



कृषिमुला ऋद्धिः

ASPEE College of Horticulture & Forestry
Navsari Agricultural University, Navsari-396450, Gujarat.

Tender Document

For

Purchase of Scientific Instruments / Green house

NAU/ACHF/ELP/01-2017-18

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- Note:**
1. Please give PAGE NUMBERS in sequence to all documents uploaded as well as sent in physical, including **sequential fresh page numbers** on each page of printed / photocopy material.
 2. The same page numbers are required to be mentioned in CHECK LIST provided
 3. Provide Photocopy proof of PAN/TIN/TAN/VAT/CST etc. whichever is applicable

Chapter 1: Tender Notice - NAU/ACHF/ELP/01-2017-18

Purchase of Scientific Instruments /Green House

Bids from manufacturer/supplier/company are invited for the purchase of Scientific Instruments/machineries and Construction of Green house for Navsari Agricultural University. The list of purchase items under this tender are given underneath. The bids are invited by e-tender through website www.nprocure.com or au.nprocure.com.

Tender Fee	Rs. 1500
Period for Bid Document Downloading & Uploading	30/05/2017 to 18.00 hrs of 19/06/2017
The Last date for online tender submission	19/06/2017 up to 18:00 Hrs
Last date for physical submission of tender fee, EMD and other documents by RPAD / Courier / Speed post	21/06/2017up to 17:00 Hrs
Bid Validity Period	120 Days
Earnest Money Deposit (EMD)	As per Chapter-5 of tender document
Technical documents available on	www.nprocure.com / au.nprocure.com

List of Items:

No.	Item Name
1	GREEN HOUSE (POLYCARBONATE)
2	HORIZONTAL LAMINAR AIR FLOW
3	AIR CONDITIONERS
4	VERTICAL AUTOCLAVE
5	RACKS FOR TISSUE CULTURE

Chapter 2: Instructions to bidders for Online Tender Participation

1. All tender documents can be downloaded free from the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
2. All bids should be submitted online on the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
3. All bids should be digitally signed. For the details regarding digital signature certificate and related training involved the below mentioned address should be contacted

(n)Code Solutions
A division of GNFC
301, GNFC Infotower, Bodakdev,
Ahmedabad 380054 (India)
Tel. : +91 79 26857316 / 17 / 18
Fax : +91 79 26857321
Toll Free Number : 1-800-233-1010
www.ncodesolutions.com

4. The user can get a copy of instructions to online participation from the website **<http://au.nprocure.com>** or **<http://www.nprocure.com>**
5. The service provider should register on the website through the "New User" link provided at the home page, the registration on the site should not be taken as registration or empanelment or any other form of registration with the tendering authority.
6. The application for training and issue of digital signature certificates should be made at least 72 hours in advance to the due date and time of tender submission.
7. For all queries regarding use of digital signature certificate should be addressed to personnel in M/s. (n) Code Solutions.
8. For all queries regarding tender (except item specification) should be addressed to the office address provided below.

The Dean,
ASPEE College of Horticulture & Forestry
Navsari Agricultural University,
Eru Char Rasta, Navsari – 396 450 (Gujarat)
E-mail: deanachf@nau.in
Phone: 02637 282144
Fax: 02637 282145

9. For queries regarding item specifications contact respective scientist preferably, during office hours as per chapter 7

Chapter 3: List of Purchase Items

No.	Item Name
1	GREEN HOUSE (POLYCARBONATE)
2	HORIZONTAL LAMINAR AIR FLOW
3	AIR CONDITIONERS
4	VERTICAL AUTOCLAVE
5	RACKS FOR TISSUE CULTURE

Note: Detail specifications with special terms and conditions of all above listed 05 purchase items are described under respective files mentioned in the above list.

Chapter 4: Terms and Conditions

Note: 1) Terms and Conditions listed under chapter 4 are applicable to all purchase items. In addition to this, the product specification document of items may contain additional terms and conditions applicable to respective items.

2) Purchase of all scientific instruments/machineries will be followed as per the Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016

1. **General:**

1.1 Navsari Agricultural University (hereinafter referred to as "NAU"), for its various Departments (hereinafter referred to as "the purchaser") for their requirement of Items (as mentioned in Chapter-3) intend to invite for supply and installation of Scientific Instruments/machineries and construction of Green house at Head Quarter Navsari, Gujarat. The scanned copy of the demand draft of the Tender Fee and Earnest Money Deposit (EMD) (for details, see 1.21) as well as other relevant documents as per check list of the tender are required to be submitted online with the commercial bid on the website www.au.nprocure.com/ www.nprocure.com. It is compulsory to submit the original / attested photocopies of these all the documents (except commercial bid), such as company printed coloured literature (original) / catalogue and other necessary documents physically in hard copy to **The Dean, ASPEE College of Horticulture & Forestry, Navsari Agricultural University, Eru Char Rasta, Navsari – 396 450 (Gujarat)** on or before 22/06/2017 up to 17.00 hrs.

1.2 Authorized dealers can quote their rates provided that they need attach relevant certificate of authorized dealership issued during current financial year: 2017-18 from the manufacturer / principal company. Authorized dealers representing the same company / instruments are free to compete for price, terms, warranty period etc.

In case the vendor is a distributor authorized by an OEM (Original Instrument/Machinery Manufacturer), the following documents must be additionally provided

- **Certificate from OEM that the dealership/channel partnership arrangement with the bidder is in force for a minimum of 2 years.**
- **A letter by the OEM stating that they shall honor the supply/warranty/AMC commitments independent of continuation of the dealership/channel partner arrangement with the authorized dealer/channel partner.**

Irrespective of whether the bidder is an OEM or a distributor authorized by the OEM, the following eligibility criteria must be fulfilled

- The bidder should have made a positive operating profit
- The bidder should not be blacklisted by any Government or Government entity.
- The bidder should be in existence for a minimum of three years.

- 1.3 Technical Supporting Documents (TSD) should contain original Demand Drafts of Tender Fee and Earnest Money Deposit (EMD). In addition to these, TSD should also contain the original / photocopy of relevant documents as per check list of the tender (except commercial bid), company literature (original)/ catalogue, VAT/CST registration certificate. The envelope must be marked as "**E-tender-NAU/ACHF/ELP/01-2017-18: Technical Supporting Documents (Technical bid)**". If bidder fails to submit the TSD offline within time limit, the commercial bid will be disqualified. Please note that the scan copy of any document uploaded must tally with physical submission of original / attested photocopies.
- 1.4 The prices shall be inclusive of all freight, packaging and forwarding, transit insurance, installation charges, applicable taxes as per recent government rules & regulations as well as FOR destination. The rate should be quoted per unit as specified in Chapter 3.
- 1.5 The bid is non-transferable.
- 1.6 Amendment of bidding documents (corrigendum)
 - 1.6.1 At any time prior to the deadline for submission of bids, NAU may, for any reason, whether its own initiative or in response to the clarification request by a prospective bidder, modify the bidding documents.
 - 1.6.2 The corrigendum will be published only on following on website **<http://www.nau.in>** and **www.nprocure.com** only.
 - 1.6.3 In order to allow prospective bidders reasonable time to take into consideration the amendments while preparing their bids, at its discretion, NAU may extend the deadline for the submission of bids.
- 1.7 Bid currency - Prices shall be quoted in Indian Rupee only.
- 1.8 The items shown in the Chapter-3 are subjected to requirements and the same may be purchased or may not be purchased without assigning any reason.
- 1.9 The successful bidder shall have to execute the purchase orders placed on any date during the validity of the tender at the rate, terms and conditions of the tender.
- 1.10 All the electronics items should comply to international standards for safety, Electromagnetic Emissions, Electromagnetic Immunity etc.
- 1.11 NAU may not issue 'C' or 'P' form of sales tax or any other type of tax relaxation form of Government and the bidders are therefore requested to quote the rates of sales tax or any other taxes payable in absence of such forms/declarations.
- 1.12 Rate should be quoted along with all applicable taxes. However, NAU being an educational institute, therefore, is eligible for exemption of such duty from final payment.
- 1.13 The lowest price is not the criteria and emphasis is placed on quality and specifications of the material. The NAU has right to reject any or all the offers and

invite fresh quotations if need arises. The NAU further reserves the right of selecting the brand and accepting or otherwise any of the conditions stipulated by bidder.

- 1.14 If in any case the quoted item is not available in the market, the successful bidder will have to supply higher version/replacement of that item in the quoted cost in the same time duration with prior approval of NAU.
- 1.15 The successful bidder will held responsibility for the items sufficiently and properly packed for transport so as to ensure their being free from loss / damage / injury on arrival of destination NAU premises. The material should be supplied in the original company's packing which shall indicate packing details and other particulars as required under the statutory provisions. Inner and outer packing of boxes / cartons should be of standard design. The final packing of cartons of corrugated boxes shall be complying with ISS standards. A packing slip shall indicate clearly and legibly the name of the product, batch number, quantity, date of manufacturer, date of expiry, gross and net weight, and consignee's name & address and other particulars as required. In the event of breakages or loss of items during transit / installation against requisition order the said quantity will have to be replaced/supply by the supplier (Selected bidder) without any additional charges.
- 1.16 Tender Supporting Documents (TSD) received late and/or not submitted in the prescribed formats or in the prescribed manner, incomplete in any respect or not accompanied by prescribed documents are liable to be rejected. NAU will not be responsible for non-receipt of tender within the specified date and time due to any reason including postal delays.
- 1.17 **All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.**
- 1.18 The NAU may place repeat orders against the acceptance of tender within a period of validity, subject to the same terms and conditions originally provided in advertised tender and selected bidder shall accept the same.
- 1.19 Successful bidder failing to provide after sales services would be permanently blacklisted.
- 1.20 All documents uploaded as well as sent in physical form must **BEAR PAGE NUMBERS in sequence, including sequential fresh page numbers given on each page of printed /photocopy material.** The same page numbers must be mentioned in CHECK LIST provided.
- 1.21 Relaxation in tender fee, EMD will be considered as per **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016, however, for availing such benefits concern firm has to submit / attach certificate or relevant letter issued recently by the government otherwise relaxation benefit will not be extended to such firm and tender quoted, may be rejected.**
- 1.22 For finalization of purchase, **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016 will be followed so as to promote "Make in India" policy of the Government.**

1.23 For query regarding detail specification of the instruments, firm can contact concern scientist (as per Chapter 7), preferably during office hours.

2. Payment:

Advance or part payment will not be entertained.

3. Delivery:

The application for extension of delivery period shall be sent to concerned ordering office of Navsari Agricultural University at least 5 days prior to the expiry of delivery period of each items. The officer in charge, who is placing the order may grant extension or reject the application and their decision in the matter shall be final and binding to all.

4. Warranty:

4.1 Period of Warranty: The bidder must provide comprehensive onsite warranty for **minimum 2 years or as asked in specifications**, from the date of installation for all items. Please clearly mention the parts, which are not covered under warranty, separately.

4.2 If any instrument(s), properly not working and repetitively fault is found, say twice a week during the warranty period, the bidder shall replace the item with new item without any additional cost to the purchaser.

5. Demonstration:

Supplier has to perform on-site live demonstration as per trial requirements of concerned scientist with bidders'/ suppliers' consumables and reagents.

6. Dispute:

In case of any dispute, final decision of The Purchase Committee, Navsari Agricultural University, Navsari – 396 450 will be binding upon all. In case of any dispute arises in respect of this tender, a suit in that behalf shall be subject to Navsari Jurisdiction.

Chapter 5 : Tender Fee, EMD and Security Deposit

Bidder has to submit non refundable Tender Fee Rs. 1500 and Refundable Earnest Money Deposit (EMD) in the form of Bank Draft in favor of "AAO, ASPEE College of Horticulture & Forestry" payable at Navsari depending upon the number of Items applying for.

If, submitted Tender Fee amount is not matching as per tender guideline basis on the tender items quoted for, bidder will be disqualified from the tender.

Tender Fee: Rs. 1500 only

Earnest Money Deposit Calculations:

The bidder shall calculate Earnest Money Deposit (EMD) Amount is depending upon the items quoted. EMD for the respective items is listed in following table:

No.	Name	Estimated cost per item in Indian Rs. (in Lakh)	EMD in Indian Rs.
1	GREEN HOUSE POLYCARBONATE	25.00	75000
2	HORIZONTAL LAMINAR AIR FLOW	3.00	9000
3	AIR CONDITIONERS	0.60	1800
4	VERTICAL AUTOCLAVE	2.00	6000
5	RACKS FOR TISSUE CULTURE	0.70	2100

Earnest Money Deposit: Tender shall be accompanied by an earnest money deposit, without which tenders will not be considered. The amount should be deposited in the form of Bank Draft only, in favor of "AAO, ASPEE College of Horticulture & Forestry" payable at Navsari. If, submitted EMD amount is not matching as per tender guideline basis on the tender items quoted for, bidder will be disqualified from the tender.

Refund of Earnest Money: The earnest money of unsuccessful Bidder will be refunded.

Forfeiture of Earnest Money: The earnest money will be forfeited in the following cases:

- When Bidder withdraws or modifies the offer after opening of tender but before acceptance of tender.
- When Bidder does not execute the agreement if any, prescribed within the specified time.

Security Deposit: Successful bidder has to submit 5 % of purchase order as a Security Deposit in the form of Bank Draft only to the Office making purchase, in favor of "NAU FUND ACCOUNT" payable at Navsari.

Refund of Security Deposit: The amount of security deposit will be refunded after two years of successful installation/demonstration of the instruments/machinery, after writing a letter to the Office where in instruments/machinery installed.

Forfeiture of Security Deposit: The security deposit will be forfeited if,

1. Successful bidder fails to supply the items within the delivery period.
2. Supplier fails to comply specifications of instruments, installation/demonstration of the instruments/ machinery.

3. Supplier is not providing satisfactory post sale services and support.

Tender Fee, EMD and Tender Supporting Document Submission Address:

The Dean,
ASPEE College of Horticulture & Forestry,
Navsari Agricultural University,
Eru Char Rasta, Navsari – 396 450 (Gujarat)

Chapter 6: Technical Bid Document (TBD) Submission

This chapter consists of forwarding letter, company detail, declaration and signed terms and conditions.

All these pages required to be submitted in hard copy bearing page numbers in sequence, with physical document submission. While Company Detail page is also required to be submitted in **n-procure** as well.

Do not provide other unnecessary documents like explaining company profiles, nature of the company, services and miscellaneous things which is not inquired.

Do not put financial bids of the Items anywhere in the Technical Bid Document submission under physical submission.

From: _____

To,
The Dean,
ASPEE College of Horticulture & Forestry,
Navsari Agricultural University,
Eru Char Rasta, Navsari – 396 450 (Gujarat)

Subject: Submission of tender for the purchase of Scientific Instruments / Machineries/ Construction of Green House **[NAU/ACHF/ELP/01-2017-18]**

Sir,

I/We hereby submit the offer (duly filled) in response to the advertisement/tender notice **NAU/ACHF/ELP/01-2017-18** for **Scientific Instruments/Machineries/ Green house** in accordance with the terms and conditions of such supply and declare as under:-

I/We hereby offer to supply to Navsari Agricultural University, Navsari in accordance with the terms and conditions, hereto annexed and at the prices given by me/us in commercial section of online tendering.

I/We enclose herewith Tender Fee and EMD in favor of "AAO, ASPEE College of Horticulture & Forestry" drawn on State Bank of India, Navsari [Branch Code No. 3889.] with following details.

	Amount (Rs.)	Amount in Words	DD No. and Date
Tender Fee (Calculated)		Rs.	
EMD (Calculated)*			

Tender Fee against Item Nos. ____, ____, ____, ____, ____,

(Specify Items Nos. exactly you are bidding as per chapter-3)

NOTE:* Tick mark Quoted Item and Mention EMD Payment details in the Table given on **Page 16.**

I/We carefully read and understood and agree to abide by the said terms and conditions set in the tender document hereto annexed and the description/ specifications of the items.

I/We agree to hold this **offer open till 120 days** from the date of due date of opening of the tender.

I/We agree that in case of dispute, if any, the decision of The Purchase Committee, Navsari Agricultural University, Navsari 396 450 shall be final and binding upon me/us.

Signature of bidder
(with Stamp, Name and Designation)

COMPANY DETAIL- supported by documentary proof

1. Name of supplier / firm :
2. Complete postal address : Documentary proof with Page Number
3. Telephone Number :
4. FAX Number (if any) :
5. E-mail address (if any) :
6. Sales Tax No. : Documentary proof with Page Number
7. VAT / TIN No. : Documentary proof with Page Number
8. PAN No. : Documentary proof with Page Number
9. Registration No. : Documentary proof with Page Number
10. Any other details:

I/We agree to abide by the terms and conditions of supply mentioned in this tender document.

Signature of Bidder
(With Stamp, Name & Designation)

Checklist- COMPULSORILY DULY COMPLETED

Sr. No.	Document / Certificate	Attached Yes/No	Sequential Page Number
1	Tender Fee: Demand draft of Rs. 1500 (Non-Refundable)		
2	EMD : Demand draft as applicable (Refundable)		
3	Company details (only in given tender format) and Proof of Address, PAN/TIN/TAN/VAT/ CST documents as applicable		
4	Valid Registration Certificate of bidders firm. (Shop Act Registration / Partnership deed/Memorandum of article/Registration of firm / Small Scale Industry Registration etc.)		
5	Original affidavit from the bidder that business entity is not blacked listed (notarized on Rs. 100 stamp paper)		
6	IT returns of last 3 financial years i.e., 2013-14, 2014-15, 2015-16		
7	Manufacturer certificate /subsidiary company certificate /Fresh Authorization Certificate (whichever is applicable)		
8	Specification Supporting Documents with color catalogue		
9	Valid quality certificate like ISO or equivalent		
10	Signed Terms & Conditions (Chapter -4)		
11	Relaxation of Tender fee, EMD, submit the proof from competent authority as per Chapter 4, Item No. 1.21, if applicable)		

- Note:** 1. All documents uploaded as well as sent in physical form must BEAR PAGE NUMBERS in sequence, including sequential fresh page numbers given on each page of printed / photocopy material and same should be provided in the CHECK LIST above
2. All photocopied documents must be attested with seal and signature **bearing page numbers.**
3. List of Institutes/organizations where supply of quoted item/s is made is preferable.

DECLARATION

I/We solemnly declare that we have attached all the documents mentioned here above and mentioned in the tender. It is verified that all the certificates / permissions/ documents are valid and current as on date and have not been withdrawn / cancelled by the issuing authority.

I/We further undertake to produce on demand the original certificate / permission / document for verification at any stage during the processing of the tender.

I/We also understand that non-compliance of any documents will be treated as non-respective tender and we will lose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Signature of Bidder
(With Stamp, Name & Designation)

Chapter 7: Contacts and Correspondence details

Correspondence address for submission of Physical documents:

The Dean,
ASPEE College of Horticulture & Forestry,
Navsari Agricultural University,
Eru Char Rasta, Navsari – 396 450 (Gujarat)

Item wise Contact Persons

(For queries related to item specifications only. Please contact only during office hours.)

1	GREEN HOUSE (POLYCARBONATE)	9173403135
2	HORIZONTAL LAMINAR AIR FLOW	
3	AIR CONDITIONERS	
4	VERTICAL AUTOCLAVE	
5	RACKS FOR TISSUE CULTURE	9714030160

No.	Item Name	Details of DD	EMD in Indian Rs.
1	GREEN HOUSE (POLYCARBONATE)		
2	HORIZONTAL LAMINAR AIR FLOW		
3	AIR CONDITIONERS		
4	VERTICAL AUTOCLAVE		
5	RACKS FOR TISSUE CULTURE		

Signature of Bidder
(With Stamp, Name & Designation)

Chapter 8: LIST OF PURCHASE INSTRUMENT WITH SPECIFICATION

Sr. No.	Name of the structure	Quantity	Specifications
1	Green House- (Polycarbonate) with automatic fogging and cooling facilities	01	<p>Total Area: 200 sq. m</p> <p>Dimensions Dome shaped; Length X Width - 12.5 x 16.0 m, Center Height - approximately 3.60 to 3.66 m; side height - approximately 2.40 to 2.50 m and span - 2 centre partition (Double Chamber)</p> <p>Infrastructure Structure GI sq. ISI standard anti-corrosive, humidity resistant pipe with approximately 47 mm x 47 mm, 38 mm x 38 mm, 32 mm x 32 mm dimensions.</p> <p>Covering / Glazing Covering Multi walled at least 6mm thick UV stabilized with gasket for sides & roof with anodized aluminum stripping, geegnet gasket and silicon (translucent) treatment for proper holding and thermal safety.</p> <p>Specification of PC sheet Thickness -6 mm multi walled; K. value W/m²K - of about 3,5; Fixing - Aluminum profile; Sealing - Geeignet gasket; Al Profile Size - 2 inch; Weight -1.25 Kg / 12 feet; Perforated Anti dust Aluminum tape; Sound insulation dB : 18</p> <p>Door At least 03 nos. Door entry (approximate size: 6'3" x3') of aluminium section with about 6 mm thick polycarbonate sheet as cladding material with locking arrangement.</p> <p>Civil work - Foundation and wall Foundation: PCC 5-6" thick, over that one thick brick wall coarse approximately 13" wide 6" above that 9" thick 1.5' below the ground level and 1.5' above the ground up to floor level. Wall : 8-9" wall (1:5 cement : sand) 40-45 cm below and 40-45 cm wall above the ground level plastered (1:4 cement : sand) and painted with samosum on both sides.</p> <p>Floor 4-5 cm thick crushed bricks and above that plaster of ratio of rode, sand, cement 4:3:1 of 2-3" thickness.</p> <p>Plinth Protection Outside plinth protection of 4" thick & 2' wide around the structure.</p> <p>Roof Screen Green shade net material UV resistant with 50% shading and manual rolling system.</p> <p>Light Normal Tube light 6-8 nos.</p> <p>CONTROL PANEL 2 nos. With separate Day / Night controlling system Compact control panel facility with Mains ON/ OFF Switch, Light Indicator for main light, Cooling, Humidity, Heating. Control Panels manufactured with best quality steels; all the modular parts and sections should be anti-rust, smooth finish for protection against corrosive atmosphere/ high humidity environment.</p> <p>Microclimatic Temperature Controller Specifications: Real time microprocessor based user programmable Controller, 4 digit LED display to measured values and another 4-digit LED display for displaying settings, Trim pot operation, Platinum sensor probe Pt- 100, Set point lock within the setting panel to</p>

		<p>protect setting changes, Level lock, sensor failure indication, Display resolution 0.1°. Accuracy $\pm 0.1^{\circ}\text{C}$, automatic hysteresis control. Selectable temperature range from 0° to 100°C, 4.4 KVA load powered output compatible, Input- 200-240 VAC, 50 Hz. Single phase., Ambient 5°-50°C, RH upto 90%.</p> <p>Microclimatic Humidity Controller Specification: Real Time microprocessor based, On/Off control for Humidifying/ Dehumidifying, Hysteresis / Differential 1% - 9%, Delay timer 0-240 sec, Direct / Reverse selectable, Lock functions to prevent miss operating, Feather touch operation, Fast response sensor – line resistance < 10Ω, Display Accuracy- indicating value $\pm 0.2\%$ ± 1digit.</p> <p>Piltz/Cyclic Timer for Humidity: for fogging, misting system, controlled by timer.</p> <p>Specification: - Ranged from 0-999 Min/sec on, 0-999 Min/sec off, automatic cycling. Accuracy quartz, Power output should directly drive misting unit load upto 4.4 KVA, Input 200 V to 240 VA.C, Phase-Single, 50 Hz, Ambient 4°C to 50°C, RH upto 90%.</p> <p>Water Cooling Pad System Complete set Evaporative Cooling System (ECS) - Parameters. Technical Parameters Pad:</p> <ol style="list-style-type: none"> Made up of impregnated cellulose and treated for efficient cooling. Paper ambient condition 25°C - 45 °C Estimated cooling load : 101,520 BTUs/ Hrs. Total water flow 7.56 LPM per sq. ft. of the top pad surface. Bleed of equal to 10% of total water rate. Eco friendly. High saturation efficiency, No setting or Shrinkage. Low pressure drop characteristics. <p>CELDEK COOLING PAD ACCESSORIES:-</p> <p>Tray Material : 18/20 GA Al sheet for side and top. Over flow : At least 20 mm PVC Drain : At least 32 mm standard PVC. Construction Material :- 20 Ga GI Sheets : Tray Side, Top etc Cooling Media : 100 mm thick at velocity of 1 to 3 M/s for efficiency from 60 to 95 %.</p> <p>Filtration : On line micro fiber filter. Miscellaneous : Galvanized Fasteners, Rivet- Aluminium. Water Tank : PVC Tank 1000 lit -2nos Pump : 1.5 Hp Monoblock – 2nos Axial Flow fan : 04 nos. 40 x 40 Mesh for extra protection from deserts sand/dust</p> <p>Evaporative Cooling System (ECS): Fan & Pad system (Pad size (For each chamber): 5’ Height x 26’ x 4” thick) with Cellulose Pads to acquire proper CFM of air movement per sq.ft of area. Even water delivery through distribution pipe. Slow water contamination and efficient water flow, online water filter, capacity calculated on required water flow rate. Water softening facility to prolong the life of the pad and filtration unit (RO with about 1500 litter capacity/hour). Heavy duty Slow Speed Axial Flow Fans with Aluminum / GI louvered covering to achieve temperature 10°C - 8°C below ambient through out the year. Polymer water storage tank 500 liter capacity, 1.5 HP motor (ISI make), Filter, GI water</p>
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			<p>Distribution and return system and other accessories. Filter screen (at least 40 x 40 mesh) cover for the external surface area of the fan and pad are to avoid dispersal of transgenic pollen</p> <p>Misting System Misting System Micro Humidification to create the 95% ±5% humidity:- Installation with leakage prevention device (LPD) fogger should not drip during the function. Working pressure - 4 bar at this pressure, the average droplet size :- 50 to 100 µm. Density :- One fogger to 0.3 m – 0.4 m² for propagation. Type of Mister - Cross way nozzle, hanging type (Upright). Fogger discharge range - 7.0 LPH Pipe Imported - 16 mm LLDPE (10 kg/cm²) colour BLACK with red strip . Motor - 1.5 HP monoblock pump (ISI Make)-2nos Filter (Screen) - Kelva make-2nos. Pressure meter - 10 bar one.-2nos. Return gutter, control valve assembly Tank : 1000 ltr (ISI Make)-2nos.</p> <p>Benching System (complete) Heavy duty GI welded with 10 gauge spot-welded GI bench with anti corrosive, humidity resistant treatment with top load bearing capacity of bench 500kg. Size: 8' x 3' x 2'-6" (L x W X H)</p> <p>Electrical Device High quality ISI approved fittings with copper multi strand twisted Fire Resistant Grade (ISI make) wires stds. of safety with proper M.C.B. with appropriate electrical points of 5/15 Amps combined.</p>
2.	Horizontal Laminar Air Flow	02	<p>Inner and outer chamber made up of stainless steel 304 finish Microprocessor based control panel with LED Display sliding/motorized Glass door Internal working area of approx 4 ft x 2 feet x 2 feet Cleanliness level: Class 100 with particle count HEPA filter: H 14 as per EN 1822 – 99.997% @ 0.3 micron with pre-filters having 85 % efficiency for particles >0.5 µm (Washable) Unidirectional Vertical Down flow of average air velocity :0.45 mps (90 fpm or above) Working area having illumination of >1200 Lux (>100 foot candles) using fluorescent tube lights with UV germicidal Light for sterilization Single phase 220-240 V 50 Hz AC induction motors with backward curve impellers Sound level below 60 dB stainless steel pipe mounting stand with castor wheels Fitted with Cock for Gas Connection and 15/5A socket inside chamber Fitted with Static pressure Manometer</p>
3.	Air conditioners	03	<p>230 V / 50Hz / Single phase Split Air conditioner (cool only type) , 24000 BTU/hr with Minimum EER of 3.5, not more than one year old model of reputed brands.</p> <p>Eco-friendly Refrigerant R-32 or improved with low Ozone layer</p>

			<p>depletion potential</p> <p>High performance copper condenser.</p> <p>Auto start with memory function /self diagnosis function</p> <p>Silver ion/Anti- acarian /Anti bacterial /Anti dust filters</p>
4.	Vertical Autoclave	01	<p>Fully Automatic Vertical Autoclave with working chamber dimensions of 550 x 760 mm (22x30") , volumetric capacity of 90-100 Liters having SS wire type carriers (2 nos.)</p> <p>Inner and outer chamber made up of heavy duty stainless steel</p> <p>Microprocessor based controller time and temperature programmable</p> <p>Backlit alphanumeric two line 32 characters LCD display with displays of all information including process and set values.</p> <p>Operating and Display range up to 122°C in 0.1°C resolution and a controlled accuracy of ±0.5 °C, 15 psi pressure</p> <p>Pt100 sensor and float switch based precise monitoring with low water level alarm and cut off.</p> <p>220 V /50Hz single phase power supply</p> <p>Comply with govt. approved safety standards.</p>
5.	Racks for Tissue culture	10	<p>Made up of S.S. or Mild Steel angle frame and shelves with powder coated corrosion resistant paint.</p> <p>5 self, each shelf 50"x18", shelf to shelf distance 16", fitted with 16 florescent tubes (36 W), 8 bulbs.</p> <p>Individual ON/OFF switches for each shelf with single timer and power cord per rack.</p> <p>Input 220-240V AC, 50Hz single phase, working temperature 5°C to 45°C, RH upto 90%.</p> <p>Lockable castor wheel for easy mobility.</p>