

 **NAVSARI AGRICULTURAL UNIVERSITY**   
**NAVSARI - 396450 (Gujarat) India**  
**NIT for E-Tender NAU/DR/04/2018-19**  
**n-Procure Tender Id: 342029**

The PI and Nodal Officer CAAST, Directorate of Research, NAU, Navsari – 396 450 invites online e-tender for purchase of 07 scientific instruments / Machineries in CAAST sub-project & 04 more in other projects. For detailed NIT please visit [www.nau.in](http://www.nau.in) and [www.nprocure.com](http://www.nprocure.com). The last date of filling e-tender online is 19-01-2019 up to 18.00 hrs and submitting hard copy is 21-01-2019 up to 17.00 hrs.

**Sd/-**

**PI & Nodal Officer CAAST, O/o DR & Dean PGS**

**Dt.08/01/2019**

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Directorate of Research  
Navsari Agricultural University, Navsari-396450, Gujarat

**NATIONAL COMPETITIVE BID**

For

Purchase of Scientific Instruments/Machineries

Under CAAST / Other projects

**E-TENDER No.NAU/DR/04/2018-19**

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## Section 1: Tender Notice -

### Purchase of Scientific Instruments

Bids from manufacturer/Authorized dealers/supplier are invited for the purchase of Scientific Instruments/ machineries for Navsari Agricultural University. The list of purchase items under this tender are given underneath. The bids are invited by e-tender through website [www.nprocure.com](http://www.nprocure.com) or [au.nprocure.com](http://au.nprocure.com).

Period for Bid Document Downloading & Uploading	07/01/2019 to 18.00 hrs of 19/01/2019
The Last date for online tender submission	19/01/2019 up to 18:00 Hrs
Last date for physical submission of tender fee, EMD and other documents mentioned in Section 5 (Sr. No. 31) by RPAD / Courier / Speed post	21/01/2019 up to 17:00 Hrs
Bid Validity Period	Upto 31 <sup>st</sup> March, 2019
Tender Fee (to be calculated by tenderer as applicable)	As per Section-6 of tender document
Earnest Money Deposit (EMD) (to be calculated by tenderer as applicable)	As per Section-6 of tender document
Technical documents available on	<a href="http://www.nprocure.com/au.nprocure.com">www.nprocure.com/au.nprocure.com</a>

## Section 2: List of Purchase Items and its objectives

Specification (Please see Section 7, Appendix-IV), tender fee and EMD (please see Section6)

Sr. No.	Name of the Instrument	Objective of purchase
<b>NAHEP-CAAST Sub-Project</b>		
1	Spray Dryer (Laboratory Scale)	<ul style="list-style-type: none"> <li>To dry fruits / vegetables juices or liquids containing solids into powder.</li> </ul>
2	Bio-digester (2 Nos.)	<ul style="list-style-type: none"> <li>To prepare Pseudostem based organic liquid nutrients</li> <li>For further enrichment and Research &amp; Development in organic liquid nutrients</li> </ul>
3	Seasoning cum preservation vacuum pressure equipment (Vacuum pressure wood treatment equipment)	<ul style="list-style-type: none"> <li>For pre treatment and seasoning of wood / wooden log / bamboo / canes</li> </ul>
4	Universal Testing Machine (UTM)	<ul style="list-style-type: none"> <li>Machine should provide following observations/ results such as Peak load, Elongation at Peak load, Break load, Elongation at Break load, % of elongation at Peak, % of elongation at Break, Tensile test at Peak, Tensile test at Break, Flexural stress, Compression Strength, Secant Modulus, Tangent Modulus &amp; Flexural Modulus, Elongation percentage at yield load, Modulus of Elasticity, Elongation at yield load among samples of wood and wood products</li> </ul>
5	Automatic weighing and body condition scoring system	<ul style="list-style-type: none"> <li>To record bodyweights and body energy reserves on daily basis in hassle free mode, analysis of obtained body weight and energy reserves to find out production and herd health related issues.</li> </ul>
6	Milk analyzer	<ul style="list-style-type: none"> <li>For routine analysis of milk samples and adulteration if any by most advanced technology option available for milk analysis.</li> </ul>
7	Ultrasonic milk analyser and somatic cell counter machine	<ul style="list-style-type: none"> <li>For in depth analysis of milk constituents and evaluation of udder health.</li> </ul>
<b>Other Projects</b>		
8	Atomic Absorption Spectrophotometer (under Buyback Scheme)	<ul style="list-style-type: none"> <li>Providing, Installing and commissioning Testing of the FULLY AUTOMATIC ATOMIC ABSORPTION SPECTROPHOTMETER along with all accessories for elemental analysis from soil, water and plant samples at SSAC, NAU, Navsari</li> </ul>
9	Automatic Nitrogen/Protein Estimation System	<ul style="list-style-type: none"> <li>Providing, Installing and commissioning Testing of the equipment Automatic Nitrogen/Protein Estimation System with Automatic Digestion, Automatic Scrubber, Automatic Distillation and refrigerated water cooling System along with all accessories for nitrogen analysis from soil, water and plant samples at SSAC, NAU, Navsari</li> </ul>
10	Fluorescence Spectrophotometer	<ul style="list-style-type: none"> <li>Determination and diagnostic analysis of Protiens, Peptides, Sugars, Fats, Pesticides, Adultrants, Vitamins, Growth factors and other nano materials.</li> </ul>
11	CNC Lathe Machine	<ul style="list-style-type: none"> <li>Drilling, Groove Turning, Threading, Parting, Boring, of different iron material job for manufacturing parpouse.</li> </ul>

**Note:** Detail specifications with special terms and conditions of all above listed 11 purchase items are described in Section 7 (Appendix IV).

### Section 3: Instructions to tenderers for Online Tender Participation

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

(n)Code Solutions

A division of GNFC

301, GNFC Infotower, Bodakdev,

Ahmedabad 380054 (India)

Tel. : +91 79 26857316 / 17 / 18

Fax : +91 79 26857321

Toll Free Number : 1-800-233-1010

[www.ncodesolutions.com](http://www.ncodesolutions.com)

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

The Principal Investigator

and Nodal officer CAAST,

O/o DR & Dean PGS,

University Bhavan,

NAU, Navsari – 396 450, Gujarat, India.

E-mail: [caastnau@gmail.com](mailto:caastnau@gmail.com)

Phone: 02637-283160

Mo: + 91 98791 24272

9. For queries regarding item specifications, contact respective scientist preferably, during office hours as given below.

Sr. No.	Details of Instruments	Contact No. of concern Scientist	Name of the unit / sub-unit
<b>NAHEP-CAAST Sub-Project</b>			
1	Instruments Listed from Sr. No. 1 to 2	9913753252	Unit-1: Dept. of PHT, ACHF, NAU, Navsari
2	Instruments Listed from Sr. No. 3 to 4	9408851432	Unit-2: Dept. of FBTI, CoF, ACHF, NAU, Navsari
3	Instruments Listed from Sr. No. 5 to 7	9099062296	Unit-3: Dept. of LPM, VCVS, NAU, Navsari
<b>Other Projects</b>			
4	Instruments Listed from Sr. No. 8 to 9	9998286581	Unit-4: FQTL, NAU, Navsari
5	Instruments Listed in Sr. No. 10	9714758199	ASBI, NAU, Surat
6	Instruments Listed in Sr. No. 11	9512686833	Dept of Agril Engg, NMCA, Navsari
<b>Note: For details see Section</b>			

#### Section 4: Technical Bid Document (TBD) Submission/ Instructions to Bidder

1.	Tenderer should note that the technical information pertaining to the quoted items ( <b>as mentioned in the Section-7</b> ) should critically be furnished in the given format only ( <b>Appendices-IV(1) and so on</b> ). In the format, tenderer should have to make comments regarding any deviation or any equivalent technology or any information which supplement the claim of complying the technical specification or any noticeable information <i>etc.</i>
2.	The tenderer has to upload all the necessary documents mentioned in the check list ( <b>Section-5 [Sr. No. 31]</b> ) online on n-procure ( <a href="http://www.au.nprocure.com/www.nprocure.com">www.au.nprocure.com/www.nprocure.com</a> ) along with commercial bid. The tenderer has to precisely and accurately name the digital file of the documents as named in the check list. Extra document or incorrectly named or misleading document will not be considered. It should be noted that the uploadable documents which are having multiple pages should be combined and converted into a single pdf file with freeware pdf converter software. These digital documents should be properly named (as mentioned below) before uploading.
I	<b>Forwarding letter</b> (Upload the scanned copy)
II	<b>Tender fee</b> (Upload the scanned copy of Bank Draft/s)
III	<b>EMD</b> (Upload the scanned copy of Bank Draft/s)
IV	<b>Tender document</b> (Signed on all pages, properly scan and convert in pdf format. Combine all pages with appropriate free ware software and upload as single document).
V	<b>Tenderer's detail</b> (Upload the scanned copy)
VI	<b>Affidavit</b> (Duly signed and notarized affidavit as per format should be scanned and converts in to single pdf document and upload).
VII	<b>TSCD</b> (Scanned dully filled <b>Technical Specification Compliance Document</b> for the quoted item/s only and upload after converting it into single pdf document.)
VIII	<b>PAN Card</b> (Upload the scanned copy)
IX	<b>GST certificate</b> (Upload the scanned copy)
X	<b>Auth. OEM certificate</b> (Upload the scanned copy of Authorization letter/ OEM certificate)
XI	<b>QS Certificate</b> (Upload the scanned copy of QCI/ BIS/ Indian Govt. approved agencies or organization/ International quality standard certificate)
XII	<b>Income Tax return AY 2017-18</b> (Upload the scanned copy)
XIII	<b>Brochure</b> (Upload the brochure showing technical compliance of quoted model. If the file size of catalogue/ Brochure of quoted item is more than admissible size (3 MB). Tenderer of quoted model must fragment the file with appropriate freeware software and then upload with appropriately naming the files. The fragmented file of quoted item must be named as: brochure No. as per chapter 2_01. to n. E.g. Item is Spray Dryer (Laboratory Scale) and its brochure is of 12mb. Tenderer has to fragment the consolidated file into 4 sub-files. It should be named as Brochure 01_01 to Brochure 01_04.
XIV	<b>Other</b> (In this section, tenderer can upload scanned copy of any specific or relevant information pertaining to tender which have not been covered in the tender document.)
3.	The tenderer has to ensure that bid documents ( <b>Section-5 [Sr. No. 31]</b> ) i.e. Forwarding letter, demand draft of Tender Fee and EMD, tender document duly signed by tenderer on each page, a hundred rupees notarized affidavit and technical compliance specification document should only be submitted physically to The Principal Investigator and Nodal Officer CAAST, O/o DR & Dean PGS, University Bhavan, NAU, Navsari – 396 450 (Gujarat) on or before prescribed date. Envelope should be marked as <b>“E-TENDER No. NAU/DR/04/2018-19”</b> . The tender received after prescribed date will not be considered.
4.	Tender Supporting Documents (TSD) received late and/or not submitted in the prescribed formats/manner, incomplete in any respect or not accompanied by prescribed mandatory documents are liable to be rejected. NAU will not be responsible for non-receipt of tender within the specified date and time due to any reason including postal delays.
5.	Do not put financial bids of the items anywhere in the Technical Bid Document during physical submission otherwise liable to be rejected.
6.	<b>Do not to submit unnecessary documents</b> like explaining company profiles, nature of the company, services and miscellaneous things which is not inquired.

## Section 5: General Terms and Conditions

The Indian Council of Agricultural Research (ICAR) in collaboration with the World Bank has enunciated a series of projects to revamp the national research, extension and innovation systems. The National Agricultural Higher Education Project has been conceived to enable the agricultural education system catch up nationally and internationally with the peers. This project is aimed at enhancing the capability of best of the agricultural universities in the country (like the DUs in the ICAR system) to become globally relevant and competitive by investing in chosen core activities that have a bearing on their reckoning to be counted in the race. This project has several components and subcomponents. However, Navsari Agricultural University had obtained a project entitled “**Establishment of Secondary Agriculture Unit for Skill Development in Students and Farmers at NAU, Navsari**” in subcomponent Investments in Centers for Advanced Agricultural Science and Technology (CAAST) on June 13, 2018. The objectives of this project are to acquaint PG students, faculty members and technical project staff with latest technologies in different spheres of secondary agriculture, capacity building, competency development, product development and its commercialization. This project shall focus on Processing and Waste Utilization in Horticultural Produce; Scientific Utilization of Non-Timber Forest Products and Medicinal and Aromatic Plants, Establishment of Small-Scale Climate Resilient Dairy Unit and Pesticide Residue Analysis from agricultural and other food commodities.

- Note:**
1. Terms and Conditions listed under this chapter as well as in other chapters should be followed by the tenderers.
  2. Purchase of all scientific instruments/machineries will be followed as per the Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016

01.	Navsari Agricultural University (hereinafter referred to as “NAU”), for its various Departments (hereinafter referred to as “the purchaser”) for their requirement of Items (as mentioned in Chapter-3) intend to invite for supply and installation of Scientific Instruments/ machineries at NAU, Navsari.
02.	In case of <b>Original Equipment Manufacturer (OEM)</b> , attach the OEM certificate. Authorized dealers can quote their rates provided that they need to attach relevant certificate of authorized dealership issued during current financial year: 2018-19 from the OEM. <ul style="list-style-type: none"> <li>• The tenderer should have made a positive operating profit</li> <li>• The tenderer should not be blacklisted by any Government or Government entity.</li> </ul>
03.	The prices of the item given in Section-2 and specified in Section-7 (Appendix IV) shall be inclusive of all freight, packaging and forwarding, transit insurance, installation charges, applicable taxes as per recent government rules & regulations as well as for destination.
04.	Rate should be quoted along with all applicable taxes. However, NAU being an government research and educational institute, therefore, is eligible for exemption of such duty from final payment. Therefore, PO will be released according to the applicable GST rate as specified for the Government research institutes.
05.	The lowest price is not the criteria and emphasis would be placed on quality and specifications of the material. The NAU has right to reject any or all the offers and invite fresh quotations if need arises. The NAU further reserves the right of selecting the brand and accepting or otherwise any of the conditions stipulated by tenderer.
06.	The bid is non-transferable.
07.	Amendment of bidding documents (corrigendum) At any time prior to the deadline for submission of bids, NAU may, for any reason, whether its own initiative or in response to the clarification request by a prospective tenderer, modify the bidding documents. The corrigendum will be published on website <a href="http://www.nau.in">http://www.nau.in</a> and <a href="http://www.nprocure.com">www.nprocure.com</a> only. In order to allow prospective tenderers reasonable time to take into consideration the amendments while preparing their bids, at its discretion, NAU may extend the deadline for the submission of bids.
08.	<b>Bid currency:</b> Prices shall be quoted in Indian Rupee only.
09.	The items shown in the Section-2 are subjected to requirements and the same may be purchased or



	may not be purchased without assigning any reason.
10.	The NAU may place repeat orders against the acceptance of tender within a period of validity, subject to the same terms and conditions originally provided in advertised tender and selected tenderer shall accept the same.
11.	The successful tenderer shall have to execute the purchase orders placed on any date during the validity of the tender at the rate, terms and conditions of the tender.
12.	All the electronics items should comply to International Standards for safety, Electromagnetic Emissions, Electromagnetic Immunity <i>etc.</i>
13.	At the time of order, If in any case the quoted item is not available in the market, the successful tenderer will have to supply higher version/replacement of that item in the quoted cost in the same time duration with prior approval of NAU.
14.	Purchase committee reserves the right to bought clarification from the tenderer.
15.	The successful tenderer will hold responsibility for the items sufficiently and properly packed for transport so as to ensure their being free from loss / damage / injury on arrival of destination NAU premises. The material should be supplied in the original company's packing which shall indicate packing details and other particulars as required under the statutory provisions. Inner and outer packing of boxes / cartons should be of standard design. The final packing of cartons of corrugated boxes shall be complying with ISS standards. A packing slip shall indicate clearly and legibly the name of the product, batch number, quantity, date of manufacturer, date of expiry, gross and net weight, and consignee's name and address and other particulars as required. In the event of breakages or loss of items during transit / installation against requisition order the said quantity will have to be replaced/supply by the supplier without any additional charges.
16.	Successful tenderer failing to provide after sales services would be permanently blacklisted.
17.	The tenderers are encouraged to visit at ordering site before bidding for the assessment of feasibility of the quoted item. However, no any excuses will be acceptable regarding the performance to fulfil the objective of the quoted items.
18.	There should be no discrepancy in price quoted under similar period and similar supplies under the territorial jurisdiction of Gujarat state.
19.	The tenderers have to submit the quality assurance certificate obtained from QCI/BIS or any Indian Government approved institute/ organization for OEM. In case of imported items where the QCI/BIS or Indian Government approved institute/organization quality control certificate is not available/ application then the quality assurance certificate of international standard has to be provided.
20.	No special preference will be accorded to any bidder either for price or for other terms and conditions when competing with foreign bidders, state-owned enterprises, small-scale enterprises or enterprises from any given state.
21.	The system of rejecting bids outside a pre-determined margin or "bracket" of prices shall not be used in the project.
22.	The World Bank has right to inspect accounts and records of the bidders, suppliers and contractors.
23.	In case of dispute, the base of arbitration must be the guideline of procurement recommended by the ICAR-NAHEP will be the final.
24.	<b>Payment:</b> The payment of item/items will be made after successful supply, commissioning/installation and satisfactory performance of the quoted items as per the requirement of the ordering party. However, any request regarding the advance or partial payment will not be entertained in any circumstances. If payment made through LC account, the cost of opening and other charges will be borne by the tenderer.
25.	<b>Delivery:</b> The application for extension of delivery period shall be sent to concerned ordering office of Navsari Agricultural University at least 5 days prior to the expiry of delivery period of each items. The officer in charge, who is placing the order reserve the right to extend period or reject the deal and their decision in the matter shall be final and binding to all.
26.	<b>Warranty:</b> The tenderer must provide comprehensive onsite standard warranty <b>or as asked in specifications of different items</b> , from the date of installation for all items. Please clearly mention the

	parts, which are not covered under warranty, separately. If any instrument(s), properly not working and repetitively fault is found, say twice a week during the warranty period, the tenderer shall replace the item with new item without any additional cost to the purchaser. Further, any complaint shall be attended within a response time of 48 hours on 24X7 basis during warranty period.	
27.	<b>Training and Demonstration:</b> Supplier has to perform on-site live demonstration/ training as asked in specifications of different items.	
28.	<b>Dispute:</b> In case of any dispute, final decision of The Purchase Committee, Navsari Agricultural University, Navsari – 396 450 will be binding upon all. In case of any dispute arises in respect of this tender, a suit in that behalf shall be subject to Navsari Jurisdiction.	
29.	<b>All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.</b>	
30.	Special conditions of contract : The terms and conditions given for each instruments (Section_4) is also applicable and it should fulfill the objectives (Section_2)	
31.	All the bidding document submitted as mention below. This documents are mandatory, missing of any is subjected to rejection of this tender.	
1	Appendix-I: Forwarding letter	Online and hard copy
2	Tender Fee: Demand draft of Rs. _____ (Non-Refundable).	Online and hard copy
3	EMD: Demand draft of Rs. _____ (Refundable).	Online and hard copy
4	Tender document duly signed on each page	Online and hard copy
5	Appendix-II: Tenderer's details	Online
6	Appendix-III: Affidavit	Online and hard copy
7	Appendix-IV: Technical specification compliance document (TSCD)	Online and hard copy
8	PAN card	Online
9	GST Certificate	Online
10	Authorization/Original Equipment Manufacturer (OEM) certificate	Online
11	QCI/ BIS or Indian Government approved institute/ organization quality control certificate/ International quality standard certificate for OEM (whichever is applicable).	Online
12	Income tax return (A.Y. 2017-18)	Online
13	Catalogue/Brochure showing item detail	Online
14	Other (any specific or relevant information pertaining to tender which have not been covered in the tender document. Such as tender fee exemption certificates/ client list <i>etc.</i> )	Online

## Section 6: Tender Fee, EMD and Security Deposit

1. **Tender fee and Earnest Money Deposit:**

The tenderer has to submit non-refundable Tender Fee and Refundable Earnest Money Deposit in the form of Bank Draft payable at Navsari in favor of **“Planning Officer, Directorate of Research, University Bhavan, NAU, Navsari”** depending upon the number of Item/s quoted.

2. **Tender Fee Calculations:** The tender fee is based on the amount of quoted item/s. The tenderer has to submit tender fee based on the monetary value of quoted items. The applicable tender fee in different price category for quoted item/s is given below.

Price category of quoted items/s	Tender Fee
If total quoted price is less than or equal to Rs. 25,00,000	1,500
If total quoted price in between Rs. 25,00,001 to Rs. 50,00,000	2,500
If total quoted price is in between Rs. 50,00,001 to Rs. 1,00,00,000	5,000
If total quoted price is greater than Rs. 1,00,00,000	15,000

3. **Earnest Money Deposit:**

The tenderers have to submit EMD at the rate of **2 %** of price of item/s quoted and provide Bid security form (Appendix\_1).

4. The tender without **Tender Fee and Earnest Money Deposit will not be considered**. Further, If submitted **Tender Fee and Earnest Money Deposit** amount is not matched with quoted items, the tender will liable for rejection.

5. **Refund of Earnest Money Deposit:** The earnest money of unsuccessful tenderer will be refunded. The **Earnest Money Deposit** of successful tenderer will also be refunded after completion of purchase procedure.

6. **Forfeiture of Earnest Money:** The earnest money will be forfeited if tenderer withdraws or modifies the offer after opening of tender document or tenderer does not execute the agreement if any, prescribed within the specified time.

7. **Security Deposit:** Successful tenderer has to submit **5%** of purchase order value as a Security Deposit **in the form of Bank Draft payable at Navsari or Bank guarantee in favor of “Planning Officer, Directorate of Research, University Bhavan, NAU, Navsari” from any Nationalized bank** and will be informed by purchase office at the time of giving purchase order and provide performance security form (Appendix\_2).

8. **Refund of Security Deposit:** The amount of security deposit will be refunded after completion of standard warranty period (or warranty period specified in item specification) starting from successful installation of item, after writing a letter to the Office where in instruments/machinery installed.

9. **Forfeiture of Security Deposit:** The security deposit will be forfeited if, successful tenderer fails to supply the items within the delivery period and/or supplier fails to comply specifications of instruments and/or supplier fails in successful installation/demonstration of the instruments/ machinery and/or supplier fails to provide satisfactory post sale services and support or fail to replace the defective piece/ service the instruments/ machinery before warranty period.

10. No interest for EMD and security deposit will be paid

## Section 7: Appendices

Duly filled each appendix as well as document mentioned in the different appendices needs to be attached in tender document, missing of any may liable to cancel the tender document

### Appendix-I: Forwarding Letter

From: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

No.  
Date: - - 2019

To,  
The Principal Investigator  
and Nodal officer CAAST,  
O/o DR & Dean PGS,  
University Bhavan,  
Navsari Agricultural University,  
Eru Char Rasta, Navsari – 396 450 (Gujarat)

**Subject:** Submission of tender for the purchase of Scientific Instruments/ Machineries  
**[E-TENDER No. NAU/DR/04/2018-19]**

Sir,  
I/We hereby submit the offer (duly filled) in response to the advertisement/tender notice **E-TENDER No. NAU/DR/04/2018-19** for Scientific Instruments / Farm Machineries in accordance with the terms and conditions of such supply and declare as under:

I/We hereby offer to supply to Navsari Agricultural University, Navsari in accordance with the terms and conditions, hereto annexed and at the prices given by me/us in commercial section of online tendering.  
I/We enclose herewith **Tender Fee and EMD from any nationalized bank payable at Navsari, Gujarat drawn in favor of “Planning Officer, Directorate of Research, University Bhavan, NAU, Navsari”** payable at Navsari, Gujarat with following details.

	Amount (Rs.)	Amount in Words	DD No.	DD issue Date
Tender Fee (Calculated)		Rs.		
EMD (Calculated)		Rs.		
Item No		Rs.		

**Note:** If tenderer has quoted for more than one item, add the rows below the table.

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

I/We agree to hold this **offer open till 31<sup>st</sup> March, 2019** from the date of due date of opening of the tender.

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

### Appendix-II: Tenderer's Detail

1.	Name of the Company	:	
3.	Registered Office Address with Telephone/ Mobile Number Fax Number e-mail	:	
4.	Correspondence Address with Telephone/ Mobile Number Fax Number e-mail	:	
5.	Details of the authorized person (Name, designation, address) with Telephone/ Mobile Number Fax Number e-mail	:	
8.	PAN Card No.	:	
7.	GST No.	:	
8.	Bank detail (Bank Name, Branch Address, Account No., Type of Account (Current/ Savings), MICR No, IFSC Code	:	
9.	Filing date of IT Return AY 2017 – 18	:	

**Appendix-III: Proforma of Affidavit  
(on Non-Judicial Stamp Paper of Rs 100/- duly attested by Magistrate /Notary Public)**

---

I/We, \_\_\_\_\_, age \_\_\_\_, years residing at \_\_\_\_\_ in capacity of \_\_\_\_\_ M/s \_\_\_\_\_ hereby solemnly affirm that :

1. All General Instructions, General Terms and Conditions, as well as Special Terms & Conditions laid down on all the pages of the Tender Form, have been read carefully and understood properly by me and are completely acceptable to me and I agree to abide by the same.
2. All the Certificates / Permissions / Documents/ Permits / Affidavits or any relevant document either submitted physically or uploaded as a part of tender are valid and current as on date and have not been withdrawn / cancelled by the issuing authority.
3. It is clearly and distinctly understood by me that my tender is liable for rejection if any of the Certificates / Permissions / Documents/ Permits / Affidavits is / are found to be invalid / wrong / incorrect / misleading / fabricated / expired or having any defect at any point of time.
4. I/ We further undertake to produce on demand the original Certificate / Permission / Document / Permits for verification at any stage during the processing of the tender as well as at any time asked to produce.
5. I/ We also understand that failure to produce the documents in "Prescribed Proforma" (wherever applicable) as well as failure to give requisite information in the prescribed proforma may result in to rejection of the tender.
6. My/ Our firm has not been banned / debarred / black listed by any Government Department / State Government / Government of India / Board / Corporation / Government Financial Institution etc.
7. I/ We confirm that I / We have meticulously filled in, checked and verified the enclosed documents / certificates / permissions / permits/ affidavits / information etc. from every aspect and the same are enclosed in order (i.e. in chronology) in which they are supposed to be enclosed.
8. I/ We say and submit that the Permanent Account Number (PAN) given by the Income Tax Department is \_\_\_\_\_, which is issued on the name of \_\_\_\_\_  
[Kindly mention here either name of the proprietor (in case of Proprietor firm) or name of the tendering firm, whichever is applicable].
9. I/ We understand that giving wrong information on oath amounts to forgery and perjury, and I/We am/are aware of the consequences thereof, in case any information provided by us are found to be false or incorrect, you have right to reject our bid at any stage including forfeiture of our EMD/PBG/cancel the award of contract. In this event, the Navsari Agricultural University reserves the right to take legal action against me/us.
10. I/We hereby assured that all our quoted item/s meet or exceed the requirement and are absolutely compliment with specification mentioned in the tender document.
11. My/Our Company has not filed any Writ Petition, Court matter and there is no court matter filed by State Government and its Board Corporation, is pending against our company.
12. I/We hereby commit that we have paid all outstanding amounts of dues / taxes / cess / charges / fees with interest and penalty.
13. In case of breach of any tender terms and conditions or deviation from bid specification other than already specified as mentioned above, the decision of purchase committee appointed by NAU for disqualification will be accepted by me/us.

Whatever stated above is true and correct to the best of my knowledge and belief.

**Date :**

**Stamp & Sign of the Tenderer**

**Place:**

**(Signature and seal of the Notary)**

## Appendix IV: Technical Specification Compliance Document (TSCD)

The tenderer has to fill the technical specification compliance document (TSCD) on their official letter head of tendering party for the instrument/ equipment for which they have quoted and mentioned the specific catalogue/ part no./ item under the column, remarks if comply the specifications. In the format of technical specification compliance document (TSCD), tenderer should have to make comments regarding any deviation or any equivalent technology or any information which supplement the claim of complying the technical specification or any noticeable information *etc.* After filling the above document, tenderer has to duly authenticate by signing on each page and seal them properly. Such signed and sealed document should be scanned and upload after converting it into pdf format only. However, a duly signed and sealed copy of above document should also be physically submitted with the tender document.

### NAHEP-CAAST Sub-Project

#### **TSCD IV(1): Spray Dryer (Laboratory Scale)** (Quoted Model No. \_\_\_\_\_)

Particular	Specifications	Comply (Yes/No)	Remarks
Capacity	Evaporation Rate Approx 1 -2 Lit/hr (H <sub>2</sub> O) at maximum drying Air Flow rate & Max Temperature in Insulated condition.		
Components	PLC Based Portable on wheels (Plug-in unit). Suitable for Aqueous / solvent Feed solutions with Twin High Efficiency Cyclons, 9” Drying Chamber. 3KW heater. 0.25HP Blower. Spray Nozzle SS 316L Co-Current 0.7mm (Product Contact Part). Pre filter – 5 Microns & Hepa Filter 0.3 Microns. 7” Touch screen Display & Audio-visual Alarm Panel. DVP-10SX PLC Based Built-in Control System for control of Hot Plate, Magnetic Stirrer & Mechanical stirrer through Touch screen. Selection of Either Magnetic or Mechanical Stirrer at a time through inbuilt controller. PC Software through RS-485 two way communication for Inlet & Outlet Temperature, Databank for Various solvents, Online graphical representation for Inlet & Outlet Temperature. Calibration & Feed Pump Reverse Facility through in built controller/HMI. Oil free air compressor Piston Type Max. Pressure 100 PSI. Temperature Range: Ambient to 280 °C. Main Spray Drier Dimensions must be approximately 1600 mm X 750 mm X 650 mm having weight of 140-150 Kg so that can be kept on laboratory platform.		
Power supply	Single Phase 220-240 V AC, 50 Hz Supply.		
Accessories	All accessories required for the operation of spray dryer must be supplied like opening and closing of the cyclones etc. Extra pressure pipe must be supplied.		
Other	Must have performance certificates from the reputed government institutes.		
	Bidder should supply spare parts or AMC for minimum of 10 years. AMC should be after warranty period.		
	Demonstration of the spray dryer shall be on bidder part		

**TSCD IV(2): Bio-digester (2 Nos.)**  
**(Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
Capacity	2000 litre		
Quantity	2		
Size/Dimension	1500 mm OD × 1450 mm		
Bottom&Top Dish	5 mm THk		
Mean Shell	5mm Thk		
Leg	100 × 50 × 5 Thk		
Manhole Size	Dia.- 300 mm		
Drain Nozzle	100 NB @ bottom		
Top inlet Nozzle	150 NB @Top		
Outlet Nozzle	50 NB		
Topvent Nozzle	½ NB for pressure gauge @ PRV		
Pressure gauge	0 to 7 kg/cm <sup>2</sup>		
Pressure relief valve	up to 5 kg/cm <sup>2</sup>		
Agitator system	Agitator system with gear box motor (1HP)		

**TSCD IV(3): Seasoning cum preservation vacuum pressure equipment (Vacuum pressure wood treatment equipment) (Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
Dehumidifier Type Bamboo Drying System	Dryer With Higher Humidity And Material Deformation Control, Internal Air Circulation System		
(i) Control Panel	Control Panel With Humidity And Temperature controller with Automatic programmable system		
(ii) Chamber	4 feet ×4 feet ×7 feet		
	Humidity And Temperature controller		
	Drying Using Precision System with programmed operation		
	Fans For Air Circulation		
	Control Panel With L&T And Similar Make Parts		
Trolley Stand For Material Placement			
Bamboo Impregnation Treatment Plant	Tank With Control Panel With Pressure Controllers And Setting Device		
(i)Tank	Length Of Tank: 16 Feet approx.		
	Inside Diameter Of Tank: 2 feet approx.		
	Anti Corrosive Paint On Inside Of The Tank		
	Control Panel For Motor And Other Electrical Parts		
	Safety Valves, Relief Valves, Safety Markings Provided		
	Chemical Storage Tank Built-in with machine		
	Including Electrical Motors For Vacuum, Pressure, Water Filling, Relief Valves And Required Accessories		
	Manual For Operation, Installation And Maintenance Schedules		
	Chemical That Can Be Use Varies From Ccb, Borax Solution And Various Others Also		
Effective Power: 6-8 HP 3phase			



**TSCD IV(4): Universal Testing Machine (UTM) / Computerized Universal testing machine  
(Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
Load capacity	2000 to 5000Kg		
No. of load cell	Optional One or Two		
Cross Travel	up to 1000 mm		
Horizontal day light	450mm		
Speed	variable between 0.5mm/minute to 800mm/minute		
Power	230 volts, 50Hz, Single phase		
<p><b>Note:</b> All results such as Peak load, Elongation at Peak load, Break load, Elongation at Break load, % of elongation at Peak, % of elongation at Break, Tensile test at Peak, Tensile test at Break, Flexural stress, Compression Strength, Secant Modulus, Tangent Modulus &amp; Flexural Modulus, Elongation percentage at yield load, Modulus of Elasticity, Elongation at yield load are directly displayed in microcontroller as well as through Computer.</p> <p>The UTM should be capable to test the static bending, compression test (parallel and perpendicular to the grain), tensile tests (parallel and perpendicular to the grain), nail and screw holding test, indentation and flexural tests.</p> <p><b>UTM should include all the attachments or grips that can test the above mentioned mechanical properties of wood.</b></p>			
Other	Result should be display in microcontroller as well as through PC		
	Highly accurate position control with high range of speed		
	Automatic calculation of modulus at different strains selectable		
	Must have multi display in Kg, pound, Newton mm, cm, inch selectable		
	Safety norms of over load in auto/ manual mode		
	Data lock for calibration		
	Suitable for checking all types of material including Wood and wood composite materials		
	Overload & over travel facility should be provided in controller		
	Speed can control through hydraulic valve		
	Accuracy of the machine should be within its tolerance limit of + or – 1%		
	Machine must have LCD display unit/computerized which can shows load, Elongation, Maximum Load, Breaking load and it can save at least last 5 samples reading.		
Warranty	1 year is compulsory		
<b>Note: Additional warranty may be quoted with extra amount</b>			

**TSCD IV(5): Automatic weighing with body condition scoring system  
(Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
Automatic weighing system	It should be system connected, walk over, electronic animal weighing and data recording system.		
	It should be microprocessor based and compatible with software application where reports, graphs and user defined sort criteria can be processed and analysed.		
	The individual body weights can also be summarized to group data.		

Particular	Specifications	Comply (Yes/No)	Remarks
	It must have provision to identify cows electronically and transfer the data to remote computer.		
	Software could generate meaningful reports. Facility to identify weight deviation.		
	Measuring capacity up to 2000 kg, rugged and durable load bars, stand to a suitable length, cable length about 20 ft or more, reinforced to prevent damage & sealed to the load bars, should have rubber feet to provide extra grip and shock dispersal.		
	System should be highly accurate $<\pm 5\%$ error.		
	It must have easily readable display unit at main unit also.		
	Working environment $0^{\circ}\text{C}$ to $50^{\circ}\text{C}$ .		
	Working on either AC (available on site) or DC (supplied) or both.		
	It must be dust and fully water resistant.		
Body condition scoring system	Body Condition Scoring System with body condition scoring camera is mounted on a sort gate or at return alley or can fixed at any other suitable place.		
	It must take a 3D image of a cow's body (fat deposits) when it passes under the camera.		
	Image generated must be analysed with the unique supporting body condition scoring software to determine the amount of fat covering the loin, rump tailhead, hooks, pins and short ribs. Software must provide numerical values to the remote computer.		
	System must be supported with highly advanced version of Software where it is logged for viewing at any time from your farm computer.		

**TSCD IV(6): Milk analyzer machine**  
(Quoted Model No. \_\_\_\_\_)

Particular	Specifications	Comply (Yes/No)	Remarks
General	Must be working on FT-infrared technology.		
	Equipment must analyse raw cow, buffalo, mixed milk and goat milk.		
	Sample measuring time less than 1 minute.		
	Sample volume $<5\text{ ml}$ .		
	Warm up time less than 30 minutes.		
	Around 5 kg of weight.		
	It should have LCD display/touch screen button, printer internal and external with suitable database/software.		
Parameters Measuring range	Fat: 0-13 %, 0.1 SD		
	SNF: 0-15 %, 0.14 SD		
	Protein-0-8 %, 0.08		
	It can also detect adulterants like urea (0.1 %), maltodextrin (0.6 %), sucrose (0.3 %), ammonium sulphate (0.08 %), water (20 %) etc.		
Electrical interface	12 V DC		
Data interface	SD card and RS232		
Power consumption	$< 20\text{ W}$		
Ambient temperature &	$5\text{-}40^{\circ}\text{C}$ and up to $90\%$		

Particular	Specifications	Comply (Yes/No)	Remarks
humidity			
<b>Optional Accessories</b>			
	With all accessories and working chemicals if any.		

**TSCD IV(7): Ultrasonic milk analyser and somatic cell counter machine**  
(Quoted Model No. \_\_\_\_\_)

Particulars	Specifications	Comply (Yes/No)	Remarks
General	The machine should be single unit (milk analyser and somatic cell counter).		
	Equipment must analyse raw cow, buffalo, sheep, goat milk.		
	It should have separate LCD monitor/touch screen tablet, printer internal and external with suitable database/software.		
	Analysis time less than 1 minute		
	Preferably less than 10 kg of weight		
Parameters Measuring range	Fat: 0.01-45 %, $\leq \pm 0.10\%$		
	Protein: 2-15%, $\leq \pm 0.20\%$		
	Lactose: 0.01%-20%, $\leq \pm 0.20\%$		
	SNF: 3-40%, $\leq \pm 0.20\%$		
	Density: 1000-1160 kg/m <sup>3</sup> $\pm 0.3$ kg/m <sup>3</sup>		
	Added water: 0%-70%		
	Freezing point: -0.4°C-0.7°C, $\leq \pm 0.001\%$		
	Salts: 0.4% - 4.0 % , $\leq \pm 0.05\%$		
	pH: 0-14 $\leq \pm 0.05\%$		
	Conductivity: 2-14[mS/cm] $\leq \pm 0,05\%$		
	Total solids: 0-50%, $\leq \pm 0.20\%$		
	Milk sample temperature 1°C-40 °C $\pm 1\%$		
	SCC (cells/ml): 10000-10000000 $\pm 2-5\%$		
Ambient temperature & humidity	10-43°C, 30-80%.		
Sample temperature	01-40°C		
Power supply	AC-110/220 V, DC-12V, Power consumption less than 30W,		
<b>Optional Accessories</b>			
	touch screen tablet, printer external, suitable database/software. Weighing scale (up to 150 kg), other accessories and working chemicals/consumables if any.		

**Other -Projects**

**TSCD IV(8): Atomic Absorption Spectrophotometer (under Buyback Scheme)  
(Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
I. Atomic Absorption Spectrophotometer (under Buyback Scheme)	<b>Computer controlled USB port connectivity, High performance, optically double beam Atomic Absorption Spectrometer having following specifications.</b>		
	<b><i>OPTICS</i></b>		
	i. Real time Double beam with Deuterium background		
	<b><i>MONOCHROMATOR</i></b>		
	i. CZ Turner design with 330 mm focal length,		
	ii. 1800 line/mm grating and 185-930 nm wavelength range.		
	iii. Automatic emission wavelength selection and peaking.		
	iv. Continuously variable slits with 0.2 to 2 nm spectral bandwidth.		
	v. Automatic wavelength scanning. Selected wide range		
	<b><i>DETECTOR</i></b>		
	i. high performance multi-alkali Photomultiplier tube R928,		
	<b><i>MOTORIZED LAMP TURRET</i></b>		
	i. Eight lamp motorized turret with automatic lamp selection and individual lamp peaking automatically warmed up.		
	ii. Compatible with standard & coded hollow cathode lamps		
	<b><i>BACKGROUND CORRECTION</i></b>		
i. Deuterium arc Radiation ULTRA FAST-PULSE 1024 Hz background corrector Wave length correction range 185-425 nm,			
ii. Corrects to 2.5 total absorbance			
<b><i>AUTOMATIC FLAME CONTROL UNIT</i></b>			
i. AAS Automatic gas unit equipped with full Automatic Gas control system with real time flow sensor monitored, digital display and controlled by microcomputer including ignition system, AAS has a facility for self-recognition & auto feedback adjustment of flow of gases.			
ii. All safety features include Interlocks to prevent ignition, door lock, proper burner head, nebulizer sense, and recognitions, drain system if not correctly installed, liquid level in the drain vessel is incorrect, gas pressures are dropped to low.			
iii. Automatically shut down burner gases if flame is not detected, & real time status sensing, fitted bung and pressure relief bung it has provision of safe shutdown from all operating modes in the event of a power failure.			
<b>NEBULIZER:</b> Fully inert nebulizer			
<b>SPRAY CHAMBER:</b> PTFE spray chamber and adjustable impact bead aerosol.			
<b>BURNER:</b> Burners for C <sub>2</sub> H <sub>2</sub> - AIR			
<b>SENSITIVITY</b>			
i. Greater than 0.8 abs for 5 mg/L copper			

Particular	Specifications	Comply (Yes/No)	Remarks
	ii. Solution with an RSD of less than 0.5%. iii. Characteristics concentration of copper 0.030 ug/ml <b>OUTPUT PORT:</b> USB ,Wi-Fi, BLUETOOTH CONNECTIVITY FOR PC /INTERNET <b>PC:</b> PC with 19" color monitor, Laser B/W printer <b>SOFTWARE:</b> Windows 10 based user friendly software <b>ELECTRICAL REQUIREMENTS:</b> 220/240 V AC, 50/60 Hz, 800 VA <b>WARRANTY PERIOD:</b> Standard Warranty of 48 months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises.		
Terms and Conditions Others	i. The tenderer should have proven track record for the supply, installation and commissioning of the instrument (Please provide list of clients who have been supplied similar quoted instrument by the tenderer within last 2 years). ii. The instrument shall strictly confirm to the specifications and any deviation or clarification regarding the specification should be mention under "Remarks" column of TSCD. iii. The tenderer should assure that availability of spare parts of the quoted model of the instrument at least for the period of 10 years after the warranty period. iv. The tenderer has to provide onsite post installation training of handling, maintenance and software application to the purchaser's staff for three days. v. The quoted instrument should rugged enough to handle the frequent power fluctuation. vi. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after notification of award/contract. vii. <b>The supplier should aim at a turnkey supply and installation of the instrument. Any accessory or facilities which is felt mandatory for the proper working of the instrument but not mentioned in the specification has to be quoted and supplied along with.</b> viii. The tenderer has to mandatorily quote the final price of the instrument after duly subtracting the buyback price of the older instrument, failure to this, will be ample reason for rejection of the tender.		

**TSCD IV(9): Automatic Nitrogen/ Protein Estimation System**  
**(Quoted Model No. \_\_\_\_\_)**

Particular	Specifications	Comply (Yes/No)	Remarks
I. Automatic Nitrogen/Protein Estimation System	<b>Automatic Digestion System</b>		
	<ul style="list-style-type: none"> <li>i. Twelve Place 250 ml capacity PC Compatible Block Digestion System with all essential accessories</li> <li>ii. TFT Graphic Touch Screen Display with unique wireless mouse to operate at a distance of 1-2 metres.</li> <li>iii. Should have 2 ports in the motherboard one for PC connectivity another for direct connection to Remote, Mouse/ Data logger / Pen drive.</li> <li>iv. memory stick for data storage with separate port in mother board apart from PC Port</li> <li>v. Icons to represent output of heating process in touch screen display (70 programs, 12 ramps)</li> <li>vi. Inbuilt mini printer for print options to document pre-programmed settings and logged datas</li> <li>vii. Temperature Controller should be isolated separately in a control tower to protect electronics from digestion heat zone and acid reaction zone</li> <li>viii. PC software performs Live graphical representation of time /temperature gradient on touch screen display</li> <li>ix. Direct USB Port for PC with live process view on touch screen display of various stages with print options,</li> <li>x. Remote control module for wireless data monitoring, control and transfer to PC at a distance of 10 feet</li> <li>xi. The Entire display screen of Controller should wirelessly appear in the PC/ Laptop of user, to monitor &amp; control from his work table.</li> <li>xii. Temperature Range : Room Temperature to 450 °C , Accuracy + 0.5 °C</li> <li>xiii. All essential accessories like Digestion Tubes, SS Insert Rack, Support Rack, Exhaust Manifold, Suction Assembly for safe removal of acid fumes etc.</li> </ul>		
	<b>Automatic Scrubber System</b>		
	<ul style="list-style-type: none"> <li>i. Four stage acid neutralization scrubber.</li> <li>ii. Non corrosive centrifugal inbuilt magnetic suction pump with inbuilt self-priming feed pump for water recirculation,</li> <li>iii. FRP Tank, Containers for Alkali and Water, Electrical Requirement: 230v/50Hz Mains</li> </ul>		
	<b>Automatic Distillation System</b>		
	<ul style="list-style-type: none"> <li>i. Auto-sequencing Microprocessor based PC Compatible Distillation System with in-built software with 50 Pre-definable User Storage Auto Sequence Programmes</li> <li>ii. Automatic sequencing with auto Intelligent run of</li> </ul>		

	<p>programmable steps which include Automatic Dilution, Auto KMNO<sub>4</sub> addition, Automatic Alkali Addition, Automatic Steam injection, Process over indication with alarm with delay time features, Automatic Titration Connectivity feature for future up-gradation with complete automatic safety features</p> <ul style="list-style-type: none"> <li>iii. Microbrilliant distillate control with adjustable sensor,</li> <li>iv. Two line Alpha numeric Digital LCD Display,</li> <li>v. Auto sensing of “NO WATER” condition in condenser &amp; steam generator with alarm &amp; signal to alert user.</li> <li>vi. Auto deactivation of operation after warning in case of user non availability</li> <li>vii. Enables automatic monitoring and measuring of high temperature in distillate with sensor for auto warning signal and safety alarm to alert user to control distillate temperature. Temperature displayed digitally.</li> <li>iii. Auto reagent Level Sensor with Alarm for Reagents, Stainless steel non corrosive steam Generator</li> <li>ix. Automatic water level monitoring &amp; Peristaltic pump for reagents addition</li> <li>x. Electrical Requirement - 220 - 230V/50Hz.</li> <li>xi. The control panel unit along with inbuilt temperature controller, timer, mother board and SMPS should be isolated in separate tower compartment to protect electronics from wet chemistry &amp; acid/ alkali process area for longevity and safety of all electronic components.</li> </ul>		
	<b>Refrigerated Water Cooling System</b>		
	<ul style="list-style-type: none"> <li>i. Refrigerated Water Cooling Circulating system. SS Tank,</li> <li>ii. Submergible pump for recirculation, over load protection, MS powder coating housing.</li> </ul>		
WARRANTY	<ul style="list-style-type: none"> <li>i. Standard Warranty of 48 months starting from date of satisfactory installation and commissioning of the instrument at the purchaser’s designated premises.</li> </ul>		
Terms and Conditions	<ul style="list-style-type: none"> <li>i. Company should have good performance track record of at least 10 years with references of users of similar equipment.</li> <li>ii. The original Manufacturers of laboratory equipments should have at least Rs. 2 crore per annum turnover in the past 3 years towards financial capability.</li> <li>iii. The instrument shall strictly confirm to the specifications with relevant brochure.</li> <li>iv. The company should be reputed supplier should not</li> </ul>		

	<p>be blacklisted or should not have any adverse remarks in the past.</p> <p>v. Spares should be made available for minimum period of 10 years after the warranty period by the supplier.</p> <p>vi. The tenderer has to supply suitable Heavy duty Stabilizer to protect instruments from power fluctuations.</p> <p>vii. The system shall not be prone to damage during power failures and trip outs. The normal voltage and frequency conditions available at site as under: Voltage 230 volts – Single phase/ 415 V 3 phase (+_ 10%), Frequency 50 Hz.</p> <p>viii. <b>The supplier should aim at a turnkey supply and installation of the instrument. Any accessory or facilities which is felt mandatory for the proper working of the instrument but not mentioned in the specification has to be quoted and supplied along with.</b></p>		
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**TSCD IV(10): Fluorescence Spectrophotometer**  
(Quoted Model No. \_\_\_\_\_)

Particular	Specifications	Comply (Yes/No)	Remarks
Fluorescence Spectrophotometer specification	Research Grade Fluorescence Spectrometer should come with minimum 150W or higher ozone free Xe source and power supply, single Czerny Turner excitation spectrometer with 1200g/mm grating blazed between 300-350nm, single Czerny Turner emission spectrometer with 1200g/mm grating blazed between 500-550nm, continuously adjustable entrance and exit slits to be operated under computer control, all reflecting optics, photodiode reference detector, multi-alkali PMT emission detector, photon counting electronics and controlling software.		
Optics	The system should be mirror based system for focusing at all wavelengths and precise imaging for microsamples.		
Excitation Wavelength Range	200-950nm should be optimized in the UV		



Emission Wavelength Range	200-950nm should be optimized in the Visible		
Bandpass	Atleast from0-30nm should be continuously adjustable from computer		
Wavelength Accuracy	Minimum±0.5nm		
Scan speed	Minimum4800nm/min		
Signal to Noise Ratio	Minimum16,000:1(RMS Method), 6000:1 (FSD Method) using water Raman signal at excitation at 350nm, emission at 397nm, Bandpass 5nm and 1sec integration time. Vendors has to mention both FSD and RMS values.		
Emission Detector	Photomultiplier tube detector should cover the wavelength range from 250nm-850nm and should operate in photon counting electronics mode.		
Solid Sample Holder	Should be designed for viewing front-face fluorescence of thin films, powders, pellets, paper, fibres, or microscopic slides. Variable alignment angle.		
	Vendors have to quote Band Pass filters in the wavelength of 320 and 340nm separately as optional items.		
Quartz Cuvette	4ml, 1cm x 1cm open top with cap		
Control and Analysis Software	Powerful software for data collection and system control. On start-up, the system automatically calibrates and presents itself for new experiments.		
Computer	The state-of-the art computer should be supplied with windows based operating system loaded with the system software.		
Warranty	One year from the date of installation		
Note	<b>Vendors must have installed minimum 30 similar systems in India.</b>		
	<b>System should be upgradable to time resolved measurements with Time Correlated Single Photon Counting attachment with minimum dead time of 10ns. It is mandatory to highlight the dead time of TCSPC electronics in the manufactures' brochure as well as in the compliance statement.</b>		

**TSCD IV(11): CNC Lathe Machine**  
(Quoted Model No. \_\_\_\_\_)

Particular	SPECIFICATIONS				Comply (Yes/No)	Remarks
<b>Capacity</b>	1	Swing over bed	mm	300		
	2	Turning length	mm	200		
	3	Job swing diameter	mm	200		
	4	Turning diameter	mm	80		
<b>Slides</b>	1	X-Axis travel	mm	240		
	2	Z-Axis Travel	mm	150		
<b>Main Spindle</b>	1	Spindle bore	mm	50		
	2	Spindle nose	mm	A2-5		
	3	Maximum bar capacity	mm	20-35		
	4	Spindle speed range	rpm	50-1800		
	5	Chuck size	mm	135		
<b>Turret</b>	1	Turret type		Linear		

	2	No. of tool		5			
	3	Max. Boring dia meter	mm	32-40			
	4	Tool cross section	mm	25×25			
<b>Tail stock</b>	1	Quill diameter (range)	mm	60-100			
	2	Quill strock (range)	mm	140-200			
<b>Accuracy</b>	1	Position accuracy	mm	0.015			
	2	Repeatability	mm	0.003			
<b>Features</b>		<ul style="list-style-type: none"> <li>➤ Linear motion guide ways</li> <li>➤ AC spindle drive</li> <li>➤ AC servo digital drive</li> <li>➤ Hydraulic chucking</li> <li>➤ Auto and manual coolant system</li> <li>➤ Laser calibrated axis for highly precise positioning accuracy and repeatability</li> <li>➤ Manual data input</li> <li>➤ LM 2 axis simultaneous</li> <li>➤ Part program storage and editing</li> <li>➤ Tool nose radius compensation</li> <li>➤ Feed rate over ride</li> <li>➤ Circular interpolation</li> <li>➤ Threaded cutting cycle</li> <li>➤ Absolute/incremental programing</li> <li>➤ LCD display</li> <li>➤ Self-diagnostic</li> <li>➤ USB Port</li> </ul>					
<b>CNC system</b>		The Latest Digital system Siemens 808D/ Siemens 828D Advance FANUC 0i TF/TD with graphic simulation and program diagnostics, alarms messages, etc.					
<b>Acceptance Criteria</b>		Completion erection / installation the machine, the performance of the machine will be evaluated by continuous running the machine for 2-3 hrs with the raw material of the choice of purchaser. Then, if the performance of the machine found satisfactory on basis of its ability to deliver the accurate and at the acceptable rate of output with constant quantity and quality. Then only the successful installation of the machine will be considered.					
<b>Training</b>		Two days training of operation, maintenance and troubleshooting after successful installation of the machine.					
<b>Spare part/accessories</b>		The Bidder should assure the uninterrupted supply and after sell services for maintenance upto 5 to 8 years after the expiry of the standard and extended warranty period.					
<b>Tool Holders for Head Turning Operation:</b>		<ul style="list-style-type: none"> <li>✓ Rough Facing Tool Holder</li> <li>✓ Drilling Tool holder</li> <li>✓ Face Groove</li> <li>✓ Turning tool holder</li> <li>✓ Grooving Tool Holder</li> <li>✓ Threading tool holder</li> <li>✓ Parting Tool Holder</li> <li>✓ Boring Tool Holder</li> </ul>					