

**पर्यावरण विज्ञान संभाग**  
**Division of Environmental Sciences**  
**भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली- 110012**  
**I.C.A.R.-Indian Agricultural Research Institute New Delhi-110012**

मिसिल संख्या: ENV/2025-26/28-40/01

दिनांक Dated : 21.01.2026

**NOTICE FOR E-PROCUREMENT THROUGH GEM**

निदेशक, भाकृअनुप - भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली द्वारा निम्नलिखित वैज्ञानिक उपकरण की आपूर्ति एवं कार्य हेतु प्रतिष्ठित निर्माताओं/अधिकृत डीलरों/आपूर्तिकर्ताओं से दो बोली प्रणाली (तकनीकी एवं वित्त बोली) के अन्तर्गत **ऑन-लाइन क्यूटेशन GeM** पर आमंत्रित की जाती हैं। क्यूटेशन/निविदा प्रस्तुत करने की अंतिम तिथि **11.02.2026, समय 12.00 बजे दोपहर तक है। क्यूटेशन/निविदा को दिनांक 11.02.2026 को दोपहर 12.30 बजे निर्धारण समिति के समक्ष खोला जाएगा।**

On-line Bids on GeM are invited from reputed Manufactures/Supplier/Authorized Dealer in two bid system (Technical bid & Financial bid) for purchase of following Scientific Equipment on behalf of Director, ICAR-Indian Agricultural Research Institute, New Delhi. **The last date for submission of Bid is 11.02.2026 at 12.00 PM. The bid will be opened on 11.02.2026 at 12.30 PM by the prescribed committee.**

विस्तृत नियम व शर्तों को भारतीय कृषि अनुसंधान संस्थान की वेबसाइट [www.iari.res.in](http://www.iari.res.in) पर देखें एवं ऑन-लाइन के लिए इसे [www.gem.gov.in](http://www.gem.gov.in) पर भी देखा जा सकता है। Please visit [www.iari.res.in](http://www.iari.res.in) for Details Rules and Regulation and log on [www.gem.gov.in](http://www.gem.gov.in) for online bidding.

क्र.सं. S.No.	वैज्ञानिक उपकरण का नाम Name of Scientific Equipment	मात्रा Quantity	धरोहर राशि Earnest Money
1.	GC-Mass Spectrometer	एक One	रुपये 1,50,000/-

The tender details are mentioned below:

<b>Tender No.</b>	GEM/2026/B/7129410
<b>Bid Submission start date &amp; time</b>	21/01/2026 11:30 PM
<b>Last date &amp; time for submission of bid</b>	11/02/2026 12:00 PM
<b>Date &amp; time for opening of technical bid</b>	11/02/2026 12:30 PM
<b>Cost of estimated bid value (in Rupees)</b>	Rs. 65,00,000/-

**बोली लगाने के निर्देश और नियम व निविदा की शर्तें Instructions to the bidder and terms & conditions of tender :**

1. आपके द्वारा दी गई मूल्य दर क्यूटेशन प्राप्त हेतु निर्धारित अंतिम दिन से कम से कम 180 दिनों तक मान्य होगी। यदि आपूर्तिकर्ता द्वारा 180 दिनों की न्यूनतम अवधि की वैधता के संबंध में कोई अन्तर हो तो उसका विशेष रूप से उल्लेख होना चाहिए। The rates quoted shall be valid for a minimum period of 180 days from the last date fixed for the submission of bid.
2. क्यूटेशन में दर्शाई गई दरों में भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली के पर्यावरण विज्ञान संभाग , भा.कृ.अनु. संस्थान, नई दिल्ली - 110 012 में सामान/सामग्री की निशुल्क आपूर्ति अथवा स्थापन करना शामिल होगा। हालांकि, विदेशी मुद्रा में दर्शाए गए उपकरण को एफ.ओ.बी./सी.आई.पी. आधार पर दर्शाया जाए। The rates quoted shall be free of cost delivery and installation at the Division of Environmental Sciences, IARI, New Delhi - 110 012. However, equipment quoted in foreign currency must be quoted on FOR basis.
3. यदि सामान विदेश निर्मित है और दर विदेशी मुद्रा में दर्शाई गई है तो ऐसी परिस्थिति में कस्टम ड्यूटी छूट प्रमाण पत्र (सी.डी.ई.सी.) जारी किया जाएगा जो कि केवल भारतीय कृषि अनुसंधान संस्थान के लिए ही मान्य होगा। Custom Duty Exemption Certificate (CDEC) will be issued only when the bid is quoted in foreign currency in case of foreign made items only and meant for IARI.
4. क्यूटेशन में संबंधित सामान का पूरा विवरण दिया जाएगा । Full specifications of the item/article quoted for shall be given in the quotation.
5. उपरोक्त दर्शाई गई दर में यदि किसी भी प्रकार का अतिरिक्त कर/टैक्स/ड्यूटी लगाई जाती है तो उसके वास्तविक प्रतिशत का संकेत स्पष्ट रूप से दिया जाना चाहिए। If taxes, duties or any other charges over and above the rates quoted leviable, actual percentage of such taxes/duties/other charges should be clearly indicated.
6. बोली के साथ बतौर धरोहर राशि उपकरण के सामने दर्शाई गई राशि के अनुसार लगाई जाए/ डिमांड मांग ड्राफ्ट/भुगतान आदेश/सावधि जमा रसीद/बैंक गारंटी जो कि निदेशक, भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली - 110 012 के नाम पर किसी भी राष्ट्रीकृत बैंक में देय हो, को अवश्य संलग्न किया जाना चाहिए जिसके बिना क्यूटेशन पर विचार नहीं किया जाएगा। धरोहर राशि की मूल प्रति सीधे तौर पर संबंधित निविदा आमंत्रित करने वाले अधिकारी को अन्तिम तारीख तक या ऑफ-लाइन दर जमा करने से पूर्व पहुंचाया जाना चाहिए। डिमांड मांग ड्राफ्ट/भुगतान आदेश/सावधि जमा रसीद/बैंक गारंटी से संबंधित सभी जानकारी व्यक्तिगत रूप से भेजी जानी चाहिए। इस संबंध में प्राप्त स्कैन प्रति/या जो डाटा आपूर्तिकर्ता द्वारा दर जमा करने के दौरान

दिया गया है, उससे मिलान किया जाएगा अन्यथा इस क्यूटेशन को निरस्त माना जाएगा। **EMD must be attached as shown above** in the form of DD/Pay Order/Fixed Deposit Receipt/Bank Guarantee from commercial bank drawn in favour of Director, IARI payable at New Delhi – 110 012. The original EMD should be submitted to the Tender Inviting Authority on or before the last date and time of online bid submission. The details of DD/Pay Order/Fixed Deposit Receipt/Bank Guarantee physically sent, should tally with the details available in the scan copy and the data enter during the bid submission time otherwise the uploaded bid will be rejected.

7. इस संस्थान द्वारा निविदाकर्ता को किसी भी सुरक्षा जमा राशि पर ब्याज नहीं दिया जाएगा। No interest on Security Deposit and Earnest Money Deposit shall be paid by the Institute to the tenderer.
8. क्यूटेशन प्रक्रिया पूरी होने के उपरान्त असफल बोलीदाताओं को उनकी जमा की गई धरोहर जमा राशि वापिस कर दी जाएगी जबकि सफल बोलीदाता के मामले में यह राशि नियम के अनुसार सुरक्षा जमा के रूप में समायोजित की जा सकती है जो कि आदेश राशि की 5-10 प्रतिशत होगी और यह डिमांड मांग ड्राफ्ट/भुगतान आदेश/सावधि जमा रसीद/बैंक गारंटीनिदेशक, भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली - 110 012 के नाम पर किसी भी राष्ट्रीकृत बैंक में देय हो, जिसकी वैधता सभी कार्यों को पूरा करने के 60 दिनों के उपरान्त तथा साथ ही उपकरण जिसकी कीमत (रूपये 1.00 लाख या इससे अधिक) की गारंटी भी शामिल होगी। हालांकि, जो उपकरण रूपये 1.00 लाख से कम है, उस परिस्थिति में किसी भी प्रकार की निष्पादन जमा राशि नहीं दी जाएगी। The EMD shall be refunded to the unsuccessful bidders after finalization of the quotation. In case of successful bidders, it can be adjusted towards security deposit which is 3-10% of the order value in the form of DD/Pay Order/Fixed Deposit Receipt/Bank Guarantee from commercial bank drawn in favour of Director, IARI payable at New Delhi – 110 012 and shall remain valid for 60 days beyond the date of completion of all contractual obligation of supplier including warranty obligation for the equipment costing Rs.1.00 lakh (Rs. One lakh only) or more. Here would however, be no performance security deposit for equipment/goods costing less than Rs. 1.00 lakh (Rupees One lakh only).
9. फर्म द्वारा 02 वर्ष की वारंटी प्रदान की जाएगी। यदि सामान/उपकरण के विवरण में वारंटी की अवधि में किसी भी प्रकार का परिवर्तन है, तो उस वारंटी को अंतिम माना जाएगा। Two years warranty has to be invariable provided by the firm. In case, there is any variation in the warranty period given in the specification of the item/equipment, the warranty period shall be the final as given in the specification.
10. कार्य पूरा होने के बाद फर्म/आपूर्तिकर्ता को तीन प्रतियों में पूर्व-रसीद बिल प्राप्त होने के उपरान्त ई-पेमेंट के माध्यम से भुगतान किया जाएगा। Payment will be made by mode of e-payment to the supplier/firm after satisfactory completion of work and receipt of pre-receipt bills in triplicate.

11. निदेशक, भारतीय कृषि अनुसंधान संस्थान, नई दिल्ली के पास बिना कारण बताये सभी क्यूटेशनों को पूर्ण या आंशिक रूप से स्वीकार अथवा अस्वीकार करने के अधिकार प्राप्त हैं। The Director, IARI, New Delhi reserves the right to accept or reject any or all the quotations either in full or in parts without assigning any reason.
12. उपरोक्त शर्तों का अनुपालन नहीं करने वाली क्यूटेशनों को निरस्त किया जा सकता है। Quotations not complying with the above conditions are liable to be rejected.
13. TIN/VAT/PAN/G.S.T. Nos. की स्कैन प्रति को क्यूटेशन के साथ संलग्न किया जाए। Scanned copy of TIN/VAT/PAN/G.S.T. Nos. may be attached with the bid.
14. किसी कारण अनुबंध में कोई विवाद उत्पन्न होने पर उसका निपटारा भारतीय कानून व न्यायालय, नई दिल्ली के अधिकार क्षेत्र के अधीन किया जाएगा। सचिव, भारतीय कृषि अनुसंधान परिषद (ICAR) द्वारा एकमात्र मध्यस्थ नियुक्त किया गया है, जिसका निर्णय दोनों पक्षों (Supplier Purchaser) के लिए बाध्यकारी एवं अंतिम होगा। In case, any dispute arising out of this contract shall be subject to the jurisdiction of Indian Laws and Court at New Delhi. Sole Arbitrator is appointed by the Secretary, ICAR, New Delhi. His decision will be final and binding on both the parties (Supplier and Purchaser).
15. सफल बोलीदाता को सौंपे गए कार्य अथवा उपकरण की आपूर्ति को निर्धारित अवधि के भीतर पूरा करना होगा जैसा कि आपूर्ति आदेश में निर्दिष्ट किया गया है। ऐसा नहीं करने पर नकद नुकसान प्रभार के रूप में बिल में से कम से कम 2 प्रतिशत और अधिकतम 10 प्रतिशत की कटौती की जाएगी। The successful bidder has to supply the equipment as mentioned in the supply order placed with them within the stipulated period as given in the supply order placed by this office failing which 2 % per week and maximum of 10 % deduction as liquidated damage charges will be made from the bill in case the job is not completed within the given stipulated period.
16. As per Audit requirement the Successful bidder will be required to submit Proforma Invoice from the principal/manufacturer before issue of Purchase Order.
17. **Exemption from EMD submission is meant for procurement of only goods produced and service rendered by MSEs and not for any trading activities by them**
18. उपकरण के विस्तृत तकनीकी विनिर्देश अनुलग्नक, में संलग्न हैं। Detailed Technical Specifications of the equipment are attached at Annexure .

सहायक प्रशासनिक अधिकारी  
Asstt. Admn. Officer

## Technical Specification for GCMS spectrometer

**GCMS Application to be met:** Instrument should be customized by using Gas Sampling valve to perform analysis of  $^{12}\text{C}^{16}\text{O}_2$ ,  $^{12}\text{C}^{17}\text{O}_2$ ,  $^{12}\text{C}^{18}\text{O}_2$ ;  $^{13}\text{C}^{16}\text{O}_2$ ,  $^{13}\text{C}^{17}\text{O}_2$ ,  $^{13}\text{C}^{18}\text{O}_2$ ;  $^{14}\text{N}_2^{16}\text{O}$ ,  $^{14}\text{N}_2^{17}\text{O}$ ,  $^{14}\text{N}_2^{18}\text{O}$ ;  $^{15}\text{N}_2^{16}\text{O}$ ,  $^{15}\text{N}_2^{17}\text{O}$ ,  $^{15}\text{N}_2^{18}\text{O}$  isotopes m/z measurement

### GC Mainframe

- Should support 2 inlets and 4 detectors.
- Must be able to install up to 5 electronic flow control units/EPC/AFC.
- Must have advanced intelligent self-diagnostic functionality /remote diagnosis for easy maintenance or preventive measures
- Fully integrated alerts/notification and counters for hardware and software consumables avoiding downtime/preventive maintenance
- GC must have a full colour touchscreen display with Graphical User Interface (GUI).
- Easy access/one touch /notification for service, maintenance and log must be available.
- Autonomous/potential leak tests/checks must be available from software for safety purposes.
- Upgradability for two column installation in GC System, Detector Splitting System (multiple detection capability)/ Detector Switching System/ Deans switch, and/or Backflush System integrated Software.
- Retention time repeatability: <0.008% (or equivalent to 0.0008min)
- Area repeatability: < 0.5% RSD
- Must have Gas Saver function that considerably reduces carrier gas consumption after injection or on stand-by.
- Must have auto-shutdown feature that configures the GC to shutdown/ sleep automatically after a batch run to conserve energy and gas

### Column Oven

- Operating temperature range: ambient + 4°C to 450°C
- Oven temperature set point resolution must be 0.1°C.
- Oven must support at least more than 20 ramps and negative ramps must be allowed.
- Maximum achievable temperature ramp rate must be 120°C/min.
- Maximum run time of at least 999.99 minutes
- Oven cools down from 450°C to 50°C must be in 3.5 mins or better, with built-in programmable oven cool-down rate available to cater for columns of different stability.



Dr B. Chakraborti

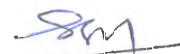
Dr A. Bhatia



Dr M. Srivastava



Dr. Sandeep Kumar



AAO, Mr. M.C.Meena



Dr N. Jain

(Member, DPC)

(Chairperson, DPC)

(Member, DPC)

(Member, DPC)

(Member Secretary, DPC)

(Principal Investigator)

### Split/Splitless Injector

- Must be suitable for all capillary columns of 50 $\mu$ m to 530 $\mu$ m internal diameter.
- The pressure controller must come with compensation for barometric pressure and ambient temperature changes as standard.
- Must be able to select carrier and makeup gas types: Helium, Hydrogen, Nitrogen or Argon.
- Split ratio range: More than 12,500 must be available to avoid column overload.
- Maximum operating temperature up to 400°C or better.
- Must consist of at least 3 pressure programming methods/modes, including the constant linear velocity mode.
- Pressure setting range: 0 to 1035 kPa (0 to 150 psi)
- Number of flow programming steps/ramps must be up to  $\geq 3$ , with higher number preferred.
- Must be able to set total flow range: 0 to 1,250mL/min for He, 0 to 500mL/min for H<sub>2</sub>, 0 to 500mL/min for N<sub>2</sub>.
- Built-in automatic carrier shutoff if the inlet pressure drops significantly, i.e. in the case of leakage.
- Must have electronic septum purge flow control to eliminate carry-over.

### Quadrupole MS

- The quadrupoles should be maintenance free made up of preferably metallic and should be cleanable.
- The mass spectrometer must have Electron Ionization (EI) modes supplied as standard.
- It should have a mass range of 1.5 to 1090 amu with unit mass resolution over the entire mass range.
- The high scanning speed capability should be 20,000 amu/sec (single scan).
- The mass spectrometer should have a stability of  $\pm 0.1u$  / 48 hours.
- The ion source and transfer line must be independently heated over a user- selectable temperature range:
- Ion Source: up to 350°C
- Transfer Line from GC to MS: up to 350°C specifically for lower temperature sensitive VOCs
- The ion source must be accessible from the front for ease of maintenance without the need to remove the top cover.
- The mass spectrometer must have a dynamic range of 10<sup>6</sup>.
- Simultaneous or Auto Scan and SIM method/mode with software
- Measurement of IDL Peak area/precision repeatability of 8 time sequential analysis at 99% confidence level for an injected OFN
- EI scan sensitivity: Signal-to-noise (S/N) 5000 at m/z 272 for 1 pg Octafluoronaphthalene (OFN) in EI scan



Dr B. Chakraborti

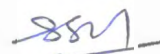
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- EI SIM IDL should be 10fg or lower when 100 fg of octafluoronaphthalene (m/z 272) is injected.
- The vacuum system should consist of high-capacity turbo molecular pump with vacuum exhaust system. Minimum 250 L/Sec or more pump capacity
- There should be 2 filaments available for EI ionization mode allowing automatic switching to another when one fails.
- Gas sampling/gas loop sampling valve and 6 or more port switching valves
- Gas sampling valve should be housed in separate box on the side or top of GCMS unit. And specific sample inlet and sample outlet ports for 1/8" SS tubing should be provided on the GC panel.
- Suitable Sample start/ stop valve or pressure balance valve should be included for automatic start-stop of sample flow to GC and ensure that sample filled in the loop should always kept at atmospheric pressure, irrespective of filling pressure.
- System should be provided with separate temperature control heated valve box (up to 150°C or more), suitable columns and related accessories for automatic gas sampling & injecting to column to get desired analysis.

### General Requirement

#### Data Management and Acquisition System

- Data Management, Intel i5 processor or better, 16GB RAM Memory, 1TB SSD Storage, 24" LCD monitor, keyboard, Mouse & mousepad, Windows 11 Pro licensed version, MS Office latest licensed version, Antivirus software licensed version (3 years)

#### Software System

- The system should be an easy-to-use next generation software that incorporates the latest Windows technology.
- Able to identify target analyte correctly in the event where retention time has shifted from the originally supposed retention time.
- The software package should allow for the complete control of the GC, method development and automation, data acquisition, data analysis, generation of custom reports, etc.
- Should have full GLP/GMP support in terms of security, audit-trail and validation support.
- Must have the following data acquisition capabilities:
  - o Snapshot function, supports single analysis and batch analysis, Batch Table Wizard, add or insert analyses,
  - o Supports extended analysis time, automatic time, automatic data file creation
  - o QA/QC (statistical) functions, batch auto-stop function

 Dr B. Chakraborti

(Member, DPC)

Dr A. Bhatia

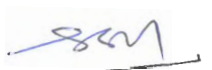
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- Must have the following data processing and data analyses functions:
  - o Peak integration manipulation, identification (supports multiple relative retention times and grouping)
  - o Quantitation (percentage area method, corrected percentage area method, internal standard method, external standard method, standard addition method, index calculation, manual coefficient input)
  - o Calibration points and levels, manual calibration curve creation, data comparison functions.
- Must allow clock-time programming with the ability to automatically start/stop a GC at the user-specified scheduled time.
- System check features like status log must be available to allow continuous monitoring of GC in real-time to alert user maintenance needs and instrument problems.
- Software upgrades like version ups, if any, should be done without any cost

### Library

- NIST 2023 Mass Spectral library or latest should be included.
- It should be upgraded for free if any update is available during warranty period.







### Columns, Spares and consumables:

- GCMS startup kit and tool kit with suitable capillary column for MS tuning and installation checkout criteria and 30-meter capillary columns as per application indented above.
- Set of GCMS consumables kit which includes – Injector Septum, Split inserts, Split less inserts, Graphite ferrules for all column sizes (10nos each), Vespel ferrules for all column sizes (10nos each), Quartz wool, column nuts (15nos), O-rings, Capillary adapter, nipple for gasket. Approx qty for usage up to 1 to 2 years of operation.
- 5 boxes of 100 headspace vials with crimp caps and septa. Crimper and Decapper to be included.

Set of Maintenance kit which Includes split filter for flow/ pressure controller -1 pc; filament - 2 pcs; Ion source polisher – 1no; gold packing- 1 pc; aluminium packing - 100 pcs; insulator bush- 1 pc

### Utility Items

47L capacity Helium cylinder with suitable dual stage pressure regulator, tubing, gas purification panel, micron filter required for GCMS operation

					
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(Member, DPC)	(Chairperson, DPC)	(Member, DPC)	(Member, DPC)	(Member Secretary, DPC)	(Principal Investigator)



## Training

The supplier must provide training for the users of the instruments at site as well as at the supplier's application laboratory, after installation and commissioning along with method development for intended use. Details of the training program must be attached with the tender. Training should be provided for all the respective department users.

## Others

- The supplier must demonstrate that it has a proven appropriate set-up and capability to provide after-sales service efficiently and effectively. The supplier should have in his facility a similar system to that proposed in this tender for training purpose.
- A declaration of Conformity certificate must be provided.

A declaration of System Validation certificate must be provided.


## Service, Warranty and Training

1. Tendered price should include delivery, installation, commissioning and training (at least 3 users) at customer's location.
2. On-site installation, commissioning and training shall be conducted by a qualified factory-trained engineer.
3. Complete support with instrument warranty for equipment for at least a period of 24 months. This shall include the following at no extra cost:
  - Travel and Labour expenses of Customer Engineer.
  - Service Parts used for repairs.
  - CMC for additional one year after the warranty period
4. Vendor to have logistic support to ensure that over at least 95% of the service parts are readily available and upkeep delivery within 24 hours.
5. The warranty shall commence only upon successful completion of the Acceptance Test or commissioning.

Vendor must demonstrate that it has a proven appropriate set-up and capability to provide after-sales service efficiently and effectively. The supplier should have in his facility a similar system to that proposed in this tender for training purpose.

  
Dr B. Chakraborti

(Member, DPC)

  
Dr A. Bhatia

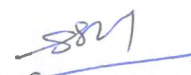
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