



Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu
Dean, Faculty of Agricultural Engineering,
Main Campus, Chatha -180009

Notice Inviting e-Tender

e-NIT No: AUJ/Dean/FoAE/HADP/F-49(B)/23-24/60-64

Dated:- 09-02-2024

For and on behalf of the SKUAST-J, tenders are invited by e-tendering mode from the eligible registered/specialized firms dealing in the field for the work given below:-

Group No.	Name of Work	NIT Amount (Rs in lakhs)	EMD (Rs in lakhs)	Completion period	Class of Contractor	Cost of Tender Document (in Rs.)
1	Construction of Hi-tech green house (500 sqm) with micro-irrigation facility, foggers and automated temperature & light control facility for SKUAST-Jammu at Main Campus, Chatha on Turn key basis under AI based & IoT driven operations in Vegetable and Floriculture under HADP project title Sensor based Smart Agriculture.	35.00	70,000/-	03 months	Authorized registered/specialized firms dealing in the field	2000.00

1. The Bidding documents/NIT can be downloaded from the website <http://jktenders.gov.in> from 13-02-2024 to (9:30 A.M.) to 27-02-2024 (4:00 P.M.). Bid document contain qualifying criteria for bidder, specifications, terms & conditions and other details/requirements.
2. a) The bids shall be deposited in electronic format on the website <http://jktenders.gov.in> from 13-02-2024 to (9:30 A.M.) to 27-02-2024 (4:00 P.M.). The Technical bids received will be opened on or after 28-02-2024 online. Financial bids of only those bidders will be opened online who are found technically responsive by the evaluation committee/Standing Works Committee.
b) The complete bidding process will be online.
c) The contractors/Firms are advised to go through the Technical specifications mentioned in the NIT and quote the rates after visiting the site of work.
3. List of original copies of tender documents to be scanned and uploaded with the bid:-
 - i. Copy of Registration card duly renewed for the financial year 2023-24 valid upto ending March, 2024.
 - ii. Copy of PAN Card
 - iii. Copy of GST Number.
 - iv. EMD in the form of CDR/FDR pledged in favour of Comptroller, SKUAST-J, Main Campus, Chatha, Jammu. The earnest money shall be forfeited if:
 - a) Any bidder/tenderer withdraws his bid/tender during the period of bid validity or makes any modifications in the terms and conditions of the bid.
 - b) Failure of successful bidder to furnish the required performance security within specified time period after issuance of letter of acceptance.

- c) Failure of successful bidder to execute the agreement within 07 days from the issuance of allotment of work
 - v. Demand draft towards the cost of tender documents, drawn in favour of Comptroller, SKUAST-J, Main Campus, Chatha, Jammu. **Hard copy of the same along with EMD shall be deposited in the Office of the Dean, Faculty of Agricultural Engineering, SKUAST-J, Chatha, SKUAST-J -180009 (J&K U.T.) by or before 27-02-2024 upto 4:00 P.M., failing which the bid will be rejected.**
 - vi. Undertaking duly signed in the shape of affidavit that the Contractor/Firm, if he/she will be the lowest/successful tenderer after opening of the financial bid, he/she has to deposit the Performance Security of 3 % of quoted amount in the form of CDR/FDR pledged in favour of Comptroller, SKUAST-J, Main Campus, Chatha, Jammu
 - vii. The Contractors/firms who have got Contractors Card issued from Kashmir Province, it is mandatory for them to upload their Verification Certificate of Crime Branch/issuing authority alongwith other qualifying documents failing which their tenders will be declared non-responsive.
 - viii. Undertaking duly signed in the shape of affidavit that the Contractor/Firm has never been debarred or blacklisted by any Govt./Semi Govt. Boards and Corporations and all certificates enclosed by him are correct.
 - ix. Detail of experience in the field of establishment of Green Houses.
 - x. Proof of having a registered office in India
 - xi. Audited balance sheet of last two years having Annual turnover of not less than INR 2.00 crore/ITR for past two years.
 - xii. The contractor/firm has to upload his complete address, Mobile No. and Email address alongwith the bid.
 - 4. The original instruments/documents in respect of Performance Security and other documents must be produced by the successful bidder/tenderer at the time of allotment in the office of the **Dean, Faculty of Agricultural Engineering, SKUAST-J, Chatha**
 - 5. If the uploaded documents are found fake/fraudulent, disciplinary action as warranted under rules shall be taken against the defaulter.
 - 6. The bid for the work shall remain open for acceptance for a period of 120 days from the date of opening of technical bids. Price escalation will not be allowed.
7. To participate in bidding process:-
- i. The bidders have to get Digital Signature Certificate (DSC) as per Information Technology Act-2000 to participate in online bidding.
 - ii. The DSC will be required for digitally signing the bid. The bidders can get above mentioned digital certificate from any approved vendors. The bidders who already possess valid DSC need not to procure new DSC.
 - iii. The bidders have to submit their bids online in electronic format with DSC. The bids cannot be uploaded without Digital signature. No proposal will be accepted in physical form.
 - iv. Bids will be opened online as per time schedule mentioned above.
 - v. Before submission of online bids, bidders must ensure that scanned copies of all the necessary documents have been attached with bid.
 - vi. The department will not be responsible for delay in online submission of bids whatsoever reasons may be.

- vii. All the required information for bid must be filled and submitted online.
- viii. The details of cost of documents, EMD specified in the tender documents should be the same, as submitted online (scanned copies) otherwise bid will not be accepted.
- 8. The letters/notice etc. duly posted on the given address shall be considered as having been delivered to the contractor.
- 9. Any other information / clarification can be had from the office of the undersigned on all working days from 9:30 a.m to 5:00 p.m. and email id: foaskuastj@gmail.com

Note:- Only scanned copies of original Cost of tender document, Undertaking, Registration Card and other documents will be accepted, failing the bid will be rejected.

Terms and Conditions:-

1. The successful bidder shall have to enter into agreement with the University, before the supply order/work order is issued.
2. The bidder will be responsible to fulfil all formalities of the supply himself/herself.
3. Bids must be accompanied with earnest money (EMD) pledged to Comptroller, SKUAST-Jammu.
4. The University will be at liberty to add or alter any terms and conditions while finalizing the supply order/agreement, which will be a binding on the bidder.
5. It shall be exclusive right of Central Purchase Committee, SKUAST-J to accept or reject any or all offers including lowest offer either wholly or partly without assigning any reason thereof.
6. In case any clause of the terms/condition, as laid down in tender document/ agreement, is affected by *force majeure*, then the decision of Directorate of Research, SKUAST-Jammu will be final.
7. The Hon'ble High Court of J&K at Jammu will have the jurisdiction to settle disputes, if any, in respect of the present Tender.
8. The bidders shall quote prices which shall be inclusive of all taxes, while filling the BOQ Excel Sheet. The breakup of basic rates and taxes shall be shown while quoting the rates.
9. The taxes as admissible/applicable during the process and at the time of procurement shall be levied on the supplier/bidder.
- 10. The rate quoted by the firm must be inclusive of AMC for three years.**
11. The successful Bidder shall have to impart training to staff members being nominated by the Department for proper handling and maintenance of Hi-Tech Green Houses.
12. The 100% of the contract amount shall be released after the Hi-Tech Green Houses have been established and satisfactory report about their functioning is received from the Technical/Verification Committee, constituted in this behalf and performance security of 3 % shall be received after AMC contract period of 3 years.
13. Income tax on the value of supply under rules shall be deducted at source.
14. The successful Bidder shall have to complete the works within 90 days from the date of issuance of the work order.
15. If the successful bidder/supplier fails to deliver/complete the work of the Hi-Tech Green Houses partially or wholly within the period specified in the contract, the purchaser, without prejudice to other remedies available under the contract, shall deduct from the contract price, as liquidity damages, a sum equivalent to 0.5% every week to a maximum of 10% after which the contract shall be treated as cancelled.
16. The bid should be submitted in the English language only.
17. In case the materials supplied by the supplier/bidder are not found as Per specifications mentioned in the tender notice and other certified documents, the same shall be rejected and supplier must lift the supplies at his own risk, responsibility and cost. Further, EMD of such supplier shall be forfeited and the supplier shall be black listed.
18. Annual financial turnover of the bidding firm should be minimum 1NR two (02) Crore and above for last 2 years.

19. Civil & Structural drawings should be attached with technical bid.
20. List of Clients should be enclosed for reference, so that the Technical Committee, as constituted can visit the site/s, if necessary.
21. Bidders may inspect the proposed sites before quoting the prices.
22. Bidder's Firm should have experience of at least 02 years for establishment of Hi-Tech Green Houses/polyhouses. Documentary evidence of work and proof of successful completion should be enclosed.
23. Technical bids shall be assessed by a Technical Committee to be constituted by the Government on the basis of:

Detail of experience in the field of Establishment of Green Houses	Details to be given by the bidder.
Proof of having a registered office in India	A certificate from the concerned authority.
Annual turnover /financial soundness	Audited balance sheet of last two years having Annual turnover of not less than 1NR 2.00 crore/ITR for past two years.
Scientific/Technical expertise	A detail to be given by the tenderer.

Principal Investigator(s)
SKUAST-Jammu

No: AUJ/Dean/FoAE/HADP/F-49(B)/23-24/60-64

Dated:- 09-02-2024

Copy to:-

1. Director Research, SKUAST-J, Chatha. This is in reference to his office letter No. AUJ/CPC/23-24/5507 dated 07.02.2024
2. Chairman CPC, SKUAST-J, Chatha. This is in reference to his office letter No. AUJ/CPC/23-24/5507 dated 07.02.2024
3. Comptroller, SKUAST-J, Main Campus, Chatha
4. I/C Data Centre, SKUAST-J, Main Campus, Chatha for uploading of NIT on the University website
5. SVC for timely publication of NIT in two local dailies as per **Annexure "A"** having wide circulation.

Annexure “A”



Sher-e-Kashmir University of Agricultural Sciences & Technology of Jammu
Dean, Faculty of Agricultural Engineering, Main Campus, Chatha -180009

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Note:-1. Further details can be seen from the website <http://jktenders.gov.in>

2. Tenders will be uploaded only on <http://jktenders.gov.in> and contractors registered on this website will be able to submit their bid online. The department reserves the right to reject any or all tenders without assigning any reason (s). The tenderer should read terms and conditions instruction carefully before filling the price bids (BOQ). E-tendering without Digital Signature Certificate (DSC) will not be accepted by electronics tendering system.

Principal Investigator(s)
SKUAST-Jammu

GREENHOUSE SPECIFICATIONS AND DESIGN
(Components & Design)

Detailed specifications of Hi-Tech Polyhouse with Fan & Pad System (Size 500 Sq.m)

S.No.	Product
01	Size- 500 Sq.m (includes side corridors). Length 25m, Width : 20m Shape- Saw-tooth (tap vent). Gutter orientation should be north- south, pad should be in a wind direction and must have covered elevated balcony for shade. Side height (gutter height)- 4m Centre height – 5.5 m Bay width: 8m x 4m Span No: 02

Specifications

S.No.	Item	Specification/Dimension
1.	Structure	Folding/dismantable, on nut bolts, structure should with stand to minimum wind velocity of 130 Km/hr
	Pipes for columns, purlins, trusses	60 mm, 48mm, 32mm (OD), 1.8-2.00 thick GI pipe hot dip galvanized structure of BIS standards All structure, Rafters, PurlIns, Trusses are galvanized and design as per IS 875 standards. All GI steel pipe are as per IS 1239/3601 standard, All pipes of ISI standard with 2mm thickness. Foundation Pipe: 60 mm OD 2mm GI pipe. The foundation pipe will be 4 ft. Column Pipe: 76 mm OD x 2mm thickness GI pipe. Bottom 60mm OD x 2mm thickness GI pipe. Arch pipe: 42mm OD x 2mm thickness GI pipe. PurlIns pipe: 42 mm OD x 2mm thickness GI pipe. Bracing pipe: 32 mm OD x 2mm thickness GI pipe. Curtain Pipe: 25mm OD x 2mm pipe.
2.	Clamps, Fasteners and Nut Bolts	Galvanized with good quality of plating to have good anti corrosive properties
3.	Foundation /Civil work	Telescopic: Columns are fitted over ground bolted to insert pipe of 60mm/50mm 2mm thick compatible GI pipe, length of insert 1 to 1.1m of 30 cm x 90 cm size in 1:2:4 PCC ratio
4.	Poly Locks	Poly lock profile will be made up of GI section fixed with zigzag spring of GI material with 12 gauge to withstand the maximum wind load
5.	Cladding Material	High quality UV stabilized 5 layered (of any reputed brand) LDPE Sree 200 micron thick with drip lock (anti drip) diffused, anti-dust, anti-condensed and properties.
6.	Shade net:	50% UV stabilized White color, provided inside the structure with manually folding spreading system (or any reputed brand) Minimum 12 Gauge GI wire will be used to fix shade net with sliding arrangement for opening &

	<p>closing as per requirement. Pulleys assembly with nuts & bolts will be provided</p>
7.	<p>Curtain rings & Curtain clamps with respect to standard specification will be provided. Fabric UV stabilized (minimum 150 GSM) will be used for side apron which will be of 1m above ground level.</p>
8.	<p>Side and top ventilation Side ventilation of insect net of 30/40 mesh, rolling curtains on C2 sides with manual chain rollup system Top vent with insect net of 30/40 mesh, without rolling curtains rolling system with gear boxes</p>
9.	<p>Entrance room & Door One Ante room of size 2 m x 2 m x 3 m (L x W x H) will be provided and covered with UV stabilizes 200-micron film. Two hinge doors of size 1m width & 2m height double door and made of polycarbonate sheet. '</p>
10.	<p>Fogging and Drip System: Four-way foggers (droplet size less than 50-100 micron is giving better results) having operating pressure of 2.5 kg/cm² fixed on 16mm laterals (2.5 kg/cm²) (of any reputed branded) are to be installed just below the shade net with sufficient overlapping to get uniformly in distribution of vapours for getting uniform climatic condition. Foggers can be operated only at very essential conditions. Never operate before 10.30 am and after 3 pm. At a stretch, forger can be operated only for 5 sec through Timer Controller Etc. (with Grid 3mtr x 3 mtr). Working pressure 4 bar at this pressure, the average droplet size 50 µm. Type of Foqgger: Cross way nozzle, hanging type (of any reputed branded), Cool Pro Fogger discharge range - 28 LPH With suitable Motor &Conrifugal pump (CC/ KIRLOSKAR/ any reputed brand) Pressure meter- 10 bar one, Return gutter, control valve assembly.</p> <p>Drip irrigation</p> <p>1. Network pipes: Main PVC pipes: 60 mm 6 kg. as per IS: 4985:2000 S/M: PVC Pipes: 50 mm 6 kg used as lateral for drip irrigation. Drain PVC Pipes: 40 mm 6 kg.</p> <p>2. Fitting & Accessories: Heavy duty - including the PVC, elbow, Tee bend solvent cement, filter flanged. GI wires etc</p> <p>3. Inline tube: Inline hydro Goal 16 mm dripping land among each cow with 2 LPH normal flow rate.</p> <p>4. LDPE Lateral pipe: Misting line with 16mm</p> <p>5. Head connector& gasket rubber grommet connect the PVC sub main pipe line</p> <p>6. Barbed connector: Barbed connector 16 mm to connect the inline hydro gel lateral.</p> <p>7. Filtration System: Disc filters of matching capacity</p> <p>8 Dripper: 2 liter/hours, with 30 cm dripper to dripper distance self-flushing, non-drain, low profile, top outlet, micro tubes & pegs.</p> <p>9. Air Release Valve: Long lasting and safe operation of the system</p>

	<p>10. Control Valve: Appropriate required the timely opening and closing system must be Operation</p>
<p>11.</p>	<p>EVAPORATING COOLING SYSTEM (ECS) TECHNOLOGY FOR COOLING SYSTEM</p> <p>ECS CONSTRUCTION MATERIAL : Eco friendly 18 GA aluminum Extrude section: Tray Side , Top etc Cooling media. 100 mm thick cellulose pad at velocity of 1 to 3 m/s to give efficiency from 60 to 95 %. Filtration: Joshi ISI 25 to55 viscous In lino micro fiber filter for 30μ efficiency Miscellaneous: Fasteners, Galvanized, Rivet- Aluminium PVC pipe 20 mm/25mm/32mm with elbow & Tee for over Flow & drain pipe Water Tank PVC Loft Tank 500 liters. Monoblockpumpset : 1 HP with thermal protection. (Crompton /servo make) Axial Flow fan : 50" (4 Nos.) in each compartment.</p> <p>Technical Parameters of Celdek Cellulose Pad: Evaporative cellulose. pads are made from a specially formulated cellulose paper impregnated wih special compounds to prevent rot. early moss formation and ensure a long service life. Coldek pad is made of specially impregnated cellulose and treated to provide efficient watts. Paper ambient condition 25⁰C - 45⁰C. 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 rates, High saturation efficiency. Self-cleaning feature. No setting or Shrinkage of product, Low pressure drops characteristics. Impregnation makes the material stiff and self-supporting. CeL Pad Cross angle: a = 45⁰b = 45⁰ Nominal Efficiency: 88% Bleed:10 % Temperature: 10 to 12⁰C below ambient @45% RH. Cooling Pad Size : 16mtr x 1.5 x 100mm</p> <p>Evaporative Codling System (ECS): Fan & Pad system (with Celdak Cellulose Pads to acquire proper CFM of air movement per sq.ft of area) will be provided. Even water delivery through distribution pipe will be ensured. Water bleeding mechanism will be built into lessen water pollution. The Bleed off rate will be set to a 10-w valve (Through BCW, technology) 5% less than the evaporation rate. Slow water contamination and efficient water flow, online water filter, capacity calculate don required water flew rate will be , provided</p>
<p>12.</p>	<p>AUTOMATIC CONTROL SYSTEMS: Microprocessor Photosynthesis control Panel for TEMPERATURE, HUMIDITY and LIGHT will be fixed in Buffer Area. Relative humidity + Temperature Real Time Microprocessor Controller Programmable photoperiodic Controller, Cyclic Timer, Mains Switch (Rotary)L&T make. Individual Indicator Technical specifications</p>

	<p>MICROPROCESSOR PHOTOSYNTHESIS MONITOR PANEL With Mains ON/OFF Switch (reputed Make), Light Indicator for main Light, Heating, Coolin& Humidity. Relative Humidity + Temperature Real Time Microprocessor Controller Input: RH: Temperature sensor Display. RH: Upper: 4 digits. 7 segment 0.56" (14. 2 mm) green LED Display, Temperature: Lower: 4-digit, 7 segment 0.56" (14.2 mm) red LED display Accuracy: RH: +/- 3% RH Temperature: +/-0.3% deg C</p> <p>Micro climatic Temperature Controller Specifications: Feathers touch operation. Set point locks within the setting panel to protect setpoint changes. Level lock to ensure that the parameter can be read but cannot be changed Sensor failure indication. Real time micro processor based PID Controller 4 digit LED display for displaying measured (14mm, 8mm) /displaying settings, soft touch operation. Platinum sensor probe PT-100 Selection of unit°C.°F Display resolution 0.1°. Automatic hysteresis control. Wide selectable temperature range, ranges from 0° to 100°C 4 KVA load can be directly connected to the powered output. Input- 200-240 VAC. 50 Hz Single phase. Ambient 5°-50°C. RH upto 90%.</p>
13.	<p>Plant Work Station / Benches Benches consist of GI round pipe 20mmx2mm thick. Nut bolts. Bench top width will be 0.9 m (0.45 m one partition + 0.45 in 2nd partition). Length 50 RM ,8 benches of 6.25m each. Aluminium Tee 30mm x 30mm to support plastic tray - G.I. rust resisting benching fixed</p>
14.	<p>Seedling Trays: Seedling trays having .99 cavities with plastic base tray (300 nos)</p>
15	<p>Standard illumination System: Two number LED 100-Watt flood lights (reputed brand) will be provided in the Naturally Ventilated Poly house.</p>
16.	<p>Civil Work: Foundation base block height 2.5' x 9" x 9" each in CC 1:2:4. Wall for Hi-tech Green house 1.0' below earth surface. 2 .5' above earth surface 9" wide. exposed surface plastered_ with cement sand in 1:5 2 sides (fan & pad)</p>
17.	<p>Heating System: Electric heat blower system 2.5 Kw Complete uniform heat circulation system has been given in this heat, so that the heat can be blown In the complete.</p>