KANNUR UNIVERSITY
(PMU D SECTION)

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NOTICE INVITING RE-TENDER

The Registrar, Kannur University invites e-tender(s) in Two Bid System (Two cover) for the supply, Installation, Testing and Commissioning **Gas Chromatogram with head space sampler and detectors (upgradable for MS)** at **Department of Chemistry** Swami Anandatheertha Campus, Payyanur, Kannur University under PM USHA Scheme from original equipment manufacturers (OEMs) or authorized distributers/dealers as per the technical specifications and schedule given below. The rate quoted should be inclusive of all taxes, installation charges and other charges. The Registrar, Kannur University reserves the right to accept or reject the tenders without assigning any reason thereof. The list of equipment/accessories proposed to be purchased, including its quantity and specifications are furnished in the schedule of items given below. Since this is an e-tender, only those bidders who have enrolled in the http://etenders.kerala.gov.in portal with their own Digital Signature Certificate (DSC) can participate in the tender. E-Tender document and other details can be obtained from the above e-portal.

TENDER SCHEDULE

Tender ID	2025_KnrU_779317
Name of work	Supply, installation, testing and commissioning of **Gas Chromatogram with head space sampler and detectors (upgradable for MS)**
Last date for receipt of Tender	22-09-2025 , 11 AM
Date and time of opening tender	23-09-2025 , 3.00 PM.
EMD	Rs: **95,500/-**
Tender fee	**14300**/- {excl. GST}
Place of supply and installation	**Department of Chemistry** Swami Anandatheertha Campus, Payyanur, Kannur University

For further details logon to http://etenders.kerala.gov.in.

Specification

Supply, Delivery, Installation and Commissioning of Highest Performance Gas Chromatograph System with Accessories.

1. GC Mainframe should have two separate independent Oven to accommodate 2 FID and TCD Detector as TCD with manual gas sampling valve, dual packed injection units having dedicated suitable packed column for separation of gases mainly Hydrogen and mixture of permanent gases including CO and CO2 at both high and low concentrations levels. Should have separate Oven having Split Spitless injector with single dedicated FID and Head space analyser connected for capillary analysis of volatile compounds.
2. Should be able to operate both Oven independently for the gaseous and liquid samples.

- Must have advanced intelligent self-diagnosis feature.
- Advanced Carrier Flow control systems and sensors must be fully supported by the operating software.
- Must provide software that monitors GC counters and provides graphic display. Also must provide a real-time notification via indicator/advisor when a counter limit has been reached.
- Must provide a run time deviation log created for each analysis.
- Built-in column bleed compensation for the use of capillary columns.
- Standard atmospheric pressure and temperature compensation must be available.
- GC FID HS oven must be Upgradability to MS detector and not the Oven with Gas sampling valve.
- An extensive self-diagnosis function with safety features helps prevent unexpected instrument malfunctions. It enables a detailed diagnosis of the septum and insert usage status, whether there is a temperature sensor error, gas supply pressures, control status of each gas, ignition function, DC voltage, AD converter, and other factors.

3. **Column Oven**

- Operating temperature range: ambient + 5°C to 400°C for gases and up to 450 for oven for volatile samples and capillary analysis.
- Oven must support 20 ramps and negative ramps must be allowed.
- Oven temperature program set point resolution for the temperature ramp rate must be 0.1°C.
- Oven cools down from 350°C to 50°C must be less than 8 min
- Temperature stability for <0.01°C for a 1°C ambient change, ensuring the maintenance of oven internal temperature with respect to external fluctuations.

4. **Packed injector for gas analysis**
5. **Split/Splitless Injector for capillary analysis.**

- Must be suitable for all capillary columns of 50 um to 530 um internal diameter.
- The pressure controller must come with compensation for barometric pressure and ambient temperature changes as standard.
- Must be able to select pressure units as psi or kPa
- Must be able to use carrier and makeup gas types: Helium, Hydrogen, Nitrogen or Argon.
- Maximum operating temperature up to 450°C.

6. **Flame Ionization Detector (FID) – One fitted in each oven for gas and volatiles Organic compounds**

- The detector should be capable of detection of trace number of compounds with sensitivity should be less than 5 pgC/s or better
- Temperature range of up to 400°C
- Must provide fast flame out detection and efficient automatic re-ignition.

7. **Dual Flow Rate Differential Thermal Conductivity Detector System with temperature range up to 400^{0}C TCD dynamic range of 105 with sensitivity of 40,000 mV.mL/mgor 400pg/ml or better**
8. **Head space sampler (temperature range up to 200 °C) with minimum 8 vial capacity should be quoted**
9. **Dedicated software with PC for operation of GC for gas analysis & GCMS with HS and FID analysis independently**

- The system should be an easy-to-use next generation 64-bit software that incorporates the latest Windows technology.
- Equipped with multiple functions like Graphical User Interface, Assistant Bar, Data Explorer.
- Flexible Graphical User Interface to display instrument status, show real time plot and change all instrument set points.
- Able to identify target analyte correctly in the event where retention time has shifted from the originally supposed retention time.
- Snapshot function, supports single analysis and batch analysis, Batch Table Wizard, add or insert analyses,
- Supports extended analysis time, automatic time, automatic data file creation
- QA/QC (statistical) functions, batch auto-stop function, run user program function, supports pre-run programs, OLE automation compatibility (Batch analysis, etc).
- Must have the following data processing and data analyses functions:
- Peak integration and identification (supports multiple relative retention times and grouping)
- Quantitation (percentage area method, corrected percentage area method, internal standard method, external standard method, standard addition method, index calculation, manual coefficient input)
- Calibration points and levels (16 levels x 10 points), manual calibration curve creation, column performance calibration, data comparison functions.
- Must have report items – sample information, environment settings, methods, chromatograms, peak tables, calibration curves, grouping results, diagrams, text, etc.), OLE object compatibility, layout customization and preview functions, summary report.
- Must allow clock-time programming with the ability to automatically start/stop a GC at the user-specified scheduled time.
- Must be capable of performing detector auto-ranging.
- System check (GC self-diagnosis), status log must be available to allow continuous monitoring of

GC in real-time to alert user maintenance needs and instrument problems.

10. Accessories that must be included into the system

- GC consumables ferrules, septa and glass insert for split and splitlessetc shall be quoted.
- Capillary column for Stabil wax 30 meters – 1 No
- Capillary column for pesticide applications
- PC with original OS – 2 Nos.
- Gas cylinders Hydrogen, Air and Nitrogen, with 2 stage pressure regulators -1 set
- Gas purification panel for 3 gases – 1 set
- Methanizer – 1 No.
- 6 port Gas Sampling Valve – 2 No's or Suitable gas sampling valve for the separation of gases.
- 10 port Gas Sampling Valve- 1 No or Suitable gas sampling valve for the separation of gases.
- Permanent Gases Column column set – 1 No.
- GC Lab Solution Software or equivalent
- Porapak N Column – 2 Nos.
- Molesieve 13x Column – 2 Nos.
- Porapak Q column – 2 Nos.
- Shin carbon column or any suitable column – 2 Nos.
- Installation Kit for GC (Gas Filters and Piping) – 1 No.
- All the required gas cylinders and their regulators for the operation of instrument should be included
- All the essential spares and consumables for 5 years of smooth operation must be quoted with sufficient quantities.(Filament – 5 nos. Graphite-Vespel ferrules – 20 Qty Injector ferrules – 20 Nos Injector liners – 10 nos Injector septa – 100 nos Auto sampler syringe – 5 nos Auto sampler vials with cap and septa – 500 no. Head Space Sampler Syringes – 3 Nos Head Space sampler vials with Cap and Septa- 500 Nos Crimper- 1 No De Crimper- 1 No)
- Calibration standards for hydrogen, CO, methane and CO_2 should be provided.Calibration mix of gas standards 1% each of H2, CO, CO2 and Methane with minimum 3 liters – 1 N0. Calibration mix of gas standards 25% each of H_2, CO, CO_2 and Methane with minimum 3 liters – 1 No

Others:

For Gas analysis the independent GC Oven should have all dedicated fitting and flow paths and shall be customised to easily inject gas samples and get chromatogram of various gas concentrations. Should provide flow diagram and detection levels.

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. Vendor to provide a copy of Site-Preparation checklist.
4. Vendor to provide both on-site and operator training for users on the system start-up, usage,

maintenance, quality control, trouble shooting, etc. including comprehensive classroom training.

5. A declaration of Conformity certificate must be provided.
6. A declaration of System Validation certificate must be provided.
7. All modules must be GLP compliant.
8. Warranty for 3Years
9. The vendor should provide list (at least 10) of installation of similar system in Indian Universities/ IITS/NITs/IISER and other government research laboratories with their contact details in last 3 years
10. The vendor should have proper qualified engineer/s located near to our place for prompt and efficient after sales services for the next at least 10 years. They should also have established local application laboratory to assist us for our regular assistance for our samples/methods/data interpretations.
11. Quoted item should be the latest model with the availability of all the parts and required accessories for at least 10 years
12. The instrument should be globally recognized one

Attachment(Specification of Mass detector for combination of above GC with FID and HS)

Should have MS detector with interface direct connection with capillary column.

1. Electron impact ionisation
2. Mass analyser shall be Quadrupole Mass Spectrometer Detector with standard EI
3. Mass Range 1.5m/z to 1,090m/z
4. Dual filament with automatics witch over
5. Mass Resolution setting :0.4to2.0u (FWHM)
6. Mass Stability: ± 0.1 u/48 hours (constant temperature)
7. High-Speed Scan Control:High-Speed Scan Control:
8. High-Speed Scan Rate:20,000 amu /sec or more
9. Minimum Measurement Interval: 0.003s (333 scan/sec maximum)
10. Rock Solid Inert Metal Quadrupole Analyzer with rotatable pre-rods or equivalent
11. Conversion Dynode Electron Multiplier Tube Detector with over drive noise suppression lens
12. EI Scan Sensitivity
13. S/N Ratio >750 RMS for 1pg Octafluoro naphthalene mlz 272 with 15/30 meters standard MS capillary columnor better
14. EISIM Sensitivity
15. IDL<5 fg for 10 fg OFN mlz 272).or better
16. Vacuum System with built in Turbo molecular pump
17. High capacity 66liter/ secAuxiliary pumping with 30 ltr/min (60 Hz) rotary pump or above
18. Direct interface between GC &MS with independent heating up to 400 ^{0}C
19. Direct compatibility of capillary columns with I.D. 50µm to 530 µm
20. Rigid Structure, Repeller type, heated lens stackIon Source
21. Independent Ion source heating facility
22. Variable ionization voltage from 10 to 150 eV.
23. Mass detector shall be compatible with He,N_2 and H_2 as carrier gas.

24. Front access ion source for easy maintenance
25. Electron current from10to250 micro Ampere
26. Automated vacuum leak check, time management for stabilization of vacuum and automatic tuning function.
27. Automatic Adjustment of Retention Time(AART)
28. Advance Scanning Speed Protocol (ASSP) or equivalent
29. Ecology Mode saves power and carrier as in analysis stand by mode.
30. Full Scan and Selected Ion Monitoring(SIM) Mode with Fast
31. Smart SIM automatic method creation function automatically.
32. Configures the SIM program to suit the retention times. Automated Simultaneous SCAN/SIM
33. Active time management , Easy Top and MS navigation .
34. NIST library latest version.
35. MS analysis software with Similarity search and identification functions using retention indices up to 20 libraries can be configured.
36. Gas accessories for MS carrier gas.
37. Liquid Auto sampler with minimum vial capacity of 8 or more
38. Necessary gases with double stage regulator should be quoted

Terms and Conditions

1. The tender should be submitted in two cover system (Technical bid & Financial bid).
2. Prices shall be quoted in Indian Currency only.
3. **Tender fee and EMD should be remitted through SBI MOPS as indicated in the e-Tender website. All payments including EMD should be made through online but 18% GST of Tender fee should be remitted to GST Department directly. The bidder shall be solely responsible for the payment of GST. The University holds no responsibility or liability in this matter."**

Sl. No	Item	Tender Fee (₹)		EMD (₹)
		Fee	18% GST	
1.	Gas Chromatogram with head space sampler and detectors (upgradable for MS)	14,300.00	2574.00	95,500.00

4. **All the MSMEs with Udyog Aadhar Registration or any other body specified by the Ministry of Micro, Small and Medium Enterprises working within the state of Kerala will be exempted from the payment of Tender Fee and EMD. Under MSME category, only Manufactures for Goods and Service Providers for Services are eligible for EMD/Tender fee exemption.**
5. The bidders shall keep their rate firm for a period of **120 days**.

6. The successful bidder shall, before signing the agreement and within the period specified in the letter of acceptance of his tender, deposit a sum equivalent to 5 **% of the value of the contract** by way of Demand Draft drawn in favour of the Finance Officer, Kannur University payable at SBI Kannur Branch or Kannur Branch of other Nationalized or Scheduled bank, **as security** for the satisfactory fullfillment of the contract.
7. The total rate tendered should be inclusive of all taxes and other charges.
8. All bid/tender documents are to be submitted online only and in the designated cover(s)/envelope(s) on the website. Tenders/bids shall be accepted only through online mode on the website and no manual submission of the same shall be entertained.
9. Profile of Bidder as per Annexure1 shall be provided.
10. The earnest money of the unsuccessful bidders will be returned through ONLINE Transaction and the EMD of successful bidders will be discharged upon the bidder executing the contract and furnishing the security deposit that will have to be deposited for the satisfactory fulfilment of the contract.
11. The bid shall contain detailed technical specifications, Brochures and pamphlets of all items quoted.
12. All the claimed specifications (make, model, year of manufacture, warranty etc) should be mentioned in the Brochure or Catalogue of the equipment
13. The installation, commissioning and the initial operation will be the responsibility of the supplier.
14. In case of under performance during the warranty period, the item should be replaced and the period of warranty will recommence from the date of replacement.
15. The payment will be made after completion of supply, installation and commissioning.
16. The bidder shall undertake to supply materials according to the standard sample and /or specifications.
17. No representation for enhancement of rates once accepted will be considered.
18. The bidder shall quote their rate in the standard BOQ provided indicating the break up details.
19. The supplier shall ensure the quality of the stores supplied.
20. The provisions of Kerala Stores Purchase Manual are applicable to this Tender and further proceedings.
21. The University reserves all rights to accept or reject any or all the tenders without assigning any reason whatsoever at its discretion.
22. The bids shall be opened online at Kannur University on the date mentioned in Invitation Bid. If the date fixed for opening happens to be a holiday/due to net failure, tender will be opened at the next working day at the same time.
23. The bidder should have the responsibility to attend the first level service if any complaint report.
24. The final acceptance of the tenders rests entirely with the University who do not bind themselves to accept the lowest or any tender. But the bidders on their part should be prepared to carry out such portion of the supplies included in their tenders as may be allotted to them.
25. Communication of acceptance of the tender normally constitutes a concluded contract. Nevertheless, the successful bidder shall also execute an agreement for the due fulfilment of the contract within the period to be specified in the letter of acceptance. In cases where a successful bidder, after having made partial supplies fails to fulfil the contracts in full, all or any of the materials not supplied may at the discretion of the Registrar, be purchased by means of another

tender/quotation or by negotiation or from the next higher bidder who had offered to supply already and the loss, if any, caused to the University shall thereby together with such sums as may be fixed by the University towards damages be recovered from the defaulting bidder.

DOCUMENTS TO BE SCANNED AND UPLOADED

1. Bidder Profile(as per format mentioned in Annexure1)
2. Scanned copy of valid registration certificate (GST) & PAN Card
3. Scanned copy of relevant Brochure of the equipment including make & model and copy of its certifications like ISO certification.
4. Copy of payment receipt of tender fee and EMD
5. Address details of active/ functioning Service Centres in Kerala or nearby regions
6. Valid authorization certificate from OEM (in case of resellers)
7. Warranty details

Sd/-
Prof.(Dr.) Wilson V A
Development Officer (Registrar in-charge)

ANNEXURE 1
BIDDER PROFILE

Sl.No	**Particulars**	
Details of bidder(Firm/Company)		
1	Name	
2	address	
3	Telephone & Mob	
4	Email & website	
Details of Authorized Person		
5	Name	
6	Address	
7	Telephone & Email	
Information about the company		
8	Status of Company (Public Ltd./Pvt.Ltd)	
9	Details of Registration of Firm (Provide Ref.)	
10	Number of Professionals	
11	Location and address of offices (in India & overseas)	
12	Service Tax Registration Number	
13	Income Tax Registration Number (PAN)	
14	GST Registration Number	

Signature of the Bidder