

Total No. of pages in tender document 35 (Thirty five) pages

TENDER FORM



**Acharya N.G.Ranga Agricultural University
REGIONAL AGRICULTURAL RESEARCH STATION
TIRUPATI- 517502, CHITTOOR DT.**

NOTICE INVITING TENDER (Online version)

Sl.No.	Item	Description
1.	Department Name	Regional Agricultural Research Station, Tirupati
2.	FILE / NIT Number	File No. 104/Admn.IV/2017
3.	Tender Subject	Purchase of Equipment for RARS, Tirupati.
4.	Cost of Tender Document	Not applicable
5.	Tender Type	Open
6.	Tender Category	Products
7.	EMD Amount for provisions(INR)	2% of the Bid value
8.	EMD payable:	The Associate Director of Research, RARS, Tirupati payable at Tirupati on any nationalized bank only
9.	Bid Document Downloading Start Date	23.09.2021 04.00PM
10.	Bid Document Downloading End Date	07.10.2021,12.00PM
11.	Last Date & Time for Receipt of Bids online	07.10.2021,04.00PM
12.	Submission of all the uploaded documents (Hard Copies) at the Regional Agricultural Research Station, Tirupati on or before	11.10.2021,04.00PM
13.	Technical Bid Opening Date and Time(Qualification and Eligibility Stage)	12.10.2021,02.00PM
14.	Price Bid Opening Date and Time (Financial Bid Stage)	after finalization of technical bid
15.	Place of Tender Opening	Regional Agricultural Research Station, Tirupati.
16.	Tender Inviting / Opening authority	Associate Director of Research, Regional Agricultural Research Station, Tirupati.
17.	Address/E-mail id	adr.rarstpt@angrau.ac.in , ao.rarstpt@angrau.ac.in
18.	Contact Details/Telephone	08772248739
19.	Procedure for Bid Submission	<p>1. Bids shall be submitted online.</p> <p>2. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website http://www.apecurement.gov.in.</p> <p>Note: After tendering, all Bidders should submit the attested copies of the uploaded certificates along with original EMD to the Associate Director of Research, RARS, Tirupati on or before , failing which their tender will be summarily</p>

		<p>rejected.</p> <p>Transaction fee on e-Procurement Platform(Corpus fund): All the participating bidders shall pay a transaction fee (non-refundable) as mentioned in the NIT payable to M/s APTS, Vijayawada and through on line. (0.04% of estimate contract value + GST as applicable).It is mandatory for all the participant bidders from 20.08.2020 to pay a Non-refundable Transaction fee electronically to the M.D., A.P.T.S, Vijayawada by the service provider through "Payment Gateway Service on E-Procurement platform".</p> <p>The Bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on e-Procurement Platform and the bids not authenticated by Digital certificate of the bidder will not be accepted on the e-Procurement platform</p>
	General Terms and Conditions and specifications of the equipment/Items	AS PUBLISHED IN THE TENDER DOCUMENT

Sd/-L.Prasanthi
Associate Director of Research
Regional Agricultural Research Station
TIRUPATI

**ACHARYA N.G.RANGA AGRICULTURAL UNIVERSITY
REGIONAL AGRICULTURAL RESEARCH STATION, TIRUPATI**



E-PROCUREMENT NOTICE

Tender Notice No. 104/Admn.IV/2017

Date:22.09.2021

E- Procurement tenders are invited from the manufacturers or their authorized dealers or reputed firms for Supply of “**Purchase of Equipment for RARS, Tirupati.**”

Details are as follows:-

1)	Tender document online opening date	23.09.2021,04.00PM
2)	Tender document download online closing date	07.10.2021,12.00PM
3)	Last date for Bid- Submission Online	07.10.2021,04.00PM
4)	Submission of all the uploaded documents (Hard Copies) at the Regional Agricultural Research Station, Tirupati on or before	11.10.2021,04.00PM

- Bidders shall have GST Registration (for details log on to www.aps.gov.in)
- For details visit www.apecurement.gov.in

For any clarification, please contact:

CONTACT: 0877-2248739

Sd/-L.Prasanthi
Associate Director of Research
Regional Agricultural Research Station
TIRUPATI

GENERAL TERMS AND CONDITIONS

1. Tenders will be accepted through on-line up to **07.10.2021 until 04.00 PM** by the Associate Director of Research, Regional Agricultural Research Station, Tirupati for the supply of Equipment for Regional Agricultural Research Station, Tirupati , in **Annexure-I**.
2. All the interested bidders have to mandatorily log on to e-procurement web site through Secure mode only and submit their bids using digital certificates (signing certificate – single key pair) obtained from Andhra Pradesh Technology Services Ltd. [APTS – Sub CA] in-compliance to Chapter III of IT Act 2000. The details and procedure for obtaining digital certificates is given at <https://tenders.approcurement.gov.in>.
3. The tenders are invited **by Associate Director of Research, ANGRAU, Tirupati** for the supply of Equipment for RARS, Tirupati in **Annexure-I**.

ELIGIBILITY TO PARTICIPATE IN TENDERS

1. Manufacturers or their authorized Dealers or reputed firm sare eligible to quote in this Tender. Authorized Dealers should attach Letter of Authority from the Principal manufacturer to quote in this Tender.
2. The Dealers/Makers should be registered firms and should have authorization certificate from principals in case representation of the international firm.
3. The Tendered shall supply good quality items as per Standards.
4. The Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right to reject the tender of blacklisted companies and those of companies whose past performance with the Regional Agricultural Research Station, Tirupati was unsatisfactory due to delayed / erratic supplies, frequent product failures etc.,

SUBMISSION OF THE ON-LINE TENDER FORMS

Tenders have to be submitted in two parts in ONLINE in the prescribed proforma i.e., Technical Bid (Part-I) and Financial Bid (Part-II).

1. Financial Bids of those Tenderers who qualify in Technical Bid will only be considered for finalization of the tender.
2. The Tenderer may please note that all the columns in the Technical Bid are to be filled in meticulously with precision, with documentary evidence wherever necessary.
3. All the required documents / enclosures / literature / technical catalogs etc., have to be uploaded & attached along with Technical Bid (Part-I of the Tender) only. Technical catalogues for quoted item is essential. Tenders submitted without technical literature of the item will be summarily rejected. Eligibility for Financial Bid (Part-II of the Tender) will depend on the outcome of documents uploaded / electronically attached to Technical Bid

THE SCHEDULES FOR OPENING OF TENDERS THROUGH ONLINE ARE:

12.10.2021 at 02 .00 PM	Opening of Technical Bids i.e. Part-I
	Financial bid shall be opened after finalization of technical bid

1. The dates scheduled for RECEIPT and OPENING of tenders are fixed and will not be changed under any circumstances. However, the Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right of postponement of the date of opening of Tenders or date of opening of financial bids in the event of any unforeseen reasons.
2. If for any unforeseen reasons, the last date for submission of tenders and opening of Tenders happens to be a holiday, the notified dates automatically get postponed to next working day.
3. The Associate Director of Research, Regional Agricultural Research Station, Tirupati is “Not Responsible” for non-receipt of tenders or late uploading of tenders on online for any reason, what so ever.
4. Failure to fill and sign the declaration and check slip shall make tender invalid.

DOCUMENTS TO BE ELECTRONICALLY ATTACHED:

1. All the documents are arranged in the serial order, (*Serial Numbers and Page Numbers should be indicated on the right side top of the corner*) then uploaded to the e-Procurement web site i.e., <https://tenders.apecurement.gov.in>.

Sl.No	Code No.	Name of the Document
1.	E-I	Declaration Form (Annexure-II)
2.	E- II	Manufacturing License / Authorization letter from the Manufacturing firm
3.	E- III	Earnest Money Deposit
4.	E- IV	VAT/Sales Tax/GST Clearance Certificate or payment particulars for preceding two years along with supporting Documents. (2019-20 & 2020-21)
5.	E- V	Annual Turnover Assessment order for the preceding two years (2019-20 & 2020-21) certified by Commercial Tax Officer / Chartered Account
6.	E- VI	Copies of balance Sheet, Profit and loss Account for last two years i.e. (2019-20 & 2020-21) duly certified by the Auditor
7.	E – VII	Copy of GST Registration Certificate
8.	E-VIII	Users list for the item/ equipment during past 4 years
9.	E- IX	BIS / ISO/ CE issued by the Competent Authority
10.	E-X	APSSIDC/NSIDC/MSME Certificate, if applicable

Sl.No	Code No.	Name of the Document
11.	E- XI	Government Ownership Certificate, If applicable
12.	E- XII	List of service centers with contact details for each of the equipment

5. If for any unforeseen reasons, the last date for submission of tenders and opening of Tenders happens to be a holiday, the notified dates automatically get postponed to next working day.
6. The Associate Director of Research, Regional Agricultural Research Station, Tirupati is “Not Responsible” for non-receipt of tenders or late uploading of tenders through online for any reason, what so ever.
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2. **All the documents are arranged in the serial order, (*Serial Numbers and Page Numbers should be indicated on the right side top of the corner of each page*) and then uploaded to the e-Procurement web site i.e., <https://tenders.approcurement.gov.in>.**

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Sl.No	Code No.	Name of the Document
		the equipment

3. The Tenderers are requested to submit the following for verification on or before **11.10.2021 until 04.00PM physically or by post**. The Associate Director of Research, Regional Agricultural Research Station, Tirupati is not responsible for any postal delay.

- a) Check slip of all the documents uploaded
- b) Copies of all the documents, which were uploaded

Note: This is only for cross verification of the uploaded documents. Any required document failed to upload, the bid shall become invalid, even though documents are produced physically.

4. All the enclosed documents shall be in English or Hindi or Telugu, *If Any Document is Produced in any Language Other than English or Hindi or Telugu, True Translation copies of Such documents in English Shall be enclosed duly attested by a Gazetted Officer.* Failure to submit English translation of such documents shall make tender invalid. All Originals are to be presented at the time of scrutiny for verification.

TRANSACTION FEE

All the participating bidders shall pay a transaction fee (non-refundable) to M/s APTS, Vijayawada and through on line. (0.04% of estimate contract value + GST as applicable). It is mandatory for all the participant bidders from 20.08.2020 to pay a Non-refundable Transaction fee electronically to the M.D., A.P.T.S, Vijayawada by the service provider through "Payment Gateway Service on e-Procurement platform".

EARNEST MONEY DEPOSIT (EMD)

1. Earnest Money Deposit as indicated below in the form of crossed demand draft / pay order drawn on any scheduled bank in favor of The Associate Director of Research, RARS, Tirupati and this E.M.D. The E.M.D. of unsuccessful tenderers will be returned after signing the agreement with the successful tenderers.

Particulars of EMDs :2% of the Bid value.

2. All the bidders shall invariably upload the scanned copies of DD/pay order towards EMD along with the bid, in e-procurement platform and this will be the primary requirement to consider the bid responsive.
3. The DD/pay order should be deposited to this office while producing hard copies for verification.
4. Cheques, Cash deposits, Term Deposits or Fixed Deposits will not be accepted towards Earnest Money Deposit.
5. However the exemption of **Earnest Money Deposit will be given to Small Scale Industrial Units, Registered** with the Government of Andhra Pradesh and the National Small Scale Industries Development Corporation, New Delhi or the firms with specific exemption orders issued by competent authority of Government of Andhra Pradesh or Government of India. The order should be uploaded in the e-procurement platform in place of DD in case of any such claim.

6. The items permitted by S.S.I. Registration Authority will only be considered for manufacturing aspect only. IF ANY FIRM QUOTES ITEMS OTHER THAN THOSE COVERED UNDER S.S.I. REGISTRATION, E.M.D. SHALL ACCOMPANY THE TENDER. Failure to enclose E.M.D. shall make such of those items not covered under S.S.I. Certificate invalid for consideration.
7. Earnest Money Deposit of other tenders deposited with this office during any period of time shall not be considered for this tender.

SECURITY DEPOSIT

1. The successful Tenders(s) shall within 7 days, after the Associate Director of Research, Regional Agricultural Research Station, Tirupati written notice of acceptance of the Tender has been posted to him or them, deposit with the Associate Director of Research, Regional Agricultural Research Station, Tirupati a sum of rupees@ 2% of the cost of items inclusive of all taxes (or the authority may fix the amount according to the value of the tender) as a security for the fulfillment of the contract. Performance bond guarantee can also be considered, as security deposit in addition to the EMD. The Earnest Money Deposit/Security Deposit shall carry no interest. *The Security Deposit to be deposited will be in addition to the Earnest Money deposit.*
2. The Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right to forfeit and confiscate Earnest Money Deposit, if the successful Tenderer(s) fail to pay the Security Deposit which is required under the Terms and conditions of this Tender.

FORFEITURE / REFUND OF THE EARNEST MONEY DEPOSIT / SECURITY DEPOSIT

1. In case the selected Tender(s) does not supply the stores at the quoted rates within the period of contract and commits any breach of any one or more of these terms and conditions, the Earnest Money deposited by Tenderer(s) will be forfeited by The Associate Director of Research, Regional Agricultural Research Station, Tirupati.
2. Earnest Money of the unsuccessful Tenderer(s) shall be refunded on signing the agreement with the successful tenderers by the concerned component authority of ANGRAU, Guntur. No interest is payable by The Associate Director of Research, Regional Agricultural Research Station, Tirupati on such deposits.
3. The Earnest Money and Security money deposited by successful Tenderer(s) shall be retained by the Associate Director of Research, Regional Agricultural Research Station, Tirupati till three months after the expiry of the contract period, i.e., 12 months from the date of acceptance of the tender or the date on which the supply which may arise in consequence of repeat orders placed during the 12 months for which the rates quoted are to remain valid.
4. **On due performance and satisfactory completion of the order in all respects during the contract period, the Earnest Money Deposit and the security deposit will be refunded to the Contractor(s) without any interest within a period of 3 months with effect from the date of receipt of a request to this effect from the supplier(s).**

VAT/SALES TAX/GST CLEARANCE CERTIFICATE

Attested Photo Copy of GST / VAT / Sales Tax Clearance Certificate and Sales Tax Payment particulars obtained from the competent sales tax authority of the area concerned for the years (2019-20 & 2020-21) shall be attached. Certificates older than that shall not be considered. Those not liable for GST/VAT/Sales Tax payment under relevant rules should produce a certificate to that effect from the competent authority.

MANUFACTURING LICENSE:

1. Attested Photocopy of the Latest Manufacturing License, which is in vogue shall be enclosed. If the firm has applied for renewal of license, necessary authenticated proof from the concerned Licensing Authority shall be furnished. **Licenses issued for test and Analysis will not be considered.** The product/item quoted by the tenderer shall be underlined with “Red Ink’. The License number and date should also be underlined with ‘Red Ink’. The abstract of the product quoted should be enclosed. **The Manufacturing License should clearly indicate a minimum of two years of manufacturing and marketing experience. Items without the proof of two years of Manufacturing and Market experience will summarily be rejected.**
2. The tenders received without proper license, authenticated list of item covered by license and authorization letters from actual / original manufacturers are liable for rejection without any further notice.
3. Tenderers should enclose documents to show that manufacturing Unit has been recognized with the ISO Certificate etc.
4. Tenderers should enclose documentary evidence of having manufactured and marketed the product for two years.

BIS/ISO/CE etc CERTIFICATES (whichever is applicable):

1. Tenderer should produce BIS / ISO/ CE etc. certificate (wherever applicable) issued by the concerned Licensing Authority.
2. Tenderers should enclose BIS / ISO Certificate for products wherever applicable.
3. The certificates whichever is applicable and claimed should be furnished with supportive documents.

TERMS AND CONDITIONS FOR COMMERCIAL AGREEMENT:

1. The details of the required items are shown in e-procurement **Web Application**. Rates should not vary with the quantum of orders or destination.
2. **The rates quoted shall be in Indian Rupees only and must be expressed both in figures and words as well. The rate of each category of item should be quoted. The rates quoted should be inclusive of all the applicable taxes and “FOR destination” (destinations for the items are mentioned in Annexure-I). However, the applicable taxes and packaging costs if any etc. should be clearly indicated in the price bid.**
3. Tenderers who are supplying the items offered in this tender to other states shall enclose the copies of latest invoices to support of their claim that the rates quoted to ANGRAU are comparable.
4. No Insurance charges will be paid by the Department / Indenter.
5. The rates quoted by the tenderer shall not exceed the controlled rates, if the Government controlled rates are in force on the date of submission of tenders. In the absence of controlled prices, the tenderer shall quote reasonable price applicable to bulk purchases.

6. All rates quoted by the bidder should be valid for a period of One year from the date of acceptance of the lowest Bid.
7. The rates offered in the tender shall not exceed the M.R.P. as well as the lowest price at which the firm sells the product of identical description to any other department or organization or person anywhere in the State / neighboring states of A.P. If such incidences of quoting higher rates to this RARS, Station come to the notice at any time, during the course of Rate Contract for the rest of the Rate Contract period, the Associate Director of Research, Regional Agricultural Research, Station, Tirupati reserves the right to initiate an appropriate disciplinary action against such firms including black listing them.
8. IF ARTIFICIALLY LOW RATES ARE QUOTED, the ASSOCIATE DIRECTOR OF RESEARCH, REGIONAL AGRICULTURAL RESEARCH STATION, TIRUPATI RESERVES THE RIGHT TO CROSS-VERIFY THEM AND IGNORE THEM FROM CONSIDERATION IN ORDER TO PREVENT UNETHICAL TRADE PRACTICES.
9. **Ordinarily, the tendered items will be selected based on the lowest rates quoted by the firms in the Financial Bids. However, the tender committee reserves the right to select the product even with higher rates depending upon the reported performance / market reputation / efficacy of the item basing on the user reports / feedback given by the end users, ignoring the lowest rates.**
10. If tenderer quotes the rates at his will, overlooking the conditions in the previous paragraphs, the tender is liable for cancellation even after approval of tender and firms will face suitable legal action for such action at any time during the Rate Contract period.
11. Rates quoted should be marked clearly with main price and taken separately. Total price after taking all the actuals will be taken as financial quote for comparison.
12. **No representation towards upward revision of rates once accepted will be considered. DSIR and other certificates for custom exemption will be provided by RARS, Tirupati.**
13. The rate quoted and accepted will be binding on the tenderer for the stipulated period and on no account will any increase in the price be entertained till the completion of tender period.
14. No tenderer shall be allowed at any time on any ground what so ever to claim revisions of or modifications in the rates quoted by him. Clerical error, typographical etc., committed by the Tenderers in the tender forms shall not be considered after opening of the tenders. Conditions such as “SUBJECT TO AVAILABILITY” “SUPPLIES WILL BE MADE AS AND WHEN SUPPLIES ARE RECEIVE” etc., will not be considered under any circumstances and the tenders of those who have given such conditions shall be treated incomplete and for that reason shall be summarily rejected.
15. No company / Firm which has been blacklisted either by the Regional Agricultural Research Station, Tirupati, A.P or ANGRAU or by any State Government or Central Government / Organizations shall participate in the Tender during the period of Blacklisting. If any such firm participates and came to know at a later stage, and if any firm is Black listed at a later date either by the Government of Andhra Pradesh or any other State / Central Government will not only be debarred / Black listed permanently and their security deposit /EMD whichever is available with the Department will be forfeited and any business / transactions will be stopped with their firms forthwith.
16. The indented stocks shall be delivered at respective institutes or research stations as indicated in Annexure-I at the cost of the supplier.
17. The rates should be quoted separately for each item.

AGREEMENT

1. Every successful tenderer on intimation by this office shall execute an agreement on Rs.100-00 (Rupees One Hundred only) non-judicial stamp paper in the prescribed form, which will be supplied along with the list of item tentatively approved. Agreement should be typed only on one side of stamp paper with due attestation on each page.
2. **In the event of failure to execute agreement in proper form along with the Security deposit by successful tenderer within (10) days, the EMD of such tenderer will be forfeited and such defaulters will forego the right to participate for future tenders for a minimum period of (3) year.**

DEMONSTRATION OF THE ITEMS:

1. The Tenderer may have to arrange for demonstration of the functioning of the items as per specifications with the Associate Director of Research, Regional Agricultural Research Station, Tirupati, in case of necessity.
2. If the item is declared to be not of standard quality or not meeting the specified requirements, it will be deemed to be rejected. If any item supplied by the tenderer is used after supply and is subsequently found to be not as per specifications, unsound, inferior in quality or description or are otherwise faulty or unfit for use, then the cost of such item will be recovered from the tenderer, if the payment had already been made, in addition to penalty. *The approved firms shall Re-Supply the item.*

OTHER CONTRACTUAL OBLIGATIONS

1. The contract shall not be capable of being varied except by written consent by both the Associate Director of Research (purchaser) and the supplier shall not in the absence of the specific written acceptance be bound by any provisions of the supplier's quotations, offers etc., which purport to impose conditions at variance with this contract.
2. The supplier shall not sublet or delegate this contract or part thereof without the written consent of the Associate Director of Research, Regional Agricultural Research Station, Tirupati. Such consent shall not however be withheld unreasonably. But the Tenderer(s) may without the consent of The Associate Director of Research, Regional Agricultural Research Station, Tirupati purchase material as he/they does not normally manufacture.
3. The supplier shall keep confidential all matters concerning this contract and comply with all reasonable security requirements. All drawing, blocks, specifications, manuscripts, samples etc., supplied by the Associate Director of Research, Regional Agricultural Research Station, Tirupati and all copies thereof shall be returned to the Associate Director of Research when their use is terminated. In no event the supplier(s) shall permit publicity concerning this contract without the prior consent of the Associate Director of Research, Regional Agricultural Research Station.
4. Any undertaking or commitment given by or made by any Officer or the Associate Director of Research verbally or in writing does not have any validity unless it is signed again by the authority competent who concluded an agreement earlier.

INSPECTION AND PACKING

1. At all reasonable time during production and prior to dispatch of material the supplier(s) shall afford and secure for the representative of the Associate Director of Research, Regional Agricultural Research Station, Tirupati every reasonable access and facility at his plant or premises for its inspection and making of usual tests on behalf of the institute. The supplier(s) shall advise the scheme at least 7 days prior to the time when

any material is ready for final inspection. The Associate Director of Research, Regional Agricultural Research Station, Tirupati will then make the inspection and subject to the material being in all respects as specified and being of sound quality and workmanship the representative of the Associate Director of Research, Regional Agricultural Research Station shall sign or countersign a certificate of inspection.

2. a) The supplier(s) shall supply to the Associate Director of Research, Regional Agricultural Research Station, Tirupati on request a report from time to time as to the progress of supplies. Any delay or anticipated delay will be reported at once together with the full reasons there for.
b) The responsibility of procurement of transport facilities and dispatch of the stocks in good condition and as per specifications and in time/door delivery lies with the supplier(s) and they must keep up the delivery schedule at any rate.
c) The insurance should be done at the cost of supplier(s) as the rate quoted is all inclusive for door delivery at respective institutes or research stations as indicated in Annexure-I.
3. Should the progress in supplies be delayed due to any cause beyond the reasonable control of the supplier(s) and whether such delay or impediment occurs before or after the time for dispatch, reasonable extension of time might be granted by agreement between the parties.
4. The supplier(s) shall insert in each case 3 copies of packing list, fully item wised to show case number, contents and full description of the contents. The concerned in-charge of the stores of the respective institutes or research stations as indicated in Annexure-I at the receiving point will retain one copy with him and return the other two copies, duly signed to the supplier(s) who will append one copy of this packing list with invoices when sent to the concerned for payment.

SUPPLIES AS PER SPECIFICATIONS

1. All supplies shall be to the description and to the specifications laid down and in strict accordance with the approved samples. Deviations, if any should be clearly brought out failing which it will be normally construed that the materials offered are not to our requirements. Any special features may also be clearly brought out.
2. The decision of The Associate Director of Research, Regional Agricultural Research Station, Tirupati however shall be final as to the quality of supplies received and binding upon the supplier(s) in case, the supplier(s) supplies any other article than what is ordered such article supplied, not being approved, shall be liable to be rejected.
3. If the Associate Director of Research, Regional Agricultural Research Station, Tirupati requires any changes in specifications the supplier(s) shall use his best endeavor to comply with The Associate Director of Research, Regional Agricultural Research Station, Tirupati's wishes subject to fair fixation of prices and delivery schedule where appropriate.
4. If at any time during the term of this contract, the plans of the Associate Director of Research, Regional Agricultural Research Station, Tirupati changes for any reasons the Associate Director of Research, Regional Agricultural Research Station shall have the right to terminate or alter this contract by sending fifteen days notice to the supplier(s) by Registered letter. In respect of such of the material as it complete and ready for dispatch within thirty days of such notice, the Associate Director of Research, Regional Agricultural Research Station, Tirupati agrees to accept delivery thereof at the contract price and terms.

5. CONSEQUENCE OF NON-SUPPLY AND DAMAGES

1. All risks of loss, damage or depreciation to goods shall be upon the supplier(s) until the material is delivered at the addresses specified and in accordance with the provisions of the contract. Till the material received at the respective destination indicated by The Associate Director of Research, Regional Agricultural Research Station, Tirupati the property continues to be at the risk of the supplier(s). The mere fact that the material is delivered to transporter is no defense to the supplier(s) and the supplier(s) will be squarely held responsible for any delayed receipt of the material by the respective research stations or institutes as indicated in the Annexure-I or for loss of damage of any kind to the material in transit.
2. Assuming that the supplier(s) fails to deliver any or all the materials covered by the contract, The Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right in addition to other legal remedies, to cancel the contract or any portion thereof and hold the supplier(s) liable for all damages sustained by virtue of the supplier(s) failing to perform the contract and consequent cancellation of the contract.
3. In the event of the supplier(s) failing to complete the supplies in time or according to the approved specifications, The Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right to make such arrangements as it may think fit for the completion of the supplies on account of and the sole risk of the supplier(s).
4. In case the goods are not supplied according to specifications, they will be summarily rejected.
5. The time allowed for delivery of goods shall be deemed to be the essence of contract. In case the goods are not delivered to the respective addresses as indicated in the Annexure-I within the stipulated period, the Associate Director of Research, Regional Agricultural Research Station, Tirupati reserves the right to recover the liquidated damages a sum equal to 2% of the contract price of the undelivered material per week subject to a maximum of 5% of the value of undelivered material. The Associate Director of Research, Regional Agricultural Research Station, Tirupati also reserves the right to cancel the purchase order in case supplies are delayed beyond the scheduled date of delivery and to make such arrangements as he may think fit for the completion of supplies on account and at the risk of the supplier(s). The additional expenses thus incurred together with the consequential losses and also the liquidated damages shall be recovered from the supplier(s) out of his/their security deposit/Earnest Money deposit and any other amount due to him/them. The balance still if any payable by the supplier(s) shall be paid by him/them within 7 days of notice by The Associate Director of Research, Regional Agricultural Research Station, Tirupati.
6. All invoices shall be prepared in four copies and shall be signed by the supplier(s) or his/their authorized agent(s). Every invoice shall bear a certificate to the effect that the material covered by the invoice(s) has been inspected by the supplier(s) before delivery and confirm in every way to the contract specifications and is packed in accordance with the contract requirements and further that the invoice is correct in every particular and no other invoice has been rendered previously in respect of the articles charged in the particular invoice. The invoice in triplicate along with advance stamped receipt shall be raised in the name of heads of the respective research stations or institutes as indicated in Annexure-I.

7. The payment of the bills shall be made by the heads of the respective research stations or institutes as indicated in Annexure-I duly deducting the statutory deductions, if any.

PENALTIES

1. If the successful tenderer fails to execute the agreement and / or deposit the required security deposit within the time specified or withdraws his tender after the intimation of the acceptance of his tender has been sent to him or owing to any other reasons, he is unable to undertake the contract, his contract will be cancelled and the Earnest Money Deposit deposited by him along with his tender shall stand forfeited to the heads of the respective research stations or institutes as indicated in Annexure-I and he will also be liable for all damages sustained by the heads of the respective research stations or institutes as indicated in Annexure-I by reasons of breach, such as failure to supply, including the liability to pay any difference between the prices accepted by him and those ultimately paid for the procurement of the articles concerned. Such damages shall be assessed by the heads of the respective research stations or institutes as indicated in Annexure-I, whose decision is final in the matter.
2. Non-performance of contract provisions will disqualify a firm to participate in the tender for the next three years.
3. In the event of tendered supplies failing quality test, contract with the tenderer will be suspended and purchases made from alternative suppliers. *Such firms may be black listed for three years* beginning from the year following the one in which defective supplies were detected. The tenderer shall also be liable for action under criminal law and the matter shall be notified to the concerned Licensing Authority.
4. In all the above conditions, the decision of the ASSOCIATE DIRECTOR OF RESEARCH, REGIONAL AGRICULTURAL RESEARCH STATION, TIRUPATI shall be final and binding.
5. In the event of any dispute arising out of the tender such dispute would be subject to the Jurisdiction of the Civil courts within the city of Tirupati.

SETTLEMENT OF DISPUTES

1. Any difference or dispute arising out of or in connection with this tender or acceptance thereof or the contract that may be entered in consequence thereof, shall be decided by arbitration. The Associate Director of Research, Regional Agricultural Research Station, Tirupati or his nominee shall be the sole arbitrator and the arbitrator's decision shall be final and binding on the parties. The Tenderer(s) will have no objection to such appointment on any ground whatsoever including that such nominee, in his official capacity dealt with this matter at any stage.
2. The parties hereby agree that in the event of any dispute no cause of action shall arise in their favour to approach any court unless they have resorted to and exhausted the remedy of arbitration as envisaged above.
3. The parties also do hereby agree that the contract envisaged by these terms and conditions shall be deemed to have been entered into at Tirupati alone will have jurisdiction to try and legal proceedings which may arise out of this contract. Neither party shall file any proceedings in any other court.

Sd/-L.Prasanthi
Associate Director of Research
Regional Agricultural Research Station
Tirupati

RKVY-RAFTAAR
Advanced centre for Agro climate Research and Weather Forecasting at RARS,
Tirupati.

ANNEXURE-I
(Technical Specifications)

WEATHER DISPLAY UNIT

Code No.	Specifications	Quantity / Unit / System / package
AACRC-01	<p>a) Multi color Digital display board with cabinet size of 47.64 x 79.13 inches</p> <p>b) The display board should be covered with UV resistant and impact resistant LEXAN polycarbonate.</p> <p>c) Industrial grade SMPS</p> <p>d) P8 display</p> <p>e) Should have LAN connection</p> <p>f) Provide an application that can be installed in PC</p> <p>g) It should pick the data from the ASCII/TXT file and refresh.</p> <p>h) When LAN connectivity or the PC is offline - the LED board should show old data.</p> <p>i) Should have serial interface via RS232 or RS485.</p> <p>j) It should have protocol document that can read ASCII.</p> <p>k) Board should have required length of 5 mt. (or) more communication cable as per the requirement.</p> <p>l) PC software to send the data to LED board.</p> <p>m) Board should display multiple languages.</p> <p>n) Voltage : 230V</p> <p>o) Mounting should be provided depending on site of installation.</p> <p>Quoted along with user list, manual for user application, warranty period and all other accessories required for the successful install, demonstration and functioning of the unit.</p>	01

MICROMET TOWER (ADDITIONAL REQUIREMENTS)

Code No.	Specification	Qty.
AACRC-02	<p>Remote Data analyser system in Laboratory for Micromet Tower (1 No.):</p> <p>Intel Core i7 7700 7th Generation Processor / H110MC / 21.5" Monitor / 8GB DDR4 Ram/HD Graphics/Windows 10 Pro/MS Office / 1TB Hard Disk/DVD / WiFi</p>	01

	<p>Smart Digital Data display system for Micromet Tower (1 No.):</p> <p>Display: 65 Inch (165.1 cm), LED, 4K, 3840x2160, WI-FI,Internet, 3 USB, 3 HDMI Port</p>	
	<p>UPS power system for Remote Data analysis system in Laboratory for Micromet Tower (1 No.):</p> <p>UPS with necessary charging unit to be deployed at Laboratory for Remote Data analysis system in Laboratory, 2KV</p>	
	<p>Extended warranty per year for first two years after standard 1 year warranty for EC system after installation</p>	

TIME DOMAIN REFLECTOMETER (TDR) ALONG WITH PROFILE PROBES AND ACCESS TUBES

Code no.	Specifications	Quantity
AACRC-03	<p>The TDR probe should have capacity to measure the soil moisture upto 100 cm soil depth at different depth intervals. It should have high quality inbuilt/integral soil moisture sensors on TDR probe. Sensor should have the flexibility of connection and disconnection quickly and easily. The TDR probe should have the high quality connector for reliable and adaptable connectivity with wide range of cable length and connectivity options. Also should have the protective tube to cover the probe. The measurement of accuracy should be $\pm 0.04 \text{ m}^3 \times \text{m}^{-3}$ or better with a wide range of temperature. The probe should be light weight for easy movement in the field and weight should not be more than 1 kg. (one set)</p>	01
	<p>The TDR probe should have high quality and durable fibre glass tube for installation in augured hole including tube caps. The length of the access tube should be 100 cm or more. The diameter of the access tube may be narrow for easy installation in the soil profile and the diameter of accesstube ranges between 25 to 30 mm diameter. (40 in number)</p>	
	<p>The moisture meter (for TDR probe) should be compatible with TDR probe. It should have minimum 1.5m cable length for connect TDR probe to moisture meter and also should have high quality connector for sensor, PC connection, connector cap, software (data collection software), battery and cable assembly. (One set)</p>	
	<p>Augur kit of suitable diameter for access tube installation up to 100 cm even in hard soil. It should also include access tube insertion, stabilization plate, and access tube insertion rod. (One set)</p>	
	<p>Also quote for compatible data analyzer device with high end to utilize the data for different applications with adequate storage facilities (2 TB), memory capacity (8 GB), high end processor (7th generation i7 processor), Hard disc capacity 2 TB, CD/DVD disc drive, super multi DVD burner drive, memory card reader, key board, mouse and input devices. (One set)</p>	
	<p>Company should have adequate technical competence for providing service and repair of the instruments.</p>	

	Quote along with user list, manual for user application, warranty period and all other accessories required for the successful install, demonstration and functioning of the unit.	
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SOIL HEAT FLUX SENSOR

Code No.	Specifications		Qty
AACRC-04	Temperature Range	-30° to +70°C	01
	Plate Thickness	0.20" (5 mm)	
	Plate Diameter	3.1" (80 mm)	
	Weight	7.05 oz (200 g)	
	Sensor	Thermopile with film heater	
	Measurement Range	$\pm 100 \text{ W m}^{-2}$	
	Signal Range (nominal)	$\pm 5 \text{ mV}$ for $\pm 100 \text{ W m}^{-2}$ range, 0 to 2 V while film heater is powered	
	Thermal conductivity	$0.8 \text{ W m}^{-1}\text{K}^{-1}$	
	Power consumption during Self calibration	1.3W (108 mA @ 12 Vdc)	
	Sensitivity (nominal)	$67 \mu \text{ V W}^{-1} \text{ m}^{-2}$	
	Sensor Resistance (nominal)	2Ω	
	Heat resistance (nominal)	100Ω	
	Current sensing Resistor	100Ω , 1%, 0.25 W	
	Others	Quoted along with user list, manual for user application, warranty and all other accessories required for the successful install, demonstration and functioning of the instrument.	

NET RADIOMETER

Code No	Specifications	Quantity / Unit / System / package
AACRC-05	<ol style="list-style-type: none"> 1. Model : CNR-4 Net Radiometer (Kipp and Zonen) 2. Shortwave (SW) measurements : Incoming SW and reflected SW (WMO standard) 3. Longwave (LW) measurements : Downward LW and upward LW (WMO standard) 4. Number of signal outputs : 4 5. SW spectral range : 300 to 2800 nm 6. LW spectral range : 4.5 to 42 μm 7. Field of view (SW) : 180° for incoming & 170° or better for reflected radiation 8. Field of view (LW) : 180° for downward & 170° or 	01

	<p>better for upward radiation</p> <p>9. Response time (95 %) : <20s</p> <p>10. Non-linearity (over full range) : < 1%</p> <p>11. Temperature dependence of sensitivity : < 5 % from -10 °C to +40 °C</p> <p>12. Sensitivity : 7 to 20 $\mu\text{V}/\text{W}/\text{m}^2$ or better in short-wave 5 to 10 $\mu\text{V}/\text{W}/\text{m}^2$ or better in long-wave</p> <p>13. Operating temperature : -40° C to +80 °C</p> <p>14. Accessories : Data Logger (Logbox-SD) Ventilation Unit Mounting Bracket Heater</p> <p>15. Quoted along with user list, manual for user application, warranty period etc.</p>	
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INFRARED GAS ANALYZER (IRGA) WITH CHLOROPHYLL FLUORESCENCE (PORTABLE PHOTOSYNTHESIS SYSTEM)

Code No.	Specifications		Quantity / Unit / System / package
AACRC-06	CO₂ – Detector: Range (1 No.)	0-3000 $\mu\text{mol} / \text{m}^2 / \text{sec}$ or ppm or better Sensitivity : 1 $\mu\text{mol} / \text{mol} / \text{m}^2 / \text{sec}$ / or ppm or better	01
	Type of CO ₂ Detector	<ul style="list-style-type: none"> • Differential in time IRGA System design , auto zero, automatic • Atmospheric pressure and temperature compensation. • IRGA should be adjacent to the Leaf Chamber Head to eliminate the Back Pressure Effect 	
	CO ₂ Detector Response Time	<ul style="list-style-type: none"> • Fast Response time • Auto-zero cycling should be reduced to significantly improve system • Response without any loss in analyser stability. IRGA should be adjacent to the Leaf Chamber Head for the faster response and to avoid Back pressure 	
	Warm up time	5 minutes or Lesser.	
	RH / H₂O detector: Range	<ul style="list-style-type: none"> • 0-75 mb or Higher • 0.1 mbar resolution or better 	
	Leaf Chamber (1 No.)	6.0 cm^2 leaf chamber or higher. A tripod for the leaf chamber should be provided for continuous field application. Provision for analysing the atmospheric canopy CO ₂ at different elevation level up to 2 meter Height.	

Measuring Parameters	Photosynthesis, Transpiration, Stomatal Conductance / resistance, PAR, H ₂ O in air / air temp, leaf temp, Intercellular CO ₂ concentration CO ₂ Observation in the plant canopy at a Height of up to 3 Meter Height. Chlorophyll Parameter (PAM principle): F ₀ ,F _v /F _m ,F ₀ ' ,F _v '/F _m ' (YII) and ETR Supplied with a Dark Leaf Clips – 30 Nos (Leaf Chamber Fluorometer /or independent Pulse Amplitude Analysing Device/Kit should be provided) – for quenching parameter
Photosynthetic Active Radiation Range	0-3000 μmols m ⁻² sec ⁻¹ - Silicon photocell
Leaf Chamber Temperature-Range	5°C to 50°C Precision thermistor or thermocouple or Better +/- 0.2°C accuracy or Better
Direct Leaf temperature	<ul style="list-style-type: none"> • 5°C to 50°C or Better • Self-positioning • microchip thermistor/Energy balance/manually positioned thermistor or thermocouple
Flow rate to Leaf Chamber	100 ml / min to 400 ml / min or better
Automatic environmental control –Leaf Chamber (1 No.)	Menu driven software. Automatic and independent Control of environmental conditions within the leaf chamber. For automatic response curves, sequential control levels and time
CO ₂ Injector/Controller (1 No.)	<ul style="list-style-type: none"> • Software Controlled Set point • Up to 2000 ppm CO₂, by integral elevated CO₂ supply injection system. • Exhaust valve to release the residual CO₂ inside the CO₂ source assembly. • 4g of CO₂ cartridge to provide up to 16 Hrs or above of continuous field Experimentations. Software Controlled Set point
RH/H ₂ O (1 No.)	<ul style="list-style-type: none"> • Above and below ambient (Dependent on ambient conditions)
Temp Software Controlled Set point	<ul style="list-style-type: none"> • Software Controlled Set point • Inbuilt -By Micro-peltier element. Broad chamber typically +/- 10°C from ambient or better. Ambient tracking features for chamber temperature Software Controlled.
Scrubbers (1 No.)	CO ₂ Absorber, H ₂ O “Wetter” and Drier column should be available for the application of scrubbing and for controlling the CO ₂ and H ₂ O of leaf chamber

Light (1 No.)	Up to 2200 $\mu\text{mol m}^{-2} \text{sec}^{-1}$, mixed RGB Led array or up to 2400 $\mu\text{mol m}^{-2} \text{sec}^{-1}$ by White LED
Display (1 No.)	Colour touch sensitivity LCD
Memory (1 No.)	On Board or Removable SD cards. Compatible with cards up to 32GB or Better
Battery (1 No.)	Four rechargeable Battery or a single in built battery - Up to 12-16 hours between charges – Should be easily available from Indian Market/Manufactures.
Battery charger (1 No.)	Universal Input Voltage Charger
Data output (1 No.)	Direct USB connection: Function as mass storage device-Plug and read Text file directly from Console for in situ measurement and storage
Operating temperature range	5°C to 45°C or Better
Portability	Console: 5 kg or lesser. Console and leaf chamber should be away by app 1.5 m – enable to prevent the near saturation moisture effect, dust free on the LCD and key pad and easy operation of the Key pad.
Plant leaf chamber	1 kg or lesser weight.
Accessories	Standard accessories such as conditioning chemicals for the CO_2 , Humidity of the Leaf chamber. (1 Kg of each) Minimum CO_2 cartridges of 20 Nos. IR source lamp, Filter. O rings, tools for the maintenance of the Instrument .Additional cable for Chamber to console and One Additional Battery should be provided – Carrying Case for the Portable Photosynthesis System and fluorescence chamber/kit.
Installation, Demonstration and Training	Should be done at our centre for minimum couple of days
	User list, manual for user application, warranty and all other accessories required for the successful install, demonstration and functioning of the unit.

ENVIRONMENTAL CHAMBERS / OPEN TOP CHAMBERS

Code No	Specifications	Qty.
AACRC-07	<p>Construction of Open Top Chamber (1 No.)</p> <ul style="list-style-type: none"> • Size: 4 (L) X 4 (W) X 4 (H) mtr with GI/MS structure with proper foundation and grouting. A suitable door of 6ft x 3 ft size (opening outside) with gasket and automatic door closer to be provided in each chamber. Multi-layered clear polycarbonate sheet with over 85% light transmission level to be used for OTC structure. • Flat and angle aluminium and rust free screw to be used for mounting of polycarbonate sheet. • Polycarbonate sheet- 6 mm thick Multiwall UV Coated(GE Lexan/ Polygal make) • Structure: GI/MS and aluminium with proper foundation and grouting. • Provision for automatic door closer in OTC • Provision for Temperature and Humidity monitoring and control through PC. One temperature sensor with measuring range of 0-50°C with radiation shield and one humidity sensor (0-100%) will be provided 	01
	<p>Details of chamber :</p> <p>1st set Chamber 1: Ambient (Control) Chamber 2, 3 : ambient + Elevated temp (ambient + 5°C)</p>	
	<p>2nd set Chamber 4,5: Elevated CO₂ (550 to 700ppm) Chamber 6, 7: Elevated CO₂(550 to 700ppm)+ Temperature (Ambient + 5°C)</p>	
	<p>Facilities in Each OTC</p> <p>Each OTC will have independent monitoring / control facilities for Temperature and humidity and on line data logging and control to be provided through PC on real time basis. Infrared heating element to be provided with the system. Heating control should be done automatically from the PC based controller. 1 ft reflector and imported infrared heater to be used for heating purpose.</p>	
	<p>Analog module for data logging and control option (04 No.) <u>Analog to RS485 Converter</u> >> 8-CH analog signal acquisition, isolated RS-485/232 output >> 24-bit AD converter, testing accuracy>0.05% >> Can Program and calibrate modules accuracy via RS-485/232 interface >> Input/output: 3000VDC >> Wide power supply: 8~32VDC</p>	

	<p>>> High reliability, easy programming, easy installation. >> Can program setting module address, baud rate >> 0-5V voltage signal or 4-20mA current signal input >> Supports Modbus RTU protocol >> DIN35 Rail-mounted >> Can programme for automatic adjustment of 12hr day + 12 hr night with different temperatures.</p>	
	<p>Supervisory Control and Data Acquisition Software with Wireless Technology (1 No.)</p> <ul style="list-style-type: none"> ✓ Historical & real time basis data through PC. ✓ Memory back up & data storage and free up gradation of software. ✓ License software and dongle or hardware lock of SCADA ✓ Graphical view of data presentation option ✓ integrated SCADA system language ✓ Multilanguage HMI applications TCP/IP Client Server support ✓ symbols and complex graphic objects ✓ communication option via wired or GSM networks ✓ Software accessible from Excel. 	
	<p>Air Temperature sensors (RTD) with Radiation shield (8 No.)</p> <ul style="list-style-type: none"> • PT100 sensor with class ‘A’ element • IP65 weatherproof Head and Radiation shield • Temp.range : 0~50°C • 4-20ma transmitter • SS stem size : 6mm x 10” long • Radiation shield for each temp. sensor • 4-20mA output option for data logging 	
	<p>Humidity sensor with transmitter (8 No.)</p> <ul style="list-style-type: none"> • Power supply : 12~36 VDC • Relative Humidity working range: 0 to 100% RH • Humidity sensing element : Polymer humidity capacitor • Output for humidity : 0~5VDC or 0~10VDC or 4~20mA • Accuracy of humidity $\pm 2\%$ RH • Repeatability: $\pm 0.3\%$ RH • Weather Proof enclose (IP65) to be provided with each sensor 	
	<p>CO2 Monitor (8 No.)</p> <ul style="list-style-type: none"> • Non dispersive infrared absorption (NDIR) method with outputs: analog 4 to 20mA and 0-10 DC • Measurement range :- 0-3,000 ppm display • Warm-Up time :- < 60 second > • Voltage output: - 0-10vdc, 4-20Ma • Power supply - 24vdc • Accuracy :- ± 75ppm or $\pm 5\%$ of reading whichever is greater • Zone LED:- Green:<800ppm> Yellow:<800-1200ppm> Red:>1200ppm • Sound Alarm:- 70db@10cm 	

	<p>CO2 Gas Cylinders and regulator (5 No.) Supply of CO₂ Gas source 05 cylinders of 47 lit capacity with 60 kg pressure with 30 kg CO₂ gas</p>	
	CO ₂ manifold with 5 cylinders connecting capacity with individual preheated option and regulator (1 No.)	
	<p>CONTROL PANEL (1 No.) Panel to accommodate analyzer SCADA Hardware & computer and other accessories</p>	
	<p>CO2 Distribution Line (complete set) ½” UPVC Pipe and fittings/ PU Tubing Pressure : 40 kg , non-corrosive , inert</p>	
	Solenoid valve with 230 V or 24 DC power supply (5 No.) OD ½ inch , normally open or normally closed	
	<p>PC for data acquisition platform (1 No.) PC with 18.5 inch LCD monitor, I-TB HD, 4 GB RAM</p>	
	Cable Tray with necessary support to be provided to lay cable from OTC to control Room (complete set)	
	Instrumentation and power cable, fiber glass cable for heater, Relay card, DOP module, Contactor, RS 485 convertor etc	
	<p>Ceramic infrared Heater with controller (8 No.)</p> <p>Ceramic IR heating module in SS sheath of size 500 x 100 mm with 2 no. FSR 500 heater, reflector, connector. Total load 1000 watt/230VAC</p>	
	Installation, commissioning of project Water line : One water tap in each OTC.	
	Bidder should mention required power supply at site and any other specific requirement to conduct the job.	
	Separate spare list for 3 years operation	
	Minimum 15 order copies of executed OTC Project should be provided by bidders from Universities/Research organization/Govt. Institute/International research organization. Repair work should not count as an order. At Least one international order copy of OTC Project should be provided by the bidders	

AGROMET OBSERVATORY (Automatic Weather Station)

Code No.	Requirement	Qty
AACRC-08	<p>System type Meteorological Monitoring Centre to measure wind speed, wind direction, temperate, humidity, barometric pressure, solar radiation, Soil Moisture, Soil Temperature & rain fall.</p>	01

<p>Data to be transmitted through GSM/GPRS telemetry system or some other remote location.</p> <p>The sensors and data logger should be suitable for marine environment.</p>
<p>Sensors</p>
<p>Wind Speed Range : 0- 50m/s Type : Cup type Accuracy :±3% Resolution : 0.1 m/s Operating voltage: 12 VDC</p>
<p>Wind Direction Range : 0-359.9 degrees Type : Ultrasonic Accuracy 3 degrees Resolution 0.1° Operating voltage: 12 VDC</p>
<p>Temperature Range : -10 ... 60 degree Celsius Type: PT100 Accuracy Temp: <+/- 0.15⁰C deg Resolution 0.1 degree Celsius</p>
<p>Humidity Range: 0% RH to 100% RH Type: capacitive Accuracy: ± 2 % Rh Resolution : 1 %Rh</p>
<p>Solar Radiation Range: 0-1500 Watt/Sq.m Type: Silicon</p>
<p>Rain Guage Precipitation: Liquid Sensor : Tipping bucket rain gauge Catchment Area : 325Cm² Resolution: 0.2 mm Accuracy : ± 2% upto 50 mm/ hr ± 5 % upto 100 mm/ hr Rainfall capacity: unlimited</p>
<p>Data logger: Data logger Should have 3 extra ports to acquire the data from Net radiometer, Sonic anemometer, Soil heat flux sensor</p> <p>Data logger should be able to acquire the data from all the sensors integrated with it.</p> <p>Inputs:</p>

- Minimum 6 analog input channels,
- 4 counter input channels
- 4 digital Inputs
- 1 SDI-12 input
- 1 RS232 input
- interfaces for smart sensors
- calculating channels

Accuracy :

- 16 bit or more
- Linearity: 0.01%

- Common mode rejection: >90dB
- Line series mode rejection: >35dB

- Inter-Channel Isolation: 100V
- Input impedance: 160K_Ω, >100M_Ω
- Common mode range: ±3.5V or ±55V (attenuator on/ off)

Communication

- Ethernet
- Protocol: TCP/IP, Modbus Slave

Display

- 2 line by 16 characters,
- backlight Display

Functions: channel data, alarms, system status.

Keypad: with 5-6 keys for scrolling

Status LEDs: For sample, disk, attention and power

Memory:

- Internal storage should be at least 2GB
- Removable USB store device.
- Types: compatible with USB 1.1 or USB 2.0 drives,
- Should be able to copy the data using Pendrive.

Sampling rate:

- Selectable from 1 min to Hours.

Alarms

- Condition: high, low, within range and outside range
- Delay: optional time period for alarm response
- Actions: set digital outputs, transmit message,

Real Time Clock

- Internal Lithium battery for Clock

Scheduling of Data Acquisition

- Number of schedules: 11
- Schedule rates: 1s to days

Integrated Cellular Modem

- There should be facility to configure the wireless communication option of GSM/GPRS telemetry for real time monitoring.

	<ul style="list-style-type: none"> • Data: Send data to an email address or FTP server • SIM interface: SIM Socket (1.8V/3V) <p>Modem Antenna:</p> <ul style="list-style-type: none"> • Range 8 dBi, SMA Connector to GSM/GPRS modem. Cable Length 3 meter. <p>Operating Temperature range:</p> <ul style="list-style-type: none"> • –45°C to 70°C* • Data logger should validate, calculate and generate the reports of all required parameters. <p>ADC Specifications (Optional)</p>	
	<p>IP rating Data logger: IP 66 or better</p>	
	<p>Accessories</p> <p>Solar Panel with Battery Solar Panel : 50W Battery: 12V_42 Amp. Solar Charger 12 V DC, 2Amps. With Charge control unit For 8 days autonomy to be provide.</p> <p>Weatherproof Enclosure for Data Logger and Battery & Charge Controller IP65 Enclosure for the data logger and IP65 Enclosure for the Battery & Charge Controller. Provides Excitation to the Data Logger, sensors, and Signal conditioners. Material : stainless steel</p> <p>Suitable mast for mounting the sensors, data logger, telemetry system and solar system to be provided 3 pole assembly Height : 16 feet Sensor Arms & mounting assembly Material : GI (Galvanic Insulated)</p>	
	<p>Lightning Arrester for protection of AWS: Conventional Lightening Arrestor Copper coated, Corrosion resistance. Size: 1mtr length and 25mm dia. Supply Of Earthing Rod 88 MMx1 MTR GI Reliable & long average life upto 20 to 25 years. Smooth dissipation of fault, lightning and short circuit current. Capable of absorbing and retaining moisture for a long time period Type of Earthing: Sealed maintenance free chemical filled</p>	
	<p>Offline Software: Logger configuration and Data downloading software: Runs directly from web browser Accessible by Ethernet connection Easy-to-use configuration editor</p> <p>Data logger with Built-in web page & graphical interface</p>	
	<p>Online monitoring Software: Software required for monitoring the data from real time over website link to be provided. Software should enable remote monitoring, management,</p>	

	and control of data at secure and automated platform and Access live and historical data
	<p>WEB HOSTING & GPRS NETWORK SERVICE</p> <p>The supplier shall also be responsible for payment of recurring charges towards WEB HOSTING & GPRS network service for One year warranty.</p> <p>The supplier shall arrange to provide reliable 4G GPRS (3G Compatible) network with very good signal strength for the AWS</p>
	<p>Output:</p> <p>System should have provision of providing the output in TXT and ASCII formats and data transfer facility to display system (LED)</p>
	<p>Installation:</p> <p>Site preparation including all Civil and other related works such as construction of concrete foundation for mast and erection of 16 feet Mast for AWS,</p> <p>Installation and commissioning of AWS including installation of data logger interfacing of sensors, installation and configuration of communication system, site levelling, and installation shall be the responsibility of the Successful bidder.</p> <p>The supplier shall supply of 3 hard bound copies of operation and maintenance manuals and 3 softcopies in USB Drive.</p>
	<p>Freight & Insurance at site:</p> <p>The supplier shall be responsible for supply of all equipment and deliverables including transportation to the filed sites safely without any damage.</p>
	<p>User list, manual for user application, warranty period and all other accessories required for the successful install, demonstration and functioning of the unit.</p>
	<p>*Any additional features for research purpose can also be included</p>

MINI WEATHER TRACKERS

Item No	Specifications	Quantity
AACRC-09	<p>Plant Growth Station for measuring</p> <p>Quantum light sensor : 0-2500 $\mu\text{mol m}^{-2}\text{s}^{-1}$ with accuracy of $\pm 5\%$.</p>	01

	Temperature sensor : -20° to 70°C with GDD measurement : Current and cumulative	
	Soil Moisture/Electroconductivity/Soil Temp Sensor 6 ft. (1.8m) Cable	
	Digital Display unit (LED) and provision of software for collecting the data	
	User list, manual for user application, warranty period to be mentioned	

SONIC ANEMOMETER

Code No	Specifications		Qty
AACRC-10	Speed:		01
	Range	0-10 m/s	
	Accuracy	± 0.2 m/s	
	Resolution	0.1 m/s	
	Direction:		
	Range	0-360°	
	Accuracy	± 2%	
	Resolution	± 1°	
	Compass:		
	Accuracy	± 2°	
	Data logging facility	A suitable data logger with provision of memory sufficient to store average data of 1 sec. to 3 min. interval (selectable) for at least 6 months should be available. Provision to transfer data from data logger to a PC should be provided. It should have user friendly software control instruction / display pad for making changes.	
	Others	Quoted along with user list, manual for user application, warranty period and all other accessories required for the successful install, demonstration and functioning of the instrument.	

HIGH END COMPUTER (WORKSTATION)

Code No.	Specifications	Qty
AACRC-11	<p>Processor 2 x Intel Xeon Silver 4216 (16C/32T 2.1GHz 22MB) processor</p> <p>Chipset Intel C621 chipset</p> <p>RAM 256 GB ECC DDR4 2933 MHz RAM (Max 12DIMMs)</p> <p>Controller SATA3 (6Gbps) storage controller supports RAID 0, 1 & 10</p> <p>SSD 1 x 512 GB Data centre Grade SSD</p> <p>HDD(s) 3 x 4 TB SATA enterprise HDD (system should support for at least 5 HDDs)</p> <p>Graphics Onboard Aspeed AST2500 BMC</p> <p>GPU 1 x Nvidia Quadro P1000 5GB GDDR5 GPU card. Provision for 1 more GPU card in future</p> <p>Network 2 x 1 Gb Rj 45 NIC Ports</p> <p>Management IPMI 2.0 with virtual media over LAN support</p> <p>Exp. Slots 4 x PCI-E 3.0 x 16 slots & 2 x PCI – E 3.0 x8 slots</p> <p>Ports 4 USB 3.0 & 1 x VGA</p> <p>Chassis Tower system – 5u</p> <p>Power supply 1200W High efficiency Power supply</p> <p>OS Open source Linux (Ubuntu / cent OS)</p> <p>Peripherals 1 x 27” LED Monitor with wireless keyboard & Mouse</p> <p>Warranty 3 years comprehensive warranty (onsite / parts / labour) with demonstration and training</p>	01

PRINTER CUM SCANNER

Code No.	Specifications	Quantity
AACRC-12	<p>Memory: 32 MB Interface : Hi-speed USB 2.0 Mobile print: support Monthly duty cycle : 10,000 pages Print speed: upto 30 ppm 2-sided print : Automatic Print Resolution : 600 x 600 dpi, HQ 1200 (2400 x 600 dpi) Warmup time (From sleep mode) : < 9 sec Copy speed : upto 30 cpm Copy resolution : 600 x 600 dpi Multi copy : Yes (upto 99) N-in-1 copying : Support Scan Resolution : Scanner glass: upto 600 x 2400 dpi / ADF: upto 600 x 600 dpi; / enhanced: upto 19,200 x 19200 dpi. Media type: Standard paper tray – Plain paper, thin paper, recycled paper; ADF (Automatic Document Feeder) – Plain paper, Recycled paper Media capacity : 250-sheet standard Media sizes : Standard tray – A4, Letter, A5, A5 (Long edge), A6, Executive, Legal Paper output : 100 sheets Windows : Windows 10, 8, 8.1, 7 Macintosh: Mac OSX v10.2. and above Linux : CUPS, Ubuntu 18 & above Network : support Inbox Toner : 2600 pages Warranty period</p>	01

HIGH SPEED INTERNET

Code No	Description	Quantity
AACRC-13	Laying of optical fiber cable to Advanced Centre for Agroclimatic Research & Weather Forecasting Building, Opp. Devlok, Zoo Park Road	01
	Setting of optical device with router with rental charges for 12 months period	
	4 U rack with 24 port gigabite switch (D-link)	
	Warranty period	

Sd/-L.Prasanthi
Associate Director of Research
Regional Agricultural Research Station
TIRUPATI

ANNEXURE-II

Declaration

1. I/We have not been black listed in any department due to any reasons during last 3 years
2. I/We have not been demoted to lower category in any department for not filing the tenders after buying the tender schedules in a whole year and their registration had not been cancelled for a similar default in two consecutive years.
3. I/We will agree to get disqualified my(our)selves for any wrong declaration in respect of the above and get my/our tender summarily rejected.
4. The soft copies uploaded by them are genuine and not forged. Any incorrectness / deviation noticed can be viewed seriously and apart from cancelling the work duly forfeiting the bid security, criminal action can be initiated including suspension of business and/ or black listing.
5. I/We submitting a demand draft no. _____ dated _____ issued by _____ for Rs. _____ towards the EMD.

Signature of Tenderer

Date

Address

ANNEXURE-III

Check List

Sl.No	Code No.	Name of the Document
1.	E-I	Declaration Form (Annexure-II)
2.	E- II	Manufacturing License / Authorization letter from the Manufacturing firm
3.	E- III	Earnest Money Deposit
4.	E- IV	VAT/Sales Tax/GST Clearance Certificate or payment particulars for preceding two years along with supporting Documents. (2019-20 & 2020-21)
5.	E- V	Annual Turnover Assessment order for the preceding two years 2019-20 & 2020-21 certified by Commercial Tax Officer / Chartered Account
6.	E- VI	Copies of balance Sheet, Profit and loss Account for last two years i.e. 2019-20 & 2020-21 duly certified by the Auditor
7.	E – VII	Copy of GST Registration Certificate
8.	E-VIII	Users list for the item/ equipment during past 4 years
9.	E- IX	BIS / ISO/ CE issued by the Competent Authority
10.	E-X	APSSIDC/NSIDC/MSME Certificate, if applicable
11.	E- XI	Government Ownership Certificate, If applicable
12.	E- XII	List of service centers with contact details for each of the equipment

ANNEXURE – IV
FINANCIAL BID

I/We quote the rates FOR, REGIONAL AGRICULTURAL RESEARCH STATION, TIRUPATI
Inclusive of all taxes, duties, transportation, insurance, installation etc., as below.

<i>Sl. No.</i>	<i>Name of the item</i>	<i>No. of Units</i>	Price per Unit (Rs.)	Total amount (Rs.)

The articles will be ready for delivery within ____ days from the date of receipt of firm orders.

Yours faithfully,
(Signature and stamp of the Tenderer state legal status whether prop.
Partner, Registered firm, Company etc)

Encl: Information brochure enclosed
EMD – DD No. Dt. For Rs. _____

Note: 1. Attach additional sheets giving full particulars such as name and address of the proprietor or list of partners and their addresses or particulars of registered firm or of the company and the specifications of the items furnished.

Rates quoted should be marked clearly with main price and taken separately. Total price after taking all the actuals will be taken as financial q