fssai

TENDER NOTICE FOR GAS CHROMATOGRAPH TANDEM MASS SPECTROMETER (GC-MS/MS) ALONG WITH ALL ACCESSORIES AND SAMPLE PREPARATION FACILITY

Food Safety & Standards Authority of India

Ministry of Health & Family Welfare

FDA Bhawan, Kotla Road

New Delhi – 110002

Letter for invitation:

Dear Sir/Madam,

FSSAI has undertaken a major programme for strengthening of Food Testing System in the country. As part of this programme, 45 State Food Testing Labs will be modernised with the induction of state-of-the-art analytical instruments. FSSAI proposes to enter into rate contract with reputed Original Equipment Manufacturers/Authorized Suppliers in India for the supply of Gas Chromatograph Tandem Mass Spectrometer (GC-MS/MS)

Sealed tenders are, therefore, invited from reputed manufacturers/Authorized suppliers in India for finalising the rate contract for and on behalf of Food Safety and Standards Authority of India for the purchase of Gas Chromatograph Tandem Mass Spectrometer (GC-MS/MS). The bids are to be submitted under a two bid system i.e. Technical and Financial Bids in the prescribed format. Financial bids of only technically qualified bidders would be opened.

FSSAI reserves the right to accept or reject any or all of the offers at any stage of the process without assigning any reason thereof and any claim /dispute on this shall not be entertained.

Yours Sincerely,

Head (Quality Assurance)
Food Safety and Standards Authority of India,
FDA Bhawan, Kotla Road, New Delhi – 110002

DATA SHEET

1	Name of Tendering Authority: FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA, FDA Bhavan, Kotla Road, New Delhi.
2	1) **Method of Selection:** Selection of the Bidders will be a two stage process. In the first stage the Bidders will be pre-qualified based on the compliance to specification and other requirement mentioned in the Technical Bids. The bids of only the technically qualified bidders will be considered for opening the Financial Bid. 2) L1 bidder will be selected from among the technically qualified bidder and all other bidders will be given an opportunity to match the L1 price. Rate contract would be signed with only those bidders who will match the L1 price.
3	A Pre- Bid conference will be held: **Yes** Date: 22nd November 2016 at 12:00 pm Venue: FSSAI HQ Details. A maximum of two representatives of each Bidder shall be allowed to participate on production of a letter from the Bidder. Bidders requiring any clarification on the tender may send their queries to the Head (Quality Assurance), FSSAI by email at softel.fssai@gov.in. All queries should reach FSSAI by Email with an attachment in 'MS-Word format' at least two days prior to the pre-bid conference date as per details provided below. FSSAI shall endeavor to respond to the queries within the specified period specified therein but not less than 5 days prior to the Bid Due Date. FSSAI reserves the right not to respond to any question(s) or provide any clarifications.
4	Point of contact for any queries related to the tender: Head Quality Assurance Food Safety & Standards Authority of India, FDA Bhawan, Kotla Road, New Delhi – 110002

	Tele-No: 011-23220990 Website: http://www.fssai.gov.in Email: softel.fssai@gov.in
5	**The Bidder must submit one copy each of the technical bid and the Financial Bid in separate sealed cover. Bids received in unsealed conditions will be summarily rejected.**
6	The Bidders are required to submit two envelops, one labeled 'Technical Bid' the other labeled 'Financial bid' Both the bids must be sealed in one larger envelop and should be marked, *"Tender for Rate contract for .....(Name of the Equipment)- Do not open except in presence of the Evaluation Committee"* The name of the Bidder submitting the bid must also be clearly indicated on the envelope. Each bid (Technical and Financial separately) shall be page numbered and Financial figures shall be laminated/covered with transparent adhesive tape.
7	The Technical bid must not contain any pricing information. If the technical bid contains any commercial information, the bid is liable to be rejected. In submitting additional information, please mark it as "supplementary" to the required response. If the Bidder wishes to propose additional services (or enhanced levels of services) beyond the scope of this tender, the bid must include a description of such services as a separate and distinct attachment of proposal.
8	Bids must be submitted not later than on **2nd December 2016 at 1730 hours.** Bid received after this will not be entertained or considered.
9	Address for submission of the Bid: Head (Quality Assurance) Food Safety and Standards Authority of India, FDA Bhawan, Kotla Road, New Delhi – 110002
10	Date for public opening of Technical Bids- (To be notified)
11	Date for opening of Financial Bids of Eligible Bidders (to be notified)
12	Expected date for contract negotiations to be notified)
13	Documents to be submitted by the bidder: a) Technical bid in the format prescribed in this document along with supporting documents as mentioned herein with signature, name, designation and seal of the authorized representative of the bidder on each page of the technical bid. b) At least two Performance certificates from the organizations where the quoted equipment model has already been installed are to be provided by the bidder along with Technical bid. c) Financial bid in the format prescribed in this document with signature,

	name, designation and seal of the authorized representative of the bidder on each page of the financial bid. d) Acceptance of the terms and conditions contained herein in the format as given in the tender document.
14.	FSSAI reserves the right to accept or reject any or all of the offers at any stage of the process without assigning any reasons thereof and any claim /dispute on this shall not be entertained.

1. INTRODUCTION

The Food Safety and Standards Act, 2006 was enacted in 2006 in order to consolidate all the laws relating to food and to establish the Food Safety and Standards Authority of India (FSSAI) for laying down science-based standards for articles of food and for regulating their manufacture, storage, distribution, sale and import, for ensuring availability of safe and wholesome food for human consumption in the Country. By virtue of the mandate given to FSSAI, Rules and Regulations hitherto implemented under various regulatory orders were repealed with effect from 5th August 2011.

The Food Authority is mandated to lay down the procedure, guidelines and notification of the accredited laboratories. FSSAI may notify laboratories and research institutions accredited by NABL or any other accreditation agency. In addition to above, it also mandates the Food Authority to develop regulations for food testing laboratories, protocols for testing, audit of food safety systems and undertaking training and capacity building for laboratory staff and professional food analysts.

2. SCOPE OF THE WORK:

The scope of the work is divided into following components:

a) Providing, Installing and commissioning Testing of the equipment Gas Chromatograph Tandem Mass Spectrometer (GC-MS/MS) along with all accessories and sample preparation facility.

b) Provision of Manpower

c) Operation and maintenance of equipment during the contract period

4.a Equipment to be provided:

Gas Chromatograph Tandem Mass Spectrometer (GC-MS/MS)) along with all accessories and sample preparation facility as per the specification given in the technical Bid format.

Note:

a) The cost should be quoted separately for all the accessories, consumables, equipment for sample preparation, CRM etc required for the functioning of the respective equipment.
b) The purchased equipment should be able to meet the requirements of the LOD and LOQ (Limit of detection and Limit of quantification) for the relevant parameters as specified in FSSR, FSSAI Manuals, Relevant test methods and be compliant to the requirements of ISO 17025.

4.b Manpower to be provided:

Successful bidder will have to provide full time one trained personnel for three years who will be responsible for the working of the instrument i.e. sample preparation, method validation, operation of instrument and data interpretation. The personnel will not claim to be an employee of FSSAI/ state Laboratory. The person will work under the supervision of state laboratory head and carry out the required analysis of various samples received in the lab. He will also be responsible for providing training on the instrument to the laboratory staff.

Bidders will have to maintain backup of the manpower supplied in case of prolonged leave or any unforeseen circumstances.

In case the person provided by the bidder is found to be involved in any unlawful activity, the bidder will be liable to remove him immediately and provide a replacement. The decision of the state food lab would be final and binding to the bidder in this regard.

3. FORMAT OF THE TECHNICAL BID:

The bids of only the technically qualified bidders will be eligible for consideration for opening of financial bid. The technical bid of the bidders will be evaluated on the basis of specification of the offered model vis-à-vis the prescribed specification given below :

1. **Name of the Equipment: .....**
2. **Offered Model: .....**
3. **Brief details of the offered Model:** (in terms of sensitivity, specification, LOD, LOQ, etc.) (not more than 150 words)
4. **Specification: .....**

S. No.	Main Heads/ Components	Prescribed Specification	Please specify whether the quoted model meets the specification (Yes/No)	Specification of the Quoted Model
1.	**GC system**	A compact high sensitive GC-MSMS system suitable for the analysis of Organo-chlorine pesticides, Organo-phosphorous pesticides, Synthetic Pyrethriods, PCBs and VOCs in food products and water at 1ppt level with user friendly software. The system should have a quadrupole – Time of Flight geometry, capable of carrying out MS and MS/MS experiments.		
1.1.	**Column oven**	The system should have All temperature and time functions are controlled by microprocessor-controlled and are shown on the touch- screen display. • Temperature: Operating Range **Ambient +4°C to 450°C** • Heating rate: from 50 to 450 °C within 5 min. • Cooling down rate: from 450 to 50 °C in less than 5 min. • Temperature programming facility. • Ramps : minimum 15 ramps with 16 plateaus or more • Maximum inlet temperature ramp rate : 120 °C / minute or better for all voltages • **Should have oven power safety(power off**		

		when door is open)		
1.2.	**Column**	All Capillary columns suitable for the analysis of polycyclic aromatic hydrocarbons, pesticides, volatile organic compounds, polychlorinated bi-phenyls, etc. should be quoted along with their application.		
1.3.	**Inlet**	The system should have **a. Capillary Port (Split / Splitless)** • Facility to fit 50 µm to 530 µm columns. • Pressure range : 140psi or more • Maximum temperature: 400 °C or more • Separate heating zone • Digital display of gas flow, temperature etc • Electronic pneumatic control (EPC)/ (EFC)/Advance Flow Controller (AFC). • Temperature setting through computer software. • Split ratio range 1:1 to 7000:1 **b. Programmable Temperature Vaporizer (PTV)** • Temperature ramped split / splitless and large volume injection modes. • Electronic pressure/ flow control. • Pressure setting range 0 to 100psi or more		
1.4.	**Auto Sampler**	The system should have • Dual and duplicate mode • Internal standard addition • Auto injector / sampler for Liquid injector and HS both with minimum 100 sample vials • Capable of handling large volume injection with syringe size from 0.5 to 250 µl. • Access two injection ports without requiring any additional tower. • Completely programmable from software.		
1.5.	**Backflush**	The system should have column end or mid column backflush to remove unwanted components/contaminants/high boilers.		

2.	**MS/MS System**	The system should have • **Mass range:** Qudrupole 10 to 1000 amu or better. • **Mass resolution:** minimum 0.7 (width at half height). • **Mass axis stability:** ±0.1 amu over 24 hours or more • **Linear Dynamic range:** minimum 6th order of magnitude. • **Scan rate (electronic):** 10000 amu/sec or better • **Ionization modes:** EI (Electron ionization) and CI (Chemical ionization) modes with isolation valve must be fitted to allow change of ionization mode. Ion source should have heating capacity of 350°C or more. • CI: must be capable to operate with different reagent gasses & electronic flow control for reagent gasses. • Collision cell gas pressure must be electronically controllable. • Collision energy must be variable. • **Scan Modes:** i. Should be able to do Scan, SIM, MRM/SRM, Parent ion scan, Product ion Scan, and Neutral loss scan-time segment based. ii. Simultaneous Full Scan-SIM or Full Scan/MRM or SRM whenever required. iii. SRM/MRM Speed: minimum of 300 MRM/sec iv. Minimum MRM dwell time of 1milliseconds. • Installation checkout sensitivity must be better than – • Instrument detection limit: 12 fg or less octafluoronaphthalene (OFN) • EI Scan sensitivity : 1 µl of 1 pg/µl Octafluoronaphthalene (OFN) should give S/N greater than 1000:1 in scan mode 1 µl injection from m/z 50 to 300 for m/z 272. • EI MRM Sensitivity : 1 µL of 100 fg/µL Octafluoronaphthalene (OFN) should produce the following minimum signal-to-noise for the transition from m/z 272 to m/z 222: 6,000:1		

		• **Turbomolecular pump**: Air cooled turbomolecular pumps, Rotary vane fore-line pumps supporting the turbo- molecular vacuum pump • Noise reduction cover for fore line pump. • Software controlled auto-tune or manual-tune to enable quick start-up for quantitative analysis. • Independently heated GC / MS interface. • Extended dynamic range Electron Multiplier or off-axis high-energy detector with configuration to direct the charged ion of interest away from the neutrals with long life and better sensitivity. • The instrument supplier has to demonstrate that the machine is suitable for the analysis of Organo-chlorine pesticides, Organo-phosphorous pesticides, Synthetic Pyrethriods, PCBs and VOCs in Fish, vegetables and water at 1ppt level.		
3.	**Nitrogen evaporator**	The system should be provided with a suitable Nitrogen evaporator system of 20- 25 samples processing capacity in one batch along with proper fume hood system. The specification along with the model should be provided at the time of tendering.		
4.	**System Controller and Operating system**	• Should have capability to run the mass spectrometer in all the modes specified in Scan mode. • Data acquisition, integration, calibration, quantification and QC calculations must be automated • Manual and Auto tune options should be provided. • Automatic MRM/SRM method Development • Library searching facility with NIST Library. • Pesticides and endocrine disruptors, PCB's, VOC's, Fatty Acid Methyl Esters, and artificial flavors. MRM Database for maximum number of GC molecules of over 5000 optimized ion transition. • 21 CFR part 11 & food safety compliance. **<u>Quantitative analysis- Qualitative analysis Features</u>** • Imports information directly from the		

		acquisition method • Provides a curve-fit assistant to test all fits and statistics on curve quality • Integrates with an automated, parameter-free integrator that uses a novel algorithm, optimized for triple Quadra pole data • For fast method development, this software is used to quickly review the qualitative aspects of the data, such as the optimum precursor to product ion transitions. • Qualitative Analysis program to present large amounts of data for review in one central location. • Extract chromatograms • View and extract peak spectra • Subtract background • Integrate the chromatogram • Find compounds		
5.	**PC with Printer**	• Minimum Intel core i5/i7 processor, 2.0 Ghz or more, 19″or more LCD/TFT Monitor, 500 GB HDD, DVD Read/Write, 4 GB RAM,4 USB Port or higher configuration for use with the above system to be provided. • Reputed Branded automatic back to back colour Laser jet printer should be provided		
6.	**Start up Kit**	• Installation kit must be included. • **Required gas cylinders** (with requisite certificate) for Nitrogen and Zero gas (3 each), Hydrogen, Helium, Argon or Equivalent (2 each) should be provided with accessories like Gas regulators and gas purification system etc., • Required Gas regulators and gas purification systems should be provided, installed and commissioned for all the gases used in the instrument including gas tubing, manifold		
7.	**Sample Preparation kits**	**QuEChERS Kits (1000 nos each) for Pesticides etc in following matrices:** ▪ Water ▪ High fat containing food ▪ High Water content food ▪ Highly Pigmented foods(eg chlorophyll, lycopene,carotene etc)		
8.	**Calibration Standards**	• Two sets each EPA standards for Volatile organic compounds, pesticide mix (organochloro and		

	with a minimum expiry period of two years	organophosphorous, poly cyclic aromatic hydrocarbons, poly chlorinated biphenyls, TCLP acid mix and basic-neutral mix, aldehyde/ketones, Halogenated volatile compounds, Herbicide mix, etc. • Individual standards for benzene and benzo (a) pyrene –two sets.		
9.	**Accessories and Consumables**	• Sample injector : ▪ For liquid injection (5 no. each) ▪ For HS syringe (5 no. each) ▪ Air tight syringe (for manual injection) (2 no. each) ▪ Manual syringe for liquid injector (2 no. each) • Auto sampler vials: 500 vials with screw cap. ▪ Vials with cap for 1.5 ml capacity (100 No.). ▪ Vials with cap for 10 and 20 ml capacity (each 50 No.). • Column Ferrules- injector end and interface end (20 No. each). • Septa for injector (100 No.). • Appropriate nuts to fit capillary columns to the injector and MS interface (10 each). • Inlet liner for Splitless, Split (with glass/quartz wool at optimum position) and PTV (with glass/quartz wool at optimum position) (10 No. each) • O-ring for injector liner (20 No.) • Split vent trap (2 No.) • EI Filaments (5 No.) • CI Filaments (5 No.) • Column cutter (2 No.) • Gas tube cutter. • Oil mist trap for pump (2 No.). • Tool kit. • FID Jet • **Optional:** Any other accessory as felt required for the proper functioning of the equipment.		
10.	**Power Supply**	The system should have UPS (minimum 10 KVA) of suitable rating with voltage regulation, spike protection and minimum 60 minutes back up for the supplied equipment.		
11.	**Additional items**	• Consumables for seven years operation of the system for main unit are required to be quoted for analysis in multiples of 100 samples.		

		• Operation kit comprising all required items for startup/regular operation of instrument. • Firm should also quote all essential pre-installation requirements and utility requirement for GC-MS/MS. • **Operation and maintenance manual for each unit in both hard copy and soft copy.** • **Service manual with set of required tools for each system/unit.** • The system should have Server connectivity and should be capable of 21 CFR Part 11 and food safety compliance. The necessary validations will have to be carried out by the equipment suppliers. • Methods library for all food matrixes, related software's and user manuals to be provided. PLEASE PROVIDE MAINTENANCE CHART FOR ALL OF THE COMPONENTS IN GC-MS/MS SYSTEM.		
12.	**Operation and maintenance & Training Component**	• The supplier will have to carry out successful installation at our laboratory premises (where ever the system has to be installed) and provide on – site comprehensive training for scientific personnel operating the system and support services till customer satisfaction with the system and a training at the suppliers lab premises is also required. • One trained personnel should be provided by instrument suppliers for seven years who will be responsible for the working of the instrument i.e. sample preparation, method validation, operation of instrument and data interpretation. The personnel will not claim as an employee of FSSAI/ state Laboratory. The personnel will work under state laboratory head. He will also be responsible for providing training of the instrument to the laboratory staff.		
13.	**IQ/OQ/PQ**	• IQ/OQ/PQ of the system is required		
14.	**Warranty**	• Standard Warranty of 24 months starting		

		from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises. • Comprehensive Maintenance Contract Service for 60 months after expiry of standard Guarantee/Warranty should be quoted • Annual calibration of the equipment shall be a part of the CMC. It shall also be mandatory to perform calibration after every major repair/breakdown. • The vendor should have available for ten years guaranteed parts and CMC service • The supplier or his authorized agent should have after sales and service centre near each of our laboratory location where the equipment is to be supplied. • Current user's / performance list with contact details (Customer name, phone email id etc) and date of installation to be provided (Minimum 5 installations of the model quoted) • Number and details of the service engineers has to be provided • Onsite performance evaluation of the equipment will be carried out for those who qualify in the technical bid.		
15.	**Preinstallation requirements**	• Provide all preinstallation requirements		

5. **List of Installations of the quoted Model preferably in food analysis sector in India** (Attach Performance certificate from the organizations where the quoted equipment has already been installed)

Note:

- The technical bids have to be filled in the above format only. Separate application notes and details can be attached but the above format is to be filled mandatorily.
- List of the 5 Installations in country, preferably in Food sector along with the Contact Name, contact no, mail ID and complete address should be enclosed with the technical bid.
- At least two Performance certificate (indicating LOD/LOQ of at least 10 parameters relevant to food sector) from the organizations where the quoted equipment has already been installed to be provided by the bidder along with Technical bid.

- The supplier should aim at a turnkey supply and installation of the equipment. Any accessory which is felt mandatory for the proper working of the equipment but not mentioned in the specification has to be quoted and supplied along with.
- Any unfair practice at any stage of the tendering process will lead to automatic disqualification of the concerned firm.
- No financial costs should be mentioned in the technical bid and the same shall be provided separately in a sealed envelope marked financial bid.
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I ..... (Name of the person) Authorized signatory of M/S ..... (Name of the firm) herby agree to all the term and conditions. FSSAI in its own discretion can cancel /modify the tender process and FSSAI will have the right to accept or reject any or all Bids and to annul the qualification process at any stage without any liability or any obligation for such acceptance, rejection or annulment, without assigning any reasons.

Name:
Signature:
Date:
Seal:

(To be filled in the format given above and signed by the authorized representative of the bidder.)

4. FORMAT FOR FINANCIAL BID:

S. No.	Specifications	Prescribed Requirement	Price in INR
1.	**GC system**	A compact high sensitive GC-MSMS system suitable for the analysis of Organo-chlorine pesticides, Organo-phosphorous pesticides, Synthetic Pyrethriods, PCBs and VOCs in food products and water at 1ppt level with user friendly software. The system should have a quadrupole – Time of Flight geometry, capable of carrying out MS and MS/MS experiments.	
1.6.	**Column oven**	The system should have All temperature and time functions are controlled by microprocessor-controlled and are shown on the touch- screen display. • Temperature: Operating Range **Ambient +4°C to 450**°C • Heating rate: from 50 to 450 °C within 5 min. • Cooling down rate: from 450 to 50 °C in less than 5 min. • Temperature programming facility. • Ramps : minimum 15 ramps with 16 plateaus or more • Maximum inlet temperature ramp rate : 120 °C / minute or better for all voltages • **Should have oven power safety(power off when door is open)**	
1.7.	**Column**	All Capillary columns suitable for the analysis of polycyclic aromatic hydrocarbons, pesticides, volatile organic compounds, polychlorinated bi-phenyls, etc. should be quoted along with their application.	
1.8.	**Inlet**	The system should have **c. Capillary Port (Split / Splitless)** • Facility to fit 50 µm to 530 µm columns. • Pressure range : 140psi or more • Maximum temperature: 400 °C or more • Separate heating zone • Digital display of gas flow, temperature etc • Electronic pneumatic control (EPC)/ (EFC)/Advance Flow Controller (AFC). • Temperature setting through computer software. • Split ratio range 1:1 to 7000:1 **d. Programmable Temperature Vaporizer (PTV)** • Temperature ramped split / splitless and large volume injection modes.	

		• Electronic pressure/ flow control. • Pressure setting range 0 to 100psi or more	
1.9.	**Auto Sampler**	The system should have • Dual and duplicate mode • Internal standard addition • Auto injector / sampler for Liquid injector and HS both with minimum 100 sample vials • Capable of handling large volume injection with syringe size from 0.5 to 250 µl. • Access two injection ports without requiring any additional tower. • Completely programmable from software.	
1.10.	**Backflush**	The system should have column end or mid column backflush to remove unwanted components/contaminants/high boilers.	
2.	**MS/MS System**	The system should have • **Mass range:** Qudrupole 10 to 1000 amu or better. • **Mass resolution:** minimum 0.7 (width at half height). • **Mass axis stability:** ±0.1 amu over 24 hours or more • **Linear Dynamic range:** minimum 6th order of magnitude. • **Scan rate (electronic):** 10000 amu/sec or better • **Ionization modes:** EI (Electron ionization) and CI (Chemical ionization) modes with isolation valve must be fitted to allow change of ionization mode. Ion source should have heating capacity of 350°C or more. • CI: must be capable to operate with different reagent gasses & electronic flow control for reagent gasses. • Collision cell gas pressure must be electronically controllable. • Collision energy must be variable. • **Scan Modes:** v. Should be able to do Scan, SIM, MRM/SRM, Parent ion scan, Product ion Scan, and Neutral loss scan-time segment based. vi. Simultaneous Full Scan-SIM or Full Scan/MRM or SRM whenever required. vii. SRM/MRM Speed: minimum of 300 MRM/sec viii. Minimum MRM dwell time of 1milliseconds. • Installation checkout sensitivity must be better than – • Instrument detection limit: 12 fg or less octafluoronaphthalene (OFN) • EI Scan sensitivity : 1 µl of 1 pg/µl Octafluoronaphthalene (OFN) should give S/N greater than 1000:1 in scan mode 1 µl injection from m/z 50 to 300 for m/z 272. • EI MRM Sensitivity : 1 µL of 100 fg/µL	

		Octafluoronaphthalene (OFN) should produce the following minimum signal-to-noise for the transition from m/z 272 to m/z 222: 6,000:1 • **Turbomolecular pump**: Air cooled turbomolecular pumps, Rotary vane fore-line pumps supporting the turbo-molecular vacuum pump • Noise reduction cover for fore line pump. • Software controlled auto-tune or manual-tune to enable quick start-up for quantitative analysis. • Independently heated GC / MS interface. • Extended dynamic range Electron Multiplier or off-axis high-energy detector with configuration to direct the charged ion of interest away from the neutrals with long life and better sensitivity. • The instrument supplier has to demonstrate that the machine is suitable for the analysis of Organo-chlorine pesticides, Organo-phosphorous pesticides, Synthetic Pyrethriods, PCBs and VOCs in Fish, vegetables and water at 1ppt level.	
3.	**Nitrogen evaporator**	The system should be provided with a suitable Nitrogen evaporator system of 20- 25 samples processing capacity in one batch along with proper fume hood system. The specification along with the model should be provided at the time of tendering.	
4.	**System Controller and Operating system**	• Should have capability to run the mass spectrometer in all the modes specified in Scan mode. • Data acquisition, integration, calibration, quantification and QC calculations must be automated • Manual and Auto tune options should be provided. • Automatic MRM/SRM method Development • Library searching facility with NIST Library. • Pesticides and endocrine disruptors, PCB's, VOC's, Fatty Acid Methyl Esters, and artificial flavors. MRM Database for maximum number of GC molecules of over 5000 optimized ion transition. • 21 CFR part 11 & food safety compliance. **<u>Quantitative analysis- Qualitative analysis Features</u>** • Imports information directly from the acquisition method • Provides a curve-fit assistant to test all fits and statistics on curve quality • Integrates with an automated, parameter-free integrator that uses a novel algorithm, optimized for triple Quadra pole data • For fast method development, this software is used to quickly review the qualitative aspects of the data, such as the optimum precursor to product ion transitions. • Qualitative Analysis program to present large amounts of	

		data for review in one central location. • Extract chromatograms • View and extract peak spectra • Subtract background • Integrate the chromatogram • Find compounds	
5.	**PC with Printer**	• Minimum Intel core i5/i7 processor, 2.0 Ghz or more, 19"or more LCD/TFT Monitor, 500 GB HDD, DVD Read/Write, 4 GB RAM,4 USB Port or higher configuration for use with the above system to be provided. • Reputed Branded automatic back to back colour Laser jet printer should be provided	
6.	**Start up Kit**	• Installation kit must be included. • **Required gas cylinders** (with requisite certificate) for Nitrogen and Zero gas (3 each), Hydrogen, Helium, Argon or Equivalent (2 each) should be provided with accessories like Gas regulators and gas purification system etc., • Required Gas regulators and gas purification systems should be provided, installed and commissioned for all the gases used in the instrument including gas tubing, manifold	
7.	**Sample Preparation kits**	**QuEChERS Kits (1000 nos each) for Pesticides etc in following matrices:** ▪ Water ▪ High fat containing food ▪ High Water content food ▪ Highly Pigmented foods(eg chlorophyll, lycopene,carotene etc)	
8.	**Calibration Standards** **with a minimum expiry period of two years**	• Two sets each EPA standards for Volatile organic compounds, pesticide mix (organochloro and organophosphorous, poly cyclic aromatic hydrocarbons, poly chlorinated biphenyls, TCLP acid mix and basic-neutral mix, aldehyde/ketones, Halogenated volatile compounds, Herbicide mix, etc. • Individual standards for benzene and benzo (a) pyrene – two sets.	
9.	**Accessories and Consumables**	• Sample injector : ▪ For liquid injection (5 no. each) ▪ For HS syringe (5 no. each) ▪ Air tight syringe (for manual injection) (2 no. each) ▪ Manual syringe for liquid injector (2 no. each) • Auto sampler vials: 500 vials with screw cap. ▪ Vials with cap for 1.5 ml capacity (100 No.). ▪ Vials with cap for 10 and 20 ml capacity (each 50 No.). • Column Ferrules- injector end and interface end (20 No.	

		each). • Septa for injector (100 No.). • Appropriate nuts to fit capillary columns to the injector and MS interface (10 each). • Inlet liner for Splitless, Split (with glass/quartz wool at optimum position) and PTV (with glass/quartz wool at optimum position) (10 No. each) • O-ring for injector liner (20 No.) • Split vent trap (2 No.) • EI Filaments (5 No.) • CI Filaments (5 No.) • Column cutter (2 No.) • Gas tube cutter. • Oil mist trap for pump (2 No.). • Tool kit. • FID Jet • **Optional:** Any other accessory as felt required for the proper functioning of the equipment.	
10.	**Power Supply**	The system should have UPS (minimum 10 KVA) of suitable rating with voltage regulation, spike protection and minimum 60 minutes back up for the supplied equipment.	
11.	**Additional items**	• Consumables for seven years operation of the system for main unit are required to be quoted for analysis in multiples of 100 samples. • Operation kit comprising all required items for startup/regular operation of instrument. • Firm should also quote all essential pre-installation requirements and utility requirement for GC-MS/MS. • **Operation and maintenance manual for each unit in both hard copy and soft copy.** • **Service manual with set of required tools for each system/unit.** • The system should have Server connectivity and should be capable of 21 CFR Part 11 and food safety compliance. The necessary validations will have to be carried out by the equipment suppliers. • Methods library for all food matrixes, related software's and user manuals to be provided. PLEASE PROVIDE MAINTENANCE CHART FOR ALL OF THE COMPONENTS IN GC-MS/MS SYSTEM.	

12.	**Operation and maintenance training component**	• The supplier will have to carry out successful installation at our laboratory premises (where ever the system has to be installed) and provide on – site comprehensive training for scientific personnel operating the system and support services till customer satisfaction with the system and a training at the suppliers lab premises is also required. • One trained personnel should be provided by instrument suppliers for three years who will be responsible for the working of the instrument i.e. sample preparation, method validation, operation of instrument and data interpretation. The personnel will not claim as an employee of FSSAI/ state Laboratory. The personnel will work under state laboratory head. He will also be responsible for providing training of the instrument to the laboratory staff.	
13.	**IQ/OQ/PQ**	• IQ/OQ/PQ of the system is required	
14.	**Warranty**	• Standard Warranty of 24 months starting from date of satisfactory and faultless functioning of the equipment for 60 days at the respective laboratory premises. • Comprehensive Maintenance Contract Service for 60 months after expiry of standard Guarantee/Warranty should be quoted • Annual calibration of the equipment shall be a part of the CMC. It shall also be mandatory to perform calibration after every major repair/breakdown. • The vendor should have available for ten years guaranteed parts and CMC service • The supplier or his authorized agent should have after sales and service centre near each of our laboratory location where the equipment is to be supplied. • Current user's / performance list with contact details (Customer name, phone email id etc) and date of installation to be provided (Minimum 5 installations of the model quoted) • Number and details of the service engineers has to be provided • Onsite performance evaluation of the equipment will be carried out for those who qualify in the technical bid.	

Pre installation requirements: List out all pre-installation requirements (which are to be provided by the Lab)

Note:

1. The financial bid has to be filled necessarily in the format given above and has to be signed by the authorized representative of the bidder with full name designation and seal on each page.
2. Price quoted should be valid for minimum 2 years.

3. Explanatory notes if so desired can be separately submitted along with the financial bid but financial bid in the above format is required to be submitted.
4. All the payment terms and condition should be clearly mentioned along with the financial bid.
5. All costs to be quoted shall be exclusive of taxes.

I ..... (Name of the person) Authorized signatory of M/S ..... (Name of the firm) herby agree to all the term and conditions. FSSAI in its own discretion can cancel /modify the tender process and FSSAI will have the right to accept or reject any or all Bids and to annul the qualification process at any stage without any liability or any obligation for such acceptance, rejection or annulment, without assigning any reasons.

Name:
Signature:
Date:
Seal:

(To be filled in the format given above and signed by the authorized representative of the bidder.)

Terms and Conditions of the Contract:

Liability of the successful bidder:

1) List of the 5 Installations in country, preferably in Food sector along with the Contact Name, contact no, mail ID and complete address should be enclosed with the technical bid.
2) At least two Performance certificate with LOD/LOQ from the organizations where the quoted model of the equipment has already been installed to be provided by the bidder along with Technical bid.
3) Price quoted should be valid for minimum 2 years.
4) The bidders need to give an undertaking that application support and services would be available for minimum 10 years.
5) Service support should be available throughout the country with a maximum turn around time of 3 working days.
6) 5% of the cost of equipment need to be submitted as Performance Bank Guarantee at the time of placing the order by the respective lab.
7) The successful bidder shall have complete responsibility for the equipment in consultation with the staff of state lab where the equipment will be installed. In the event of any equipment going out of calibration the successful bidder shall be responsible for carrying out required repairs and adjustments.
8) The bidders will have to enter into tripartite agreement with FSSAI and with the respective state Governments before placement of actual supply order for the equipment

I ..... (Name of the person) Authorized signatory of M/S ..... (Name of the firm) herby agree to all the term and conditions. FSSAI in its own discretion can cancel /modify the tender process and FSSAI will have the right to accept or reject any or all Bids and to annul the qualification process at any stage without any liability or any obligation for such acceptance, rejection or annulment, without assigning any reasons.

Name:
Signature:
Date:
Seal: