

**Tender Document
for
Purchase
of
Engineering Instruments/Device/Unit
for
College of Agricultural Engineering and Technology**

Within jurisdiction, Navsari Agricultural University, Dediapada

NAU/CAET/01/2024-25



**Principal
College of Agricultural Engineering & Technology
NAU, Dediapada – 393040
Mobile No. 99135 99332**

Notice Inviting Tender

NAU/CAET/01/2024-25

Tender Document for Purchase of Engineering Instruments/Device/Unit for various laboratories of CAET, Dediapada

Principal, College of Agricultural Engineering and Technology, NAU, Dediapada invites tender for the Purchase of Engineering Instruments/device/unit for various Laboratories of CAET from manufacturer/ supplier/ company. The list of items to be purchased under this tender is given underneath. The detail terms and conditions and tender document are available on website www.nau.in under tender section.

1	Period for Tender document downloading and submitting	13/02/2025 to 28/02/2025 upto 17:00 Hrs.
2	Last date for submission of tender fee, EMD and other documents by RPAD / Courier / Speed post / by hand etc.	28/02/2025 upto 17:00 Hrs.
3	Bid validity period	31/03/2025
4	Tender Fees (<i>Non refundable</i>)	1,500/-
5	Earnest Money Deposit (EMD) (<i>Refundable</i>)	3% of order price
6	Security deposit (Successful bidder) (<i>Refundable</i>)	5% of order price
7	Tender submission / Communication address	Principal College of Agricultural Engineering and Technology Navsari Agricultural University, Parsi Tekra, Dediapada-393 040, Dist. Narmada, Gujarat

Further details can be obtained from above office during working hours. Details are also available on website www.nau.in

Place: Dediapada
Date: 12/02/2025

Principal
College of Agril. Engg. & Tech.,
NAU, Dediapada – 393 040

Tender Fee, Earnest Money Deposit (EMD) and Security Deposit

The bidder shall furnish Tender Fee amounting to Rs. shown as below (Non refundable) and an Earnest Money Deposit (EMD) (Refundable) respective amounting, without which tenders will not be considered. There should be two separate draft for Tender fee Rs. 1500/- (Non refundable) and EMD. The amount should be deposited in the form of only Bank Draft (drawn) in favor of "Principal, CAET AND PAE, Dediapada" drawable at SBI (IFSC Code: SBIN0007787) Dediapada.

Sr. No.	Name of the Item	EMD Amount ₹	Tender Fee ₹
1.	Biochar Production Unit	3% of order price	1500/- (Non refundable)
2.	Water Activity Meter		
3.	Solar Power Meter (Pyranometer)		
4.	Oxygen Analyser (Gas Analyser)		

Refund of Tender Fee: The Tender Fee is non refundable.

Refund of EMD: The Bank Draft (drawn) or banker's cheque of earnest money of unsuccessful Bidder shall be refunded soon after finalization of purchase procedure. The EMD of the successful bidder will be retained till the bid remain valid and will be returned as per the terms of the university on request and submission of original receipt.

Forfeiture of EMD: 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.
- Bidder does not accept the hiring order.
- If the terms and condition not fulfilled anytime.

Security Deposit: Successful bidders have to deposit 5% of ordered price as security deposit which is refundable as per NAU rules.

Terms and Conditions of the Tender

1. Duly filled Tender in sealed envelope should reach the Principal, College of Agricultural Engineering and Technology, NAU., Dediapada, Dist. Narmada by post/courier/register a.d., etc. before **28/02/2025** up to 5:00 p.m. along with tender fee Rs. 1500/- (not refundable) in Demand Draft/Cash in favour of "**Principal, CAET AND PAE, Dediapada**" payable at Dediapada.
2. Please write on top of envelope "***Tender NAU/CAET/01/2024-25: Engineering Instruments/Device/Unit for various Laboratories of CAET***" and mention clearly sender's name and address.
4. Tenders shall be opened as in office working date and time.
5. However, if committee deems proper, the negotiation for the final price will be done with the tenderers. First chance will be given to the lowest price in the chronological order.
6. No correspondence shall be entertained after submission of Tender.
7. Delivery should be made within time limit after receiving supply order at **College of Agricultural Engineering and Technology, Parsi Tekra, Dediapada 393 040, Di. Narmada.**
8. **No advance payment will be made.**
9. No penalty or penal interest will be paid due to delay in payment on account of unforeseeable reasons.
10. Payment will be made only after satisfactory supply and installation/demonstration.
11. Discount if any offered, may please be specified in the tender document
12. Authorized dealer should enclose authorization certificate (Attested photocopy) of manufacturing company.
13. **Attach the separate sheet mentioning detail specifications along with literature/ brochures/ photos.**
14. Provide **the list of your valued customers of the said items in State Agricultural University, ICAR Centers, Other Government and Semi Government Bodies, NGOs, etc in India.**
15. In case of dispute, decision of the Principal, College of Agricultural Engineering and Technology, NAU, Dediapada will be final and acceptable to all the parties.

2. Delivery:

The application for extension of delivery period shall be sent to concern 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.

3. Demonstration:

Supplier has to perform on-site live demonstration as per trial requirements.

4. Warranty:

- 4.1 **Period of Warranty:** The bidder must provide comprehensive onsite warranty for **minimum 1 year 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. GST Guideline:

Navsari Agricultural University is working under of Agriculture, Farmers Welfare & Co-operation Department Government of Gujarat. According to provision made in the notification No. 47/2017 of Ministry of Finance, Government of India GST is leviable at the rate of 5% on the goods specified against serial no. 1 under column 3 of table given in this notification. As per subsequent amendment in notification no 47/2017 notification no. 10/2018, college/Research center of this university is eligible for GST leviable at the rate of 5% on the goods listed in the Tender. A certificate from University will be issued for the said goods after finalization of party.

Date:

Stamp & Signature of Bidder

List of Item with Specifications
TENDER - Engineering Instruments/Device/Unit for
Various Laboratories of CAET

No.	Name of the Item and Specifications	Qty.
1.	<p><u>Biochar Production Unit</u> Type: Batch Biomass filling volume: 150 ltr. Heating type: Wood MOC: Mild Steel With duly Insulated with glass wool and aluminium cladding, Grate, Chimney, hopper for biomass feeding, collection jar for pyrolytic oil, proper piping and control valves Accessories: Granular making machine: 0.5 HP Drive Motor, MS body with Gearbox, Stand and structure material: Mild steel angles</p> <div style="display: flex; justify-content: space-around;">   </div>	01
2.	<p><u>Water Activity Meter</u> A portable compact water activity meter for measuring Water activity measurements to provide information about food safety and quality to indicate susceptibility to microbial spoilage, chemical degradation, texture changes, and inhibited flow properties. Accuracy: ± 0.02 or better Range: 0 to 1.0aW Resolution: ± 0.01 or better Sensor: Dielectric humidity sensor Measurement speed: 5 minutes or better Battery life: minimum 2 years Display: 6-digit LCD display with symbols.3-digit, 3-digit temperature. Warranty: One year from the date of supply. Instrument Case: Stainless steel with silicone elastomer base. Sample dish capacity: Not more than 10-15ml. Calibration standards: 6.0 m NaCl - 0.76 aW. 13.41m LiCl - 0.25aW, 8.57m LiCl 0.500aW, 2.33 m NaCl having 0.920aW, Steam Distilled H₂O having 1.000 aW</p>	01

Operation environment: 5 to 50°C (41 to 122°F). 0 to 90% relative humidity (non-condensing).

Carry case: A carry case should be provided with the instrument, the carry case should have capacity to carry accessory along with the main instrument and accessories like cups, standard vials.

Filters: at least 2 filters should be given for protection of sensor form direct moisture exposure

Sample cups/vessel: One reusable stainless steel cup mandatory. A pack of at least 50 disposable cups and lids should be provided.

Technical Specification for Water activity standards					
Sr. No.	Name of Standard	Pack Size	Qty.	Standard concentration (Uncertainty of standard)	Accuracy
The standard vials should be in a tamper proof sealed vial with expiry dates mentioned on pack. The minimum expiry of the pack should be one year from the date of supply.					
1.	LiCl having 0.250aW	10 vials	1	13.41 mol/kg LiCl (+/-0.5%)	Aw = +/- 0.003
2.	LiCl having 0.500aW	10 vials	1	8.57 mol/kgLiCl (+/-0.5%)	
3.	NaCl having 0.760aW	10 vials	1	6.0 mol/kgNaCl (+/- 0.5%)	
4.	NaCl having 0.920aW	10 vials	1	2.33 mol/kgNaCl (+/-0.5%)	
5.	Steam Distilled H2O having 1.000 aW	10 vials	1	Steam Distilled H2O (+/-0.5%)	

Special Remarks-

- A. Material Safety datasheet (MSDS) should be accompanied with each set of vials
- B. Calibration and validity certificate should be accompanied with each set of vials
- C. Validity of vials should be on year from the date of manufacture
- D. The supplier mandatorily should have an experience of supplying the items to Central and state universities and institutes
- E. These items/standards must be supplied with protocol for use of standards

3. **Solar Power Meter (Pyranometer)**

Material: Aluminum

Type: Thermopile

Technical Specifications:

Irradiance range	0-2000 W/m ²
Temperature response (-20°C to 50°C)	+/- 4.0 %
Standard Cable length	10 meter
Response time (95-99%)	< 20000 millisecond
Output	Analog (mV)
Operating Temperature range	- 40 deg C to +80 deg C
Impedance	50 - 50000 Ohm
Tilt response at 1000 W/m ²	+/- 1 %
Non-linearity at 1000 W/m ²	+/- 1 %
Directional response at 1000 W/m ²	+/- 20 W/m ²
Wavelength range	285 - 3000 nm
Sensor Sensitivity, microvolt/W/m ²	10
Temperature response (-10°C to 40°C)	+/- 4.0 %
Spectral error	+/- 0.2 %

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Non-stability change/5 years	+/- 1.5 %
Ingress protection IP	IP 67
Complete zero off-set	+/- 17 W/m ²
Zero off-set @ 5 K /hr	+/- 5 W/m ²
Zero off-set @ 200 W/m ²	+/- 12 W/m ²
Non-stability change/1 year	+/- 1.5 %
Tilt Angle Measurement (3-axis)	
Sensor Temperature & Humidity Measurement	
Weight (Not Including Cable)	370 gram
Outer Dimensions (Length × Diameter)	72 × 96 mm
Additional Information	
Warranty	5 year
Accessories Included	Sensor unit, Cable with connector, Calibration Report, Angle adjustment SS304 mounting kit, Sun Screen, Fixing Screws, USB data & power cable, Data Processing & recording software, Power Bank, Rugged carrying case, Tripod Mounting, Data logger, Albedo Mounting Kit, Handheld display unit
Calibration Certificate	
ISO 9060:1990	Second Class
ISO 9060:2018	Class C
Standards	ISO 9060:2018, ISO 9060:1990
4.	<p><u>Oxygen Analyser (Gas Analyser)</u></p> <p>The Instrument is capable to measure Oxygen and Carbon dioxide concentration in the headspace of Flexible packages and Rigid Packages such as flow wrap packaging, thermoform-fill-seal trays, pouches, bulk bags, plastic, foil sachets, Cans etc.</p> <p>The instrument uses Zirconia sensor for Oxygen analysis and Single beam Infrared sensor for Carbon dioxide analysis. The instrument is able to measure respiration rate in flexible packages. The instrument has RS232 port to connect to printer.</p> <p>The instrument has Oxygen measurement rage of 0.001 to 100%; Carbon dioxide measurement range: 0.1 to 100%. The instrument has response time of less than 5 seconds for O₂ and less than 10 seconds for CO₂.The instrument has Oxygen accuracy of ±1 on the last digitand CO₂ Accuracy of +/- 2% FSD.</p> <p>The instrument has provision of automatic air Calibration and gas calibration. The instrument also has a provision of built-in alarms for high and low gas concentrations. The instrument works on ambient temperature of +5 to + 40 deg. C. The instrument has a USB port to connect to a Laptop / Desktop computer.</p> <p>Technical Specifications :</p> <ul style="list-style-type: none"> • Oxygen Range Auto ranging from 0.001 to 100% • Carbon Dioxide Range Auto ranging from 0.1 to 100% • Displays Bright 4 Digit LED, Display Hold, Analyser, and Calibration Status Indicators

	<ul style="list-style-type: none"> • Response Time < 5 seconds (O₂), < 10 seconds (CO₂) • Accuracy: Oxygen 10 to 100 %, 0.2 % absolute (max 2 % of reading) and ±1 on the last digit. • 1 to 9.99%, 0.02% absolute (max 2% of reading) and ±1 on the last digit. • 0 to 0.999%, 0.005 % absolute and ±1 on the last digit. • Accuracy CO₂ ±2% FSD • Ambient Temperature +5 to +40°C (41 to 104°F) • Internal Sample Pump Processor Controlled Diaphragm Type • Syringe Injection Via Male Luer Syringe Adaptor (option) • Enclosure Epoxy Coated Steel, Polycarbonate Operators Panel Options • Computer Interface RS232 Port for printer, USB for computer. • Rigid Pack Sampler Extracts samples from cans Includes all necessary fittings and supplies. • Power Requirements: Mains power Universal, 90-264 VAC. 100 Watt maximum 	
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CHECKLIST

Sr. No.	Document / Certificate	Way of submission
1	Forwarding letter	Hard copy
2	Tender Fee: Demand draft of Rs. _____(Non-Refundable)	Hard copy
3	EMD: Demand draft of Rs. _____(Refundable)	Hard copy
4	Tender document duly signed on each page	Hard copy
5	Tenderer's details	Hard copy
6	Checklist	Hard copy
7	Technical specification compliance document	Hard copy
8	PAN card	Hard copy
9	GST Certificate	Hard copy
10	Authorization / Original Equipment Manufacturer (OEM) certificate	Hard copy
11	Income tax return of last three years	Hard copy
12	Catalogue / Brochure showing item detail	Hard copy