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NAVSARI AGRICUTURAL UNIVERSITY
NAVSARI – 396 450

NIT for E-tendering NAU/DR/CAAST/071/2019-20

The PI & Nodal officer (CAAST), Directorate of Research, NAU, Navsari-396 450 invites online e-tender for purchase of scientific instruments/machineries in CAAST sub-project and other project. For details NIT please visit **www.nau.in** and **www.nprocure.com**.The bid starting date is 09/08/2019. The last date of filling e-tender online is 03-09-2019 upto 18.00 hrs and submitting hard copy is 05-09-2019 upto 18.00 hrs.

Sd/-

Dt. 09/08/2019 **PI and Nodal Officer (CAAST)**

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

NATIONAL COMPETITIVE BID

For

Purchase of Scientific Instruments/Machineries

Under NAHEP-CAAST Sub-project

E-TENDER No.NAU/DR/CAAST/01/2019-20

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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 or au.nprocure.com**.

Period for Bid Document Downloading& Uploading	09/08/2019 to 18.00 hrs of 03/09/2019
The Last date for online tender submission	03/09/2019 up to 18:00 Hrs
Last date for physical submission of tender fee, EMD and other documents mentioned in Section5 (Sr. No. 31) by RPAD / Courier / Speed post	05/09/2019 up to 18:00 Hrs
Bid Validity Period	Upto January 07, 2020
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	www.nprocure.com/au.nprocure.com

Section 2: List of Purchase Items and its objectives

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

Item No.	Name of the Instrument	Objective of purchase
1	Aseptic Processing Line with FFS system	To preserve and pack liquid fruits juices, nectar and RTS etc aseptically
2	GC MS/MS	Providing, Installing and commissioning Testing of the equipment Gas Chromatography Mass Spectroscopy (GC-MS/MS) along with all accessories for pesticide residue analysis.
3	Gas Liquid Chromatography (GLC)	Providing, Installing and commissioning Testing of the equipment Gas Liquid Chromatograph with FID and ECD detector along with all accessories for pesticide residue analysis
4	Gas Chromatography Mass Spectroscopy (GC-MS)	Providing, Installing and commissioning Testing of the equipment Gas Chromatography Mass Spectroscopy (GC-MS/MS) along with all accessories for pesticide residue analysis.

Note: Detail specifications with special terms and conditions of all above listed 4 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
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
   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.	Name of the Instrument (Sr. No. of Section 2)	Contact No. of concern Scientist	Name of the unit / sub-unit
1	Aseptic Processing Line with FFS system (Sr. No.1)	9913753252	Unit-1: Dept. of PHT, ACHF, NAU, Navsari
2	GC MS/MS (Sr. No.2)	9998286581	Unit-4: FQTL, NAU, Navsari
3	Gas Liquid Chromatography (GLC) (Sr. No.3)	9998286581	NMCA, FQTL, NAU, Navsari
4	Gas Chromatography Mass Spectroscopy (GC-MS) (Sr. No. 4)	9998286581	NMCA, FQTL, NAU, Navsari
Note: For details see Section 7 (Appendix IV)			

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

1.	Tenderer should note that the technical information pertaining to the quoted items **(as mentioned in the Section–7)** should critically be furnished in the given format only**(Appendices-IV(1) and so on)**. 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 *etc.*	
2.	The tenderer has to upload all the necessary documents mentioned in the check list **(Section-5 [Sr. No. 31])** online on n-procure (**www.au.nprocure.com/www.nprocure.com)** along with commercial bid. The tenderer has to precisely and accurately name the digital file of the documents as named in the checklist. 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 pdfconverter software. These digital documents should be properly named (as mentioned below) before uploading.	
	I	**Forwarding letter** (Upload the scanned copy)
	II	**Tender fee** (Upload the scanned copy of Bank Draft/s)
	III	**EMD**(Upload the scanned copy of Bank Draft/s)
	IV	**Tender document** (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	**Tenderer's detail** (Upload the scanned copy)
	VI	**Affidavit** (Duly signed and notarized affidavit as per format should bescanned and converts in tosingle pdfdocument and upload).
	VII	**TSCD** (Scanned dully filled **Technical Specification Compliance Document** for the quoted item/s only and upload after converting it into single pdf document.)
	VIII	**PAN Card (**Upload the scanned copy**)**
	IX	**GST certificate (**Upload the scanned copy**)**
	X	**Authorization letter/OEM certificate** (Upload the scanned copy)
	XI	**QS Certificate** (Upload the scanned copy of QCI/BIS/Indian Govt. approved agencies or organization/International quality standard certificate)
	XII	**Income Tax return AY 2019-20** (Upload the scanned copy)
	XIII	**Brochure**(Upload the brochure showing technical complianceof 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: brochureNo. as per chapter 2_01.to *n*. E.g. Item is Aseptic Processing Line with FFS system 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	**Other** (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 (**Section-5 [Sr. No. 31]**) *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 *i.e.* 05/09/2019 upto 18:00 hrs. Envelope should be marked as **"E-TENDER No. NAU/DR/CAAST/01/2019-20".** 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.	**Do not to submit unnecessary documents** 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/machineriesat NAU, Navsari.
02.	In case of **Original Equipment Manufacturer (OEM)**, 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: 2019-20 from the OEM. • The tenderer should have made a positive operating profit. • The tenderer should not be blacklisted by any Government or Government entity.
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 fordestination.
04.	Rate should be quoted along with all applicable taxes. However, NAU being angovernment 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 **http://www.nau.in**and **www.nprocure.com** 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.	**Bid currency**: 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 *etc.*
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 sought 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/organizationfor 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.	**Payment:**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.	**Delivery:** The application for extension of delivery period shall be sent to concerned ordering office of Navsari Agricultural University at least 5 days prior to the expiry of delivery period of each items. The officer in charge, who is placing the order reserve the right to extend period or reject the deal and their decision in the mattershall be final and binding to all.
26.	**Warranty:**The tenderer must provide comprehensive onsite standard warranty **or as asked in specifications of different items,** 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 basisduring warranty period.
27.	**Training and Demonstration:**Supplier has to perform on-site live demonstration/training as asked in

	specifications of different items.	
28.	**Dispute:**In case of any dispute, final decision of The Purchase Committee, Navsari Agricultural University, Navsari – 396 450 will be binding upon all. In case of any dispute arises in respect of this tender, a suit in that behalf shall be subject to Navsari Jurisdiction.	
29.	**All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.**	
30.	Special conditions of contract : The terms and conditions given for each instruments (Section 7(IV) is also applicable and it should fulfill the objectives (Section2)	
31.	All thebidding document submitted as mention below. This documents are mandatory, missing of any is subjected to rejection of this tender.	
i.	Appendix-I: Forwarding letter	Online and hard copy
ii.	Tender Fee: Demand draft of Rs. _____ (Non-Refundable).	Online and hard copy
iii.	EMD: Demand draft of Rs. _____ (Refundable).	Online and hard copy
iv.	Tender document duly signed on each page	Online and hard copy
v.	Appendix-II: Tenderer's details	Online
vi.	Appendix-III: Affidavit	Online and hard copy
vii.	Appendix-IV: Technical specification compliance document (TSCD)	Online and hard copy
viii.	PAN card	Online
ix.	GST Certificate	Online
x.	Authorization/Original Equipment Manufacturer (OEM) certificate	Online
xi.	QCI/ BIS or Indian Government approved institute/ organization quality control certificate/ International quality standard certificate for OEM (whichever is applicable).	Online
xii.	Income tax return (A.Y. 2019-20)	Online
xiii.	Catalogue/Brochure showing item detail	Online
xiv.	Other (any specific or relevant information pertaining to tender which have not been covered in the tender document)	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 Navsariin favor of "Nodal officer CAAST, 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 monitory 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 isin between Rs. 50,00,001 to Rs. 1,00,00,000	5,000
If total quoted price isgreater than Rs. 1,00,00,000	15,000

3. **Earnest Money Deposit:**
   The tenderers have to submit EMD at the rate of **2 % (for instrument item.no. 1 and 2 of section 2) and 3% (for instrument item. no. 3 and 4 of section 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 "Nodal officer CAAST, 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 insuccessful 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 rejection of the tender.

Appendix-I: Forwarding Letter

No.

From: _____ 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/CAAST/01/2019-20]

Sir,

I/We hereby submit the offer (duly filled) in response to the advertisement/tender notice **E-TENDER No. NAU/DR/01/2019-20** for Scientific Instruments / 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 "Nodal officer CAAST, Directorate of Research, University Bhavan, NAU, Navsari"**with following details.

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

Note: Add row, if needed

*See Section 6, ** See section 2

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 January 7, 2020** 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.

Stamp & Sign of the Tenderer

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 2019 –20	:	

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.

TSCDIV(1): Aseptic Processing Line with FFS system (Quoted Model No._____)

Particular	Specifications	Comply (Yes/No)	Remarks
Objective	To preserve and pack liquid fruits juices, nectar and RTS etc aseptically		
Capacity	Storages tank capacity 500 litres and with filling capacity of 30 bottles or tetrapak per minutes		
Components	PLC Based Electric Panel for operating the Processing line. All parts of the machine must be comprised of SS 304 quality. Machine should have facilities of CIP. Machine must be comprised of sugar syrup preparation tank (200 litre capacity), sugar syrup transfer pump (500 litre /hours), 300 LHP Sparkler filter, beverage blending tank (300 litres), beverage transfer pump (500 LPH), Homogeniser (500 LPH) with SS pistons, 200 bar pressure, pneumatic operated with 500 cp viscosity with finest particle size, beverage storage tank (2 No of 250 litre), CIP return pump (300 LPH), RTS juice processing plant supply with interconnecting pipes & fitting, RTS juice pasteurizer system (500 LPH) with plate type tubular heat exchanger fully automatic plc based, float balance tank, feed pump and interconnecting pipes, two tanks for CIP process (Hot water and caustic) with pump (250 LPH), standards steam set up facilities as per plant capacity, 30 BPM (variable size) Hot Filling Machine, Rinsing, Filling And Capping with and 250 kg Steam Boiler. Filling must be aseptic. All motors must be covered with SS 304 cover, transfer pumps must have SS 304 contacts, must be provided with emergency switch off facilities, all tanks must be insulated (double jacketed). Design must be completely hygienic and aseptic. All pipes, bend, tee, valves, unions, cocks must be of 304 SS, 'Y' type steam ON/OFFvalve, Filters must be suitable to filter upto 60-70 ^{o}Brix syrup. Vertical Cylindrical Tank With Top & Bottom Cone. All welding joints ground finish with 180 grit surface finish totank		
Power supply	Single Phase 220-240 VAC, 50 Hz Supply or 3 phase supply. **ELECTRICAL CONTROL PANEL:** MOC SS 304Construction, TIC for sugar tanktemp. controller, TI For sugar syrup coolingtemp., RYB lampset, MCB, MPCB withcontactor, ON/OFF selector keyswitch, complete electrical wiring, STD lock system, main on/offswitch, STD Pneumatic air fitting with solenoidvalve, complete internal wiring with properdressing/numbering, starter for gear motor &pumps.		
Accessories	All accessories required for the operation of processing line must be supplied like inter-connecting pipelines, tool kit *etc*		
Other	Must have performance certificates from the reputed		

	government institutes		
	Bidder should supply spare parts or AMC for minimum of 05 years. AMC should be after warranty period.		
	Demonstration of the processing line shall be on bidder part		

TSCD IV(2):GAS CHROMATOGRAPHY-MASSSPECTROMETER (GC-MS/MS)
(Quoted Model No._____)

Particulars	Specifications	Comply (Yes/No)	Remarks
Gas Chromtograph	**Quoted Model_____**		
A. Mainframe	i. The GC must feature an external LCD/LED screen to provide easy accessibility to the GC and immediate interactions with it.		
	ii. The LCD/LED screen of the GC provides all needed data, including all temperature and pressure/flow parameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters, Real Time Chromatograms.		
	iii. A routine automatic leak checks procedure.		
	iv. A routine automatic column evaluation procedure and storing the column pneumatic resistance. It should also allow an automated correction of the nominal column parameters.		
	v. The system should be capable of calculating the carrier gas linear velocity and the column void time.		
	Auto sampler		
	i. Auto sampler with at least 150 (2 mL) vials capacity.		
	ii. Auto- sampler should not compatible with only manufacturer syringe.		
	iii. Should inject from 0.1 µL to 5 µL or more with variable speed and varying syringe sizes. Should be capable of large volume injection.		
	iv. Fully controlled by software as well as manual.		
	v. It should have indicator of any error.		
	Injector (1 Nos.)		
	i. Split/split less Injector Port.		
	ii. It should be able to operate with narrow bore capillary, normal capillary and wide bore.		
	iii. The injector should allow timed closure/opening of the purge line.		
	iv. Retention time locking/automatic adjustment of retention time system with constant flow or pressure.		
	v. Maximum temperature should ≥ 400 °C with fast cooling rate.		
	vi. Split Ratio: ≥ 7,000:1		
	vii. Pressure in the range of Range: 0-1000 kPa or better		
	Oven		
	i.The operating temperature range should be 3°C above ambient to 400 °C or better with fast cool down as well as heat up time		
	ii. Oven Ramps/Plateaus Cool down • It should have number of ramps/plateaus: 20/21 or better • the maximum heating rate should be >120 °C/min or better • Oven should be provided with the illuminating Light for fixing column		

	iii The oven temperature stability is within 0.01 °C/ every °C of actual temperature		
	iv. GC analytical performance: • The GC should have a Retention Time Repeatability of <0.008 min or better The Peak Area Repeatability should be <0.5 % RSD or better		
Mass Spectrometer:	**Quoted Model**_____		
Triple quadrupole GC-MS/MS system	i. Scan mode: Full scan, SIM, timed-SRM, SRM/MRM, Combined MRM/SRM/Full scan, Product ion scan, neutral loss		
	ii. Detection system should have linear range $>10^6$		
	iii The mass range should be 10 to 1000 m/z or better		
	iv.Should have adjustable electron energy from 10 eV to 150 eV or better		
	v.Should have emission current up to 150 µA or better		
	vi.The scan speed should not be less than 20,000 amu/sec. Higher scan speed is preferred.		
	vii.Should have 800 transition/sec from lower transitions to higher transitions without up gradation		
	viii.Mass resolution should be at least 0.5 µ FWHM/ unit mass resolution or better.		
	ix.Dwell time should be at least < 0.5 msec or better		
	x.The mass stability should be 0.1 Da over 24 hours or better.		
	xi.Interface between GC and MS with independent heating up to 400°C or better.		
	xii.Sensitivity: • EI MRM/SRM Instrument Detection Limit: 2 fg or less OFN (Installation specification) derived at the 99% confidence level from area precision of eight sequential injections of 1 µL,0.5fg/µL OFN (performance specification-which needs to be demonstrated), acquired in EI SRM/MRM • EI full scan: S/N ratio 1500:1 or better for 1 µL of 1pg/µL OFN (m/z 272) • EI MRM/SRM: S/N ratio >16000:1 or better for 1 µL of 100fg/µL OFN for the transition of m/z 272 →222) • The performance as quoted must be demonstrated during installation.		
	Ion source		
	It should have an EI source with dual filaments, programmable to 300 °C or better.		
	ii.The system should have improved ion guide/off-axis to reduce excited neutral background to single counts per scan without requiring signal thresholding, background subtraction or smoothing.		
	Vacuum system		
	Efficient vacuum system with minimum maintenance. The system should have vacuum safety features to prevent damage to the instrument in case of failure**.**		
	Gas cylinders		
	Suitable filled gas (2 Nos. of He and 1 No. of Ar) cylinders of highest purity (99.9999) as required with test certificates, SS double stage regulators for each gas cylinder, cylinder opening key, gas pipes with fittings.		

<table>
<tr><td>B. Installation and commissioning of instrument</td><td>IQ/OQ/PQ the system must be performed with the documentation.</td><td></td><td></td></tr>
<tr><td rowspan="4">C. Start-up kit</td><td>i. Installation kit must be supplied with instrument.</td><td></td><td></td></tr>
<tr><td>ii. Installed and commissioned for all the gases used in the instrument including gas tubing, manifold.</td><td></td><td></td></tr>
<tr><td>iii. Operation and maintenance manual for each unit in both hard copy and soft copy.</td><td></td><td></td></tr>
<tr><td>iv. Service manual with set of required tools for each system/unit.</td><td></td><td></td></tr>
<tr><td rowspan="10">D. Data Station with software system</td><td>i. PC with latest configuration and licensed operating system (At least i7 Processor, Intel Original M/B, 16 TB HDD, 42" LED monitor, DVD R/WR, 32 GB DDR3 RAM, graphic card etc.), with laser printer having back to back auto-duplex printing facilities, cordless mouse and cordless keyboard
ii) The wi-fi enabled latest operating system should be supplied</td><td></td><td></td></tr>
<tr><td>ii. GC/MS software should be latest, free of cost, upgradable and compatible to process minimum 500 compounds in a single sample.</td><td></td><td></td></tr>
<tr><td>iii. It should have Automated SRM/MRM Development.</td><td></td><td></td></tr>
<tr><td>iv. It should have Automated acquisition window adjustment based on retention time.</td><td></td><td></td></tr>
<tr><td>v. It should have Compound based acquisition method setup.</td><td></td><td></td></tr>
<tr><td>vi. It should have software for controlling and acquiring all the MS and conventional detectors.</td><td></td><td></td></tr>
<tr><td>vii. It should have separate dedicated software for reporting for environ mental and food safety market as per international protocols.</td><td></td><td></td></tr>
<tr><td>viii. The latest version of the NIST, 2017 and Pesticide Library (Licensed version) which could be updated time to time should be included.</td><td></td><td></td></tr>
<tr><td>ix. Should provide dedicated pesticide MRM database (with adequate license version) for 500 or more compounds</td><td></td><td></td></tr>
<tr><td>E. Additional Spare parts</td><td>• The spare parts with OEMstandard Part numbersshould be supplied in addition to standard startup kit of the instrument which are mentioned below</td><td></td><td></td></tr>
<tr><td></td><td>
<table>
<tr><td>i.</td><td colspan="2">Columns</td><td></td></tr>
<tr><td rowspan="2"></td><td>a.</td><td>30 m X 0.25mm i.d. X film 0.25 µ, DB-1MS or equivalent (Strictly MS amenable)</td><td>1 No.</td></tr>
<tr><td>b.</td><td>30 m X 0.25mm i.d. X film 0.25 µ, DB-5 MS or equivalent (Strictly MS amenable)</td><td>1 Nos.</td></tr>
<tr><td>ii.</td><td colspan="2">Gas Purification Panel for He,Ar,H_2,Zero Air,$N_2$with hydrocarbon trap, moisture trap and oxy trap</td><td>1 no.</td></tr>
<tr><td>iii.</td><td colspan="2">Long life, high-temperature low bleeding green septa, maximum setpoint 300 °C for both injector (S/Sl)</td><td>50 Nos.</td></tr>
<tr><td>iv.</td><td colspan="2">Auto-sampler syringes – (10µL)</td><td>10 Nos.</td></tr>
<tr><td>v.</td><td colspan="2">Glass Liners for Split injection</td><td>5 Nos.</td></tr>
<tr><td>vi.</td><td colspan="2">Glass Liners for Splitless injection</td><td>5 Nos.</td></tr>
<tr><td>vii.</td><td colspan="2">Vespel ferrules for capillary columns of</td><td>10 Nos.</td></tr>
</table>
</td><td></td><td></td></tr>
</table>

			0.25 mm id		
		viii.	Vespel ferrules for capillary columns of 0.32 mm id	10 Nos.	
		ix.	MS Interface ferrules	2Nos.	
		x.	Graphite Seal	2 Nos.	
		xi.	Heptacosa (PFTBA) or equivalent GC-MS calibration standard	1 No.	
		xii.	Appropriate nuts to fit capillary columns to the injector and MS interface	10 No.	
		xiii.	split filter - 1 pc , filament - 1 pcs , Scotch Brite for polishing the ion source - 1 pc , gold packing - 1 pc,Ion Source Box, Heat Processed (EI)		
G. Training	• One onsite training per year upto to three years. • Free post Installation training of minimum 3 days for 3 person at application lab or advance training center of the manufacturer.				
H. Warranty	Instrument should be provided with TWO year warranty Or One year warranty along with 2 years AMC after satisfactory and successful installation of the system (Specify)				
I. Terms and Conditions	i. **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**.				
	ii. If necessary, tenderer has to provide compatible housing and electric facility, supported instrument *etc.* free of cost.				
	iii. On the basis of discretion of the end user, NAU; the purchaser reserved the right to physically verify/evaluate performance of the similar installation of instruments (from the list attached by the tenderer) those qualify in the technical bid.				
	iv. The tenderers need to give an undertaking that application support and services would be available for minimum 10 years.				
	v. The Supplier is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the equipment, if required. 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.				
	vi. If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation				
	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.		
	viii. Purchaser i.e. NAU reserves the right to witness either the reproduction of the data generated by the tenderer's laboratory or to analyze the required samples / solutions at the tenderers laboratory in case the need arises		

TSCD VI (3): Gas Liquid Chromatography (GLC)

(Quoted Model No._____)

Particular	Specifications	Comply (Yes/No)	Remarks
I. Gas Liquid Chromatography (GLC)	**A. (i)Gas Chromatograph (Main frame)**		
	The GC must feature an external LCD/LED screen to provide easy accessibility to the GC and immediate interactions with it.		
	It should have a routine automatic leak checks procedure.		
	The LCD/LED screen of the GC should be able to provide all needed data, including all temperature and pressure/flow parameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters		
	A.(ii)Auto sampler		
	i. Capable to work with PTV and SL/SSL injection system without any medication in hardware ii. Auto- sampler should be compatible with the syringes of different manufacturer. iii. it should have at least 150 or more (2 mL) vials capacity. iv. Should inject from 0.1 µL to 5.0 µL with variable speed v. Fully controlled by software as well as manual.		
	A.(iii) Injector (2 Nos.)		
	(i)One Split/split less and one PTV injector should be quoted and it should be EPC/AFC/PPC/IEC controlled ,		
	(ii) It should be able to operate with narrow bore capillary, normalcapillary and wide bore & with a pressure range > 140 psi		
	(iii) The injector should allow timed closure/opening of the purge line.		
	(iv) Maximum temperature should ≥ 400 °C with fast cooling rate.		
	(v) Split Ratio: ≥ 7,000:1		
	(vi) Pressure in the range of 0-900 kPa or better.		
	A.(iv) Oven		
	i. The operating temperature range should be 4°C above ambient to ≥450 °C with fast cool down as well as heat up time		
	ii. Oven Ramps/Plateaus Cool down-It should have number of ramps/plateaus: 20/21 or better the maximum heating rate should be >100 °C/min or better		
	iii. The oven temperature stability is within 0.01 °C/ every °C of actual temperature		
	iv. GC analytical performance: a) The GC should have a Retention Time Repeatability of <0.0008 min or better b) The Peak Area Repeatability should be <0.5 % RSD or		

	better		
	A.(v) Detector with fast data acquisition		
	i. FID Detector should be minimum detection limit 1.5 pgC/s or better sensitivity ii. FID Detection system should have linear range $>10^7$ iii. ECD Detector should have detection limit 4.5 fg/s (lindane) or better, operating temperature range should be 400 ^oC		
	A(vi) Gas cylindersand gas purification panel		
	i. Suitable filled gas (Zero Air , H_2, N_2 -1 no. each) cylinders of highest purity (99.9999) as required with test certificates, SS double stage regulators for each gas cylinder, ii. cylinder opening key, gas pipes with fittings and iii. Gas Purification Panel for Ar, H_2, Zero Air, N_2 with hydrocarbon trap, moisture trap and oxy trap suited to system		
	B. Data Station		
	i. PC with latest configuration and licensed operating system (At least i7 Processor, Intel Original M/B, 16 TB HDD, 32" LED monitor, DVD R/WR, 32 GB DDR3 RAM, graphic card etc.) with laser printer having back top back auto-duplex printing facilities.		
	C. chromatography data system software		
	i. GC software (mandatory latest version with free of cost upgradation facility) should be comply to FDA 21 CFR Part 11, multi channel of the same make		
	ii. Should have simplified run creation, including sequence, methods and reports		
	iii. Should have automated pass/fail decisions during runs with Intelligent Run Control to get the analysis right the first time		
	iv. Should be able to integrate the peak quickly and accurately and can also handle the unresolved peaks		
	v. Should provide the facility of customizable, spreadsheet-based report templates with advanced calculations and charting		
	D. IQ/OQ/PQ of the system must be performed with the documentation		
	E. Start-up kit		
	i. Installation kit must be supplied with instrument.Installed and commissioned for all the gases used in the instrument including gas tubing, manifold.		
	ii. Operation and maintenance manual for each unit in both hard copy and soft copy		
	iii. Service manual with set of required tools for each system/unit		
II. Accessories and Spare parts	1 **Columns** i) 60 m × 0.25 mm ID, 0.15 µm, DB-23 or of equivalent phase — 1 no. ii) 60 m × 0.25 mm ID, 0.20 µm HP-88 or equivalent phase — 1 no. 2 Long life, high-temperature low bleeding green septa, maximum setpoint 300 °C for both injector (S/Sl& PTV) — 400 Nos. 3 2 mL vials and caps with septa — 5000		

			Nos.		
	4	Glass Liners for Split injection	5 Nos.		
	5	Glass Liners for Splitless injection	5 Nos.		
	6	Glass Liners for PTV injection	5 Nos.		
	7	Vespel ferrules for capillary columns of 0.25 mm id	40 no.		
	8	Vespel ferrules for capillary columns of 0.32 mm id	40 no.		
	9	Vespel ferrules for capillary columns of 0.53 mm id	20 Nos.		
	10	MS Interface ferrules	30No.		
	11	Graphite Seal (PTV)	6 no.		
	12	Graphite Seal (SSL)	6 no.		
	13	Column Cutter	2 no.		
	14	Auto-sampler syringes – 10µL	20Nos		
	15	PTFE Syringe filter, 0.22µ, 13mm diameter.	5000 Nos		
	16	Appropriate nuts to fit capillary columns to the injector and MS interface	(10 each).		
	17	Tool kit	1.0		
	18	Gas tube cutter	1.0 no.		
III. Warranty	i. Standard Warranty of 24 months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises				
	ii. An additional Annual Maintenance Contract (AMC) Servicefor the period of 36 monthsafterexpiry of standard Warranty				
	iii. Thetenderer shouldgive assurance of providing the spare parts and maintenance services for next 5 to 8 years after the expiry of the standard and extended warranty period				
	iv. Comprehensive calibration of the instrument (GLC) and their components shall be a part of the every major repair/breakdown and preventive maintenance				
	v. The calibration of the instrument and its part would be performed by NABL accredited firm/organization.				
IV. Others	Tenderer has to supply the following....				
	i. Required infrastructure in the lab for operation of instrument which is inclusive of instrument table, modification in existing room facility like electrical wiring and renovation of existing housing facilities.				
	ii. Supply 2 Ton AC				
	iii. Vertical side by side Double Door Refrigerator (capacity approx. 600 litre) for CRM Storage				
	iv. Imported refrigerated table-top centrifuge meeting high and low speed centrifugation amenable for 8 x 50 ml, 15ml capable of achieving 5000 to 10000 rpm and 2ml (17000 rpm).				
	v. The tenderer should provide whatever other requirements for the fulfillment of the objective of the purchase.				
V. Training	i. Free post Installation training for 3 persons for 3 days at application lab for GLC. ii. One onsite training for 3 days.				
VI. Terms and Conditions	**i. 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**.				

	ii. The tenderer should enclose with the technical bid a list of at least 5 Installations of the quoted model or a comparable model of equivalent sensitivity in the country along with the Contact Name, contact no, mail ID and complete address		
	iii. On the basis of discretion of the end user, NAU; the purchaser reserved the right to physically verify/evaluate performance of the similar installation of instruments (from the list attached by the tenderer) those qualify in the technical bid.		
	iv. The tenderers need to give an undertaking that application support and services would be available for minimum 10 years.		
	v. The Supplier is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the equipment, if required. 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.		
	vi. If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation		
	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.		
	viii. Purchaser i.e. NAU reserves the right to witness either the reproduction of the data generated by the tenderer's laboratory or to analyze the required samples / solutions at the tenderers laboratory in case the need arises		

TSCD VI(4): GAS CHROMATOGRAPHY-MASSSPECTROMETER (GC- MS)

(Quoted Model No._____)

Particular	Specifications	Comply (Yes/No)	Remarks
Gas Chromatography Mass Spectroscopy (GC-MS)	**A. Gas Chromatography Mass Spectroscopy (Main frame):**		
	i. The system should compatible with triple quadrupole geometry and capable of carrying out MS and MS/MS experiments.		
	ii. The GC must feature an external icon-driven touch-screen user interface for direct instrument controlin larger routine and method development		
	i. The LCD/LED screen of the GC provides all needed data, including all temperature and pressure/flow parameters, type of carrier gas, carrier gas column pressure, flow rates, split flow, detector gas flow rates and all detector parameters		

Particular	Specifications	Comply (Yes/No)	Remarks
	ii. A routine automatic leak checks procedure.		
	iii. A routine automatic column evaluation procedure and storing the column pneumatic resistance. It should also allow an automated correction of the nominal column parameters.		
	iv. The system should be capable of calculating the carrier gas linear velocity.		
	Auto sampler		
	i. Auto sampler with at least 150 (2 mL) vials capacity.		
	ii. Auto- sampler should not compatible with only manufacturer syringe.		
	iii. Should inject from 0.1 µL to 5 µL or more with variable speed and varying syringe sizes. Should be capable of large volume injection.		
	iv. Fully controlled by software as well as manual.		
	v. It should have indicator of any error.		
	Injector (2 Nos.)		
	i. One Split/split less and one PTV should be quoted it should be EPC/AFC/PPC/IEC controlled		
	ii. It should be able to operate with narrow bore capillary, normal capillary and wide bore column.		
	iii. The injector should allow timed closure/opening of the purge line.		
	iv. Retention time locking/automatic retention time realignment system with constant flow or pressure.		
	v. Maximum temperature should ≥ 400 °C with fast cooling rate		
	vi. Split Ratio: ≥ 7,000:1		
	vii. Pressure in the range of 0-900 kPa or better.		
	Oven		
	i.The operating temperature range should be 4°C above ambient to ≥450 °C with fast cool down as well as heat up time.		
	ii.Oven Ramps/Plateaus Cool down ➢ It should have number of ramps/plateaus: 20/21 or better ➢ The maximum heating rate should be >100 °C/min or better ➢ The oven temperature stability is within 0.01 °C/ every °C of actual temperature		
	iii.GC analytical performance: ➢ The GC should have a Retention Time Repeatability of <0.008 min or better ➢ The Peak Area Repeatability should be <0.5 % RSD or better		
	Triple quadrupole GC-MS/MS system		
	Detector		
	i. Scan mode: Full scan, SIM, timed-SRM, SRM/MRM, Combined MRM/SRM/Full scan, Product ion scan, neutral loss		
	ii. Detection system should have linear range $>10^6$		
	iii. The mass range should be 10 to 1000 m/z or better		
	iv. Should have adjustable electron energy from 10 eV to 150 eV or better		
	v. Should have emission current up to 250 µA or better		
	vi. The scan speed should not be less than 20,000 amu/sec or higher scan speed		
	vii. Should have ≥800 transition/sec from lower transitions to		

Particular	Specifications	Comply (Yes/No)	Remarks
	higher transitions without up gradation.		
	viii. Mass resolution should be at least 0.4 μ FWHM/ unit mass resolution or better. Manual tuning facility will be preferred		
	ix. Dwell time should be at least ≤0.5 msec or better		
	x. The mass stability should be 0.1 Da over 24 hours or better		
	xi. Interface between GC and MS with independent heating up to 350 °C or better		
	xii. Sensitivity: ➢ EI MRM/SRM Instrument Detection Limit: 2 fg or less OFN (Installation specification) derived at the 99% confidence level from area precision of eight sequential injections of 1 μL,0.5fg/μL OFN (performance specification-which needs to be demonstrated), acquired in EI SRM/MRM ➢ EI full scan: S/N ratio 1500:1 or better for 1 μL of 1pg/μL OFN (m/z 272) ➢ EI MRM/SRM: S/N ratio >16000:1 or better for 1 μL of 100fg/μL OFN for the transition of m/z 272 →222) ➢ The performance as quoted must be demonstrated during installation.		
	Ion source		
	i. It should have an EI source with dual filaments, programmable to 350 °C or better.		
	ii. The system should have improved ion guide/off-axis to reduce excited neutral background to single counts per scan without requiring signal thresh holding, background subtraction Or smoothing		
	Vacuum system		
	i. Efficient vacuum system with minimum maintenance.		
	ii. The system should have vacuum safety features to prevent damage to the instrument in case of failure.		
	Gas cylinders and gas purification panel		
	i. Suitable filled gas cylinders (2 Nos. of each for He, Ar) as required with test certificates, SS double stage regulators for each gases, cylinder opening key, gas pipes with fittings and purifier for the system.		
	ii. Gas Purification Panel for He, N2 with hydrocarbon trap, moisture trap and oxy trap		
	B. Data Station with software system		
	i. PC with latest configuration and licensed operating system (At least i7 Processor, Intel Original M/B, 16 TB HDD, 42" LED monitor, DVD R/WR, 32 GB DDR3 RAM, graphic card etc.), with laser printer having back to back auto-duplex printing facilities.		
	ii. GC software (mandatory latest version with free of cost upgradation facility) should be comply to FDA 21 CFR Part 11		
	iii. GC/MS software should be latest, free of cost, upgradable and compatible to process minimum 500 compounds in a single sample.		
	iv. It should have Automated SRM/MRM Development.		
	v. It should have Automated acquisition window adjustment based on retention time.		
	vi. It should have Compound based acquisition method setup.		
	vii. It should have a software for controlling and acquiring all the MS and conventional detectors.		

Particular	Specifications	Comply (Yes/No)	Remarks
	viii. It should have a separate dedicated software for reporting for environ mental and food safety market as per international protocols.		
	ix. The latest version of the NIST, 2017 and Pesticide Library (Licensed version) which could be updated time to time, should be included.		
	x. Should provide dedicated pesticide SRM/MRM database (with adequate licence version) for at least 500 or more compounds.		
	C. IQ/OQ/PQ of the system must be performed with the documentation		
	D. Start-up kit		
	i. Installation kit must be included for each instrument.		
	ii. Installed and commissioned for all the gases used in the instrument including gas tubing, manifold.		
	iii. Operation and maintenance manual for each unit in both hard copy and soft copy. iv. Service manual with set of required tools for each system/unit		
II. Accessories and Spare parts	1 Filament Cartridge — 10 Nos. 2 Column : GCMS amenable low bleed column DB-5MS (30m, 0.25mm ID, Film 0.25µm) or equivalent — 2Nos. 3 Spare EI ion Source — 3 No 4 Oil for vacuum pump — 10 Litre 5 Heptacosa (PFTBA) or equivalent GC-MS calibration standard — 2 no.		
III. Warranty	i. Standard Warranty of 24months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises.		
	ii. An additional Annual Maintenance Contract (AMC) Servicefor the period of 36 monthsafterexpiry of standard Warranty.		
	iii. Thetendershouldgive assurance of providing the spare parts and maintenance services for next 5 to 8 years after the expiry of the standard and extended warranty period.		
	vi. Comprehensive calibration of the instrument (GLC) and their components shall be a part of the every major repair/breakdown and preventive maintenance		
	vii. The calibration of the instrument and its part would be performed by NABL accredited firm/organization		
IV. Others	Tenderer has to supply the following....		
	• If necessary, tenderer has to provide compatible housing and electric facility, supported instrument *etc.* free of cost.		
	• Multifunction Printer with Scanning, copying and back to back printing facility.		
V. Training	i. Pre-installation Training for three persons for operation and maintenance of GC- MS/MS at their authorized training centres with state of art facilities		
	ii. Post Installation training for two persons for Five days at application lab for GC-MS/MS		
	iii. Every year till the end of warranty/CMC period for two-person training for one week twice in a year at application lab of OEM		
	iv. Advance outside Training at application lab for three persons of NAU after installation		

Particular	Specifications	Comply (Yes/No)	Remarks
VI. Terms and Conditions	**i. 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**.		
	ii. The tenderer should enclose with the technical bid a list of at least 5 Installations of the quoted model or a comparable model of equivalent sensitivity in the country along with the Contact Name, contact no, mail ID and complete address		
	iii. On the basis of discretion of the end user, NAU; the purchaser reserved the right to physically verify/evaluate performance of the similar installation of instruments (from the list attached by the tenderer) those qualify in the technical bid.		
	iv. The tenderers need to give an undertaking that application support and services would be available for minimum 10 years.		
	v. The Supplier is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the equipment, if required. 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.		
	vi. If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation		
	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.		
	viii. Purchaser i.e. NAU reserves the right to witness either the reproduction of the data generated by the tenderer's laboratory or to analyze the required samples / solutions at the tenderers laboratory in case the need arises		

Date : **Stamp & Sign of the Tenderer**