	Cross Bracing : 25mm nominal bore GI tube of 3.20mm wall thickness				
<b>b</b>	<p><b>FOUNDATION:</b> Hot dipped galvanized tube made of TATA, SAIL, JINDAL with proper marking on it for embedding in cement concrete for foundation shall be supplied by the tenderer. <b>12 no</b> Main columns and <b>2 no</b> other columns are fitted over ground and bolted to the inserted pipes of 50mm nominal bore. Corridor columns shall be continued below formation level with same size. Foundation tube (embedded length plus inserted length) for the main columns and other columns shall be of length <b>1.80mtr</b>. <b>10 no</b> corridor columns shall be extended <b>1.20mtr</b> below formation level for embedment in concrete. Foundation is not in the scope of tenderer, but he shall supervise the fixing of the foundation tube for level and position.</p>				

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<b>c</b>	<b>TRUSSES:</b> Top Arches , bottom chord and other member of the of the Trusses consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentionedat " <b>3.a</b> ".				
<b>d</b>	<b>BUFFER ROOM:</b> Entrance room of size <b>3.00m x 4.00m</b> shall be projected (outside / inside as per site condition) from the front/side with two PVC doors, one of size 1.00m x 2.00m (sliding) in the back and another of size 2.00m x 2.00m (double leaf & side hung) in the front. The door shutter frame including one vertical and one horizontal member in the middle shall be of Hot dipped galvanized tube made of TATA, SAIL, JINDAL of size 25mm nominal bore with 3.20mm thick covered with 6mm thick FRP / polycarbonate sheet fitted with door frame using suitable fixtures.				
<b>e</b>	<b>COVERING:</b> The Poly Houses shall be covered with 200 micron thick, U.V stabilized, diffused (Light diffusion should be maximum up to 75% but not less than 50%), IR, Anti fog / drip, sulphur Resistant, themic, anti-drip, anti-mist, anti-dust diffused multilayer polythene film of approved make conform to IS-15827:2009 fixed smoothly with GI locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>f</b>	<b>SHADE NET:</b> UV Stabilized Shade net of Black colour, 50% shading net with manual collapsible mechanism shall be provided below gutter level. Opening and closing arrangement either manual or auto should be provided to the shading net to increase its utility. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>g</b>	<b>THERMAL NET:</b> Aluminium Thermal Net 30% to 50% of minimum 100 GSM shall be provided inside the Greenhouse with nylon support cables, pulleys, side support with clamps and manual collapsible arrangement. Special arrangement shall be made while fixing thethermal nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>h</b>	<b>EXHAUST FAN:</b> It consists of 48" exhaust fan with 4 no. of blades with 1.5 hp motor belt drive with Galvanized body with louvers.				
<b>i</b>	<b>COOLING PAD:</b> It consists of cellulose cooling pad of size height 1.20m/1.80m and 100mm/150mm thick size along with galvanized water collecting gutter, profiles to fix pads, PVC Water Distribution System, 1no 0.5 HP pump of approved make with accessories all complete. To support the cooling pad, brick wall of thickness 230mm (Length and hight as per site requirement) with bricks of Class 5 in cement mortar 1:4 (1 cement: 4 coarse sand) plastered on both sides with cement mortar 1:4 (1 cement : 4 coarse sand) shall be constructed separately under the supervision of the tenderer.				
<b>j</b>	<b>CONTROL PANNEL:</b> It consists of electrical control panel (Indian) which consist of MCB, relay, Contractors, Three way switch, Volt meter, RYB indicator with temperature and humidity sensor to operate fogging system and cooling system in Auto mode				

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<b>k</b>	<b>ELECTRICAL CABLES:</b> Electrical cables for Fan Motors and cooling pad pump from panel (i.e. 10 m from greenhouse)				
<b>l</b>	<b>FOGGING SYSTEM:</b> It consist of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned so as to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16mm lateral class-3 PVC pipe 6 kg/sqcm, valves, filter, pump panel with volt meter, MCB, relay, temperature and humidity sensor etc. complete application rate 3mm/hr. All material shall be of approved quality and manufacturer.				
<b>m</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'T' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
<b>4</b>	<b>Supplying, Fixing and Installing Poly House without fan and pad cooling system for Secondary Hardening Chamber of area 108 Sqm (12m x 9m) and of grid size 6.00m x 3.00m (excluding corridor) with maximum ridge hight of 5.00m, side hight of 4.00m and hockey/corridor hight 4.30mtr along with an entrance room of size 3.00m x 4.00m with following salient components and features:</b>	<b>1.00</b>	<b>Each</b>		
<b>a</b>	<b>STRUCTURE:</b> - Structure consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned below. Out of <b>12 No</b> main columns, 10 No @ 05No each in left and right rows shall be of length <b>4.00mtr</b> above formation level and 02 nos columns i.e @ 01 no each in the middle of front and back row shall be of length <b>5.00mtr</b> above formation level. <b>10</b> no outer corridor columns (inclined) shall be of length <b>4.30m</b> above formation level. <b>02 no</b> other columns for the buffer / entrance room shall be of length <b>3.00mtr</b> spaced at <b>4.0mtr</b> apart. Foundation tube for main and other columns shall be 50mm nominal bore GI pipes of wall thickness <b>3.60mm</b> . The poly house structure will be aerodynamic on two sides with balcony / Corridor. Corridors are used along length of Poly house to stop displacement of main column from heavy wind resulting more strength to structure. All members of the poly houses shall be joined with G.I fixtures like brackets, cleats, clamps, nuts & bolts, washers, self tapping & drilling screws etc of approved quality with minimum coat of <b>120 GSM</b> .				

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i	Main and other Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
ii	Corridor Columns : 50mm nominal bore GI tube of 3.60mm wall thickness				
iii	Foundation : 50mm nominal bore GI tube of 3.60mm wall thickness				
iv	Top Purlins : 40mm nominal bore GI tube of 3.20mm wall thickness				
v	Top Arches : 40mm nominal bore GI tube of 3.20mm wall thickness				
vi	Bottom Chord of the Truss : 50mm nominal bore GI tube of 3.60mm wall thickness				
vii	Internal bracings of the Truss : 25mm nominal bore GI tube of 3.20mm wall thickness				
viii	Curtain Runner : 32mm nominal bore GI tube of 3.20mm wall thickness				
ix	Flap Control pipe: 15mm nominal bore GI tube of 2.6mm wall thickness				
x	Curtain Shaft: 20mm nominal bore GI tube of 2.6mm wall thickness				
xi	Cross Bracing : 25mm nominal bore GI tube of 3.20mm wall thickness				
<b>b</b>	<b>FOUNDATION:</b> Hot dipped galvanized tube made of TATA, SAIL, JINDAL with proper marking on it for embedding in cement concrete for foundation shall be supplied by the tenderer. 12 no Main columns and 2 no other columns are fitted over ground and bolted to the inserted pipes of 50mm nominal bore. Corridor and other columns shall be continued below formation level with same size. Foundation tube (embedded length plus inserted length) for the main and other columns shall be of length <b>1.80mtr</b> . <b>10 no</b> corridor columns shall be extended <b>1.20mtr</b> below formation level for embedment in concrete. Foundation is not in the scope of tenderer, but he shall supervise the fixing of the foundation tube for level and position.				
<b>c</b>	<b>TRUSSES:</b> Top Arches , bottom chord and other member of the of the Trusses consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned at " <b>4.a</b> ".				
<b>d</b>	<b>BUFFER ROOM:</b> Entrance room of size <b>3.00m x 4.00m</b> shall be projected (outside / inside as per site condition) from the front/side with two PVC doors, one of size 1.00m x 2.00m (sliding) in the back and another of size 2.00m x 2.00m (double leaf & side hung) in the front. The door shutter frame including one vertical and one horizontal member in the middle shall be of Hot dipped galvanized tube made of TATA, SAIL, JINDAL of size 25mm nominal bore with 3.20mm thick covered with 6mm thick FRP / polycarbonate sheet fitted with door frame using suitable fixtures.				

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<b>e</b>	<b>COVERING:</b> The Poly Houses shall be covered with 200 micron thick, U.V stabilized, diffused (Light diffusion should be maximum up to 75% but not less than 50%), IR, Anti fog / drip, sulphur Resistant, themic, anti-drip, anti-mist, anti-dust diffused multilayer polythene film of approved make conform to IS-15827:2009 fixed smoothly with GI locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>f</b>	<b>SHADE NET:</b> UV Stabilized Shade net of Black colour, 50% shading net with manual collapsible mechanism shall be provided below gutter level. Opening and closing arrangement either manual or auto should be provided to the shading net to increase its utility. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>g</b>	<b>FOGGING SYSTEM:</b> It consist of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned so as to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16mm lateral class-3 PVC pipe 6 kg/sqcm, valves, filter, pump panel with volt meter, MCB, relay, temperature and humidity sensor etc. complete application rate 3mm/hr. All material shall be of approved quality and manufacturer.				
<b>h</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
<b>5</b>	<b>Supplying, Fixing and Installing single arch dome shaped Shed Net Houses of area 192 Sqm (06m x 32m) and grid size 3.00mx4.00m with buffer room of size 3.00m x 3.00m projected inside within the area of 192 sqm with following salient components and features:</b>	<b>1.00</b>	<b>Each</b>		

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<b>a</b>	<p><b>STRUCTURE:</b> - Structure consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned below. <b>18 No</b> main columns @ <b>09No</b> each in left and right rows shall be of length <b>2.50mtr</b> above formation level and <b>02 no</b> columns i.e @ 01 no each in the middle of front and back row shall be of length <b>4.00mtr</b> above formation level. <b>02 no</b> other columns for the buffer / entrance room shall be of length <b>3.00mtr</b> spaced at <b>3.0mtr</b> apart. Foundation tube for main and other columns shall be of 50mm nominal bore GI pipes of wall thickness <b>3.60mm</b>. All members of the poly houses shall be joined with G.I fixtures like brackets, cleats, clamps, nuts &amp; bolts, washers, self tapping &amp; drilling screws etc of approved quality with minimum coat of <b>120 GSM</b>.</p>				
i	Main Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
ii	Other Columns : 65mm nominal bore GI tube of 3.60mm wall thickness				
iii	Foundation : 50mm nominal bore GI tube of 3.60mm wall thickness				
iv	Top Purlins : 40mm nominal bore GI tube of 3.20mm wall thickness				
v	Top Chord : 40mm nominal bore GI tube of 3.20mm wall thickness				
vi	Bottom Chord of the Truss : 50mm nominal bore GI tube of 3.60mm wall thickness				
vii	Internal bracings of the Truss : 25mm nominal bore GI tube of 3.20mm wall thickness				
viii	Cross Bracing : 25mm nominal bore GI tube of 3.20mm wall thickness				
<b>b</b>	<p><b>FOUNDATION:</b> Hot dipped galvanized tube made of TATA, SAIL, JINDAL with proper marking on it for embedding in cement concrete for foundation shall be supplied by the tenderer. 20 no Main columns and 2 no other columns are fitted over ground and bolted to the inserted pipes of 50mm nominal bore. Foundation tube (embedded length plus inserted length) for the main and other columns shall be of length <b>1.80mtr</b>. Foundation is not in the scope of tenderer, but he shall supervise the fixing of the foundation tube for level and position.</p>				
<b>c</b>	<p><b>TRUSSES:</b> Top Arches , bottom chord and other member of the of the Trusses consist of hot dipped galvanized tube made of TATA, SAIL, JINDAL of sizes as mentioned at "<b>5.a</b>".</p>				
<b>d</b>	<p><b>BUFFER ROOM:</b> Entrance room of size <b>3.00m x 3.00m</b> shall be projected (outside / inside as per site condition) from the front/side with two PVC doors, one of size 1.00m x 2.00m (sliding) in the back and another of size 2.00m x 2.00m (double leaf &amp; side hung) in the front. The door shutter frame including one vertical and one horizontal member in the middle shall be of Hot dipped galvanized tube made of TATA, SAIL, JINDAL of size 25mm nominal bore with 3.20mm thick covered with 6mm thick FRP / polycarbonate sheet fitted with door frame using suitable fixtures.</p>				

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<b>e</b>	<b>COVERING:</b> The shed Net House shall be covered with 200 micron thick, U. V. stabilized, ability to pass light 80% to 85%, White / Diffused (20%) as per requirement, IR, Anti fog, Anti drip, multilayer poly film of approved make fixed smoothly with approved quality aluminum locking profiles, GI wire spring and good quality jointing materials. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>f</b>	<b>SHADE NET:</b> Shed Net shall be of ISI marked, UV Stabilized, Agro compatible Shade Net 5 ranging from 30% to maximum 755 GSM shade depending upon the crop, made up of ISI / applicable national standard, white / green / black / suitable colour with manual collapsible mechanism as per direction of Engineer-in-Charge. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>g</b>	<b>APRON:</b> Apron (made up using high quality high density polyethylene with suitable combination of UV and Anti Block and other high performance additives) of width 1.50mtr shall be provided at ground level on four sides in external corridor walls of poly houses with G.I fixing arrangement. Bottom portion of the apron beyond GI fixing arrangement (0.30mtr) to be embedded in soil.				
<b>h</b>	<b>ALUMINUM PROFILE:</b> C type aluminium profile to fix shade net to the structure by means of self tapping screws. Weight of aluminium profile is 200-220 gm/meter. Self drilling screws should be fixed on profile every 40 cm along the full length of the profile.				
<b>i</b>	<b>IRRIGATION SYSTEM:</b> The Irrigation System shall be made as drip Irrigation system with water storage tank shall be of ISI marked Sintex or equivalent water storage tank of capacity 1000 ltrs supplied with water by 1.00HP capacity pump of <b>reputed make</b> and 4Kg/Sqcm PVC main and sub-main pipes, PVC Ball Valves, Ventury injection system with all accessories, lateral lines, Dripper / Emmiter , Control valve, Air release Valve, Flush Valve, connected to Common Plastic Disc Filter, all necessary fittings Fitting and Accessories required to complete the system as per direction of Engineer-in-charge.				
<b>j</b>	<b>GI FENCING:</b> Providing and fixing G.I. chain link fabric fencing of required width in mesh size 100 x 100mm made of G.I wire of dia <b>2.50mm</b> including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete on sides of the structure as per the direction of Engineer-in-charge.				
<b>k</b>	<b>DIGITAL CYCLIC TIMER:</b> The shed net house shall be provided with microprocessor based cyclic timer to control the irrigation system with pre-cast feature to automate the man free operation of irrigation system.				

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<b>l</b>	<b>FITTINGS &amp; ACCESSORIES:</b> All fittings and accessories shall be of ISO certified Grade-A materials, wherever applicable it must be UV stabilized, it must be rust free in case of metallic, It should not be made of recycle process in case of PVC / plastic, all aluminum components / accessories must be Grade-A quality.				
<b>m</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
<b>6</b>	<b>Repairing existing High Tech Green House of size 7.10 mtr x 14.10 mtr by repairing the damaged parts of the green house or replacing the damaged parts of the Green House as detailed below:</b>	<b>1.00</b>	<b>Each</b>		
<b>a</b>	<b>COOLING PAD:</b> Providing and fixing cellulose cooling pad of size - height 1.5m and 0.10 mtr thick along with galvanized water collecting gutter, profiles to fix pads, PVC Water Distribution System, 1no 0.5HP pump of approved make with accessories all complete. To support the cooling pad, brick wall of thickness 230mm (Length and hight as per site requirement) with bricks of Class 5 in cement mortar 1:4 (1 cement: 4 coarse sand) plastered on both sides with cement mortar 1:4 (1 cement : 4 coarse sand) shall be constructed separately under the supervision of the tenderer.				
<b>b</b>	<b>COVERING:</b> Replacement of existing damaged sheet coverings with 6mm thick U.V stabilized, impact resistant, multi wall clear poly carbonate sheet of weight sustainability up to 1.30 Kg per Square metre, temparature sustainability from -40 degree to +120 degree, ability to pass light 80% to 85% and of approved quality conform to IS-15827:2009 as per direction of Engineer-in-Charge. The poly carbonate sheet shall be fixed to the structure with good quality jointing materials, Grade-A quality Alluminium Locking Profile with EPDM Rubber and ISO certified Grade-A rust free fittings accessories. Existing good quality old poly carbonate sheet covering wherever replacement is not required shall be cleaned properly by using detergents / chemicals as per direction of Engineer-in-Charge. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				



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c	<b>EXHAUST FAN:</b> It consists of 36" exhaust fan with 6 no. of blades with 1.5 hp motor belt drive with Galvanized body with louvers.				
d	<b>CONTROL PANNEL:</b> Provision of micro processor based control pannel to regulate / control the equipments such as PAR lamps, cooling system, misting unit, temparature, humidity, feather touch operation, safety alarm and auto On/Off facility to damage protection.				
e	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and T beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring actionso that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
7	<b>Repairing existing Shade Net House of size 6.20 mtr x 32.40 mtr by repairing the damaged parts of the shed net house or replacing the damaged parts of the shed net House as detailed below:</b>	<b>2.00</b>	<b>Each</b>		
a	<b>COVERING:</b> Replacement of existing damaged roof coverings with 200 micron thick, U. V. stabilized, ability to pass light 80% to 85%, White / Diffused (20%) as per requirement, IR, Anti fog, Anti drip, multilayer poly film of approved make conform to IS-15827:2009 fixed smoothly with aluminium locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
b	<b>SHADE NET:</b> Replacement or provision of ISI marked, UV Stabilized, Agro compatible Shade Net 50% weaving of Green / Black colour with manual collapsible mechanism as per direction of Engineer-in-Charge. The UV film shall be fixed to the structure with good quality jointing materials, Grade-A quality Alluminium Locking Profile with EPDM Rubber, UV stabilized (wherever applicable) and ISO certified Grade-A rust free fittings accessories. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
c	<b>GI FENCING:</b> Providing and fixing G.I. chain link fabric fencing of required width in mesh size 100 x 100mm made of G.I wire of dia <b>2.50mm</b> including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete on sides of the structure as per the direction of Engineer-in-charge.				

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<b>d</b>	<b>DOOR:</b> Repairing / Replacement of GI framed skidding door of size 1.00m width x 2.00mtr hight made withhot dipped galvanised tube of 25mm nominal bore and 3.20mm wall thickness covered with FRP / Poly carbonate sheet of 6mm thick and with good quality ISO certified fittings an locks etc. complete as per direction of Engineer-in-Charge.				
<b>e</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
<b>8</b>	<b>Repairing existing Shade Net House of size 6.20 mtr x 30.70 mtr by repairing the damaged parts of the shed net house or replacing the damaged parts of the shed net House as detailed below:</b>	<b>1.00</b>	<b>Each</b>		
<b>a</b>	<b>COVERING:</b> Replacement of existing damaged roof coverings with 200 micron thick, U. V. stabilized, ability to pass light 80% to 85%, White / Diffused (20%) as per requirement, IR, Anti fog, Anti drip, multilayer poly film of approved make fixed smoothly with aluminium locking profiles and GI wire spring. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>b</b>	<b>SHADE NET:</b> Replacement or provision of ISI marked, UV Stabilized, Agro compatible Shade Net 50% weaving of Green / Black colour with manual collapsible mechanism as per direction of Engineer-in-Charge. The UV film shall be fixed to the structure with good quality jointing materials, Grade-A quality Alluminium Locking Profile with EPDM Rubber, UV stabilized (wherever applicable) and ISO certified Grade-A rust free fittings accessories. Special arrangement shall be made while fixing the shade nets to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				
<b>c</b>	<b>GI FENCING:</b> Providing and fixing G.I. chain link fabric fencing of required width in mesh size 100 x 100mm made of G.I wire of dia <b>2.50mm</b> including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete on sides of the structure as per the direction of Engineer-in-charge.				

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<b>d</b>	<b>DOOR:</b> Repairing / Replacement of GI framed skidding door shutter of size 1.00m width x 2.00mtr hight made withhot dipped galvanised tube of 25mm nominal bore and 3.20mm wall thickness covered with FRP / Poly carbonate sheet of 6mm thick fitted with door frame using suitable fixtures and locks etc. complete as per direction of Engineer-in-Charge.				
<b>e</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				
<b>9</b>	<b>Repairing existing High Tech Green House of size 22mtr x 14mtr by repairing the damaged parts of the green house or replacing the damaged parts of the Green House as detailed below:</b>	<b>1.00</b>	<b>Each</b>		
<b>a</b>	<b>COOLING PAD:</b> Providing and fixing cellulose cooling pad of size - height 1.5m and 0.10 mtr thick along with galvanized water collecting gutter, profiles to fix pads, PVC Water Distribution System, 1no 0.5HP pump of approved make with accessories all complete. To support the cooling pad, brick wall of thickness 230mm (Length and hight as per site requirement) with bricks of Class 5 in cement mortar 1:4 (1 cement: 4 coarse sand) plastered on both sides with cement mortar 1:4 (1 cement : 4 coarse sand) shall be constructed separately under the supervision of the tenderer.				
<b>b</b>	<b>COVERING:</b> Replacement of existing damaged sheet coverings with 6mm thick U.V stabilized, impact resistant, multi wall clear poly carbonate sheet of weight sustainability up to 1.30 Kg per Square meter, temperature sustainability from -40 degree to +120 degree, ability to pass light 80% to 85% and of approved quality conform to IS-15827:2009 as per direction of Engineer-in-Charge. The poly carbonate sheet shall be fixed to the structure with good quality ISO Certified jointing materials, Grade-A quality Aluminum Locking Profile with EPDM Rubber, ISO certified Grade-A rust free (in case of metallic) fittings accessories, UV stabilized wherever applicable. Special arrangement shall be made while fixing the covers to the frame work so that it can be easily removed by the user in future in case of cyclonic storm.				

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<b>c</b>	<b>SHADE NET:</b> Replacement or provision of ISI marked, UV Stabilized, Agro compatible Shade Net 50% weaving of Green / Black colour with manual collapsible mechanism as per direction of Engineer-in-Charge. The UV film shall be fixed to the structure with good quality jointing materials, Grade-A quality Alluminium Locking Profile with EPDM Rubber, UV stabilized (wherever applicable) and ISO certified Grade-A rust free fittings accessories.				
<b>d</b>	<b>MICRO SPRINKLER / FOGGERS SYSTEM:</b> It consist of four way anti leak fogger 28 lph flow rate (working pressure should be mentioned so as to get required particle size, fogger spacing along the lateral and lateral spacing) and particle size 80-100 micron, 16mm lateral class-3 PVC pipe 6 kg/sqcm, valves, filter, pump panel with volt meter, MCB, relay, temperature and humidity sensor etc. complete application rate 3mm/hr. All material shall be of approved quality and manufacturer.				
<b>e</b>	<b>EXHAUST FAN:</b> It consists of 8" exhaust fan with 6 no. of blades with 1.5 hp motor belt drive with Galvanized body with louvers.				
<b>f</b>	<b>CONTROL PANNEL:</b> Provision of micro processor based control pannel to regulate / control the equipments such as PAR lamps, cooling system, misting unit, temperature, humidity, feather touch operation, safety alarm and auto On/Off facility to damage protection.				
<b>g</b>	<b>GUTTER:</b> Gutters shall be of trapezoidal section of perimeter 600mm made out of 500 micron poly sheet fixed at suitable level and with suitable slope to dispose off the water to the ground.				
<b>h</b>	<b>COOLING FAN:</b> Providing and fixing 48 inches slow speed co-axial belt driven fan with complete accessories and automatic closing / opening of vent system. The fan can be made operational with single phase and 220V AC.				
<b>i</b>	<b>FIXTURES:</b> Different fixtures like brackets, cleats, clamps, nut & bolts, washers, self tapping & drilling screws, pipe couplers etc. shall be strong enough and cold galvanized with minimum coat of <b>120 GSM</b> . Brackets and cleats shall be made from the section like angle, channel and 'I' beam. Clamps like 76/60/48/42/33 mm OD full and half shall be made from minimum 42mm wide and 2.10mm thick GP Coil. Curtain clamp shall be made from high carbon steel strip of minimum 30mm wide and 0.80mm thick. Such clamp should have proper spring action so that after fixing at the place they should not change the location. M12 to M6 bolts, Nuts, washers shall be used.				
	<b>Notes: The rate shall be inclusive of all Taxes and cost of all materials, fittings and accessories, carriage/ transportation, tools and plants, equipments, labour charges, Installation charges, commissioning charges, training charges and incidentals all complete and nothing extra shall be paid on any account unless otherwise specifically mentioned in the item.</b>				

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