



Mahatma Gandhi University, Kerala

No. **MGU/BIOSCIENCE/ ETENDER HPLC/2018**

Dated: 30/10/18

**NOTICE INVITING TENDER**

(Tender No: **MGU/BIOSCIENCE/ ETENDER HPLC/2018**)

The Registrar, Mahatma Gandhi University, Kottayam invites online bid (technical and financial bid) for **SUPPLY AND INSTALLATION OF PREPARATIVE cum ANALYTICAL HIGH PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEM, INSTALLATION ACCESSORIES AND WATER PURIFICATION SYSTEM** for SCHOOL OF BIOSCIENCES of the University from reputed firms.

1	Name of the equipment	<b>SUPPLY &amp; INSTALLATION OF PREPARATIVE cum ANALYTICAL HIGH PERFORMANCE LIQUID CHROMATOGRAPHY SYSTEM, INSTALLATION ACCESSORIES AND WATER PURIFICATION SYSTEM</b>
2	Earnest money deposit (EMD)	<b>Rs. 40,000/-</b>
3	Tender submission fee	<b>Rs. 6000/- + GST</b> <u>Rule as per SPM</u> [ Above `10.00 lakh :- 0.15% of the cost of tender rounded to the nearest multiple of 100, subject to a maximum of ` 25000/- + VAT as applicable, 50% of the cost of the original copy, upper rounded to the nearest multiple of 100 + VAT as applicable ]
4	Period of supply and installation	Within 90 days
5	Mode of submission of Bid	Online
6	Tender Documents	Can be downloaded from the website <a href="http://www.etenders.kerala.gov.in">www.etenders.kerala.gov.in</a>
7	Last date and Time of submission of tender by online	<b>10.11.2018 4 pm</b>
9	Date and time of opening of bid opening	<b>12.11.2018 12 pm</b>

General tender documents and tender schedule can be downloaded in A<sub>4</sub> plain size paper free of cost from the website [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in).

Documents to be submitted along with bid through online.

Sl.No	Through online
1	Scanned copy of valid dealership certificate.
2	Scanned copy of duly filled e-payment form
3	Scanned copy of other certificates required, if any, for tender acceptance
4	Scanned Copy of duly filled preliminary Agreement in stamp paper of Rs.200/-
5	BOQ

### **Special Conditions**

1. The quoted Price should be inclusive of all taxes/freight/Installation etc. Customs / Excise Duty Exempted price should also be quoted
2. Scanned copy of brochure of different models quoted should be enclosed
3. **Warranty, AMC conditions**, nearest servicing centers details, user reference and supporting catalogues should be provided (soft copies).
4. If the product has a Valid DGS & D rate contract , it may be quoted
5. The Delivery Schedule, Payment Terms & Warranty/Guarantee etc must be clearly indicated in the technical bid.

The bids will be opened at the date and time specified. Further details can be had from the *SCHOOL OF BIOSCIENCES* on all working days during working hours. The bidders are advised to submit their bid well in advance to avoid any kind of network issues. If relevant documents through speed post are not submitted with in time, the tenders will not be considered.

The undersigned reserves the right to reject any or all the tender without assigning any reason whatsoever.

Sd/-

Registrar

### **SPECIFICATIONS**

#### **Preparative cum Analytical High Performance Liquid Chromatography System with Accessories.**

##### **1. Preparative Cum Analytical HPLC System**

The Preparative cum Analytical HPLC shall include the following individual stackable self-contained HPLC modules to support for both analytical to Preparative scalability as well as simultaneous analysis at a time . They must be capable of standalone operation and have internal diagnostics to monitor the instrument's performance and record in a logbook. Modules must be connected via

fibre optic noise resistant high-speed transmission technology to enhance the reliability and sensitivity of the Preparative cum Analytical HPLC.

**1.1. Binary Gradient Preparative Solvent Delivery System.**

**1.2. Manual Injectors**

**1.3. Photo Diode Array (PDA) Detector**

**1.4. Columns**

**1.5. Fraction Collector**

**1.6. Chromatography Software**

**1.7. Accessories**

**1.1. Binary Gradient Preparative Solvent Delivery System**

- Two individual solvent delivering unit suitable for both preparative and analytical analysis.
- The flow rate should be set between 0.01 to 150 ml/min
- Flow rate accuracy setting should be less than  $\pm 1\%$
- Flow rate precision should be less than 0.1% RSD
- The maximum discharge pressure should be more than 40MPa
- Concentration adjustment : 0 ~ 100%, 0.1% steps
- It should have safety features like leak sensor, pressure limit sensor

**1.2. Manual Injectors**

- Two manual injectors with necessary set of sample loops (20ul,100ul,500ul,1ml,5ml) for both preparative and analytical applications should be supplied along with suitable syringes

**1.3. Photo Diode Array Detector**

- Light Source –Deuterium (D2) and Tungsten (W)
- Wavelength range must be from 190nm to 800nm
- It should be with Programmable slit width to get better Sensitivity and Resolution.
- Wavelength accuracy must be  $\pm 1$  nm maximum
- Wavelength reproducibility must be  $\pm 0.1$  nm
- Drift should be less than  $1 \times 10^{-4}$  AU/Hour, Noise level must be  $\pm 0.6 \times 10^{-5}$  AU
- Suitable flow cells for both Preparative and Analytical should be provided

**1.4. Column**

- C18- Preparative 20x250mm column with 5 micron with guard column.
- C18-Preparative 10x250mm column with 5 micron with guard column
- C18-Analytical 4.6x250mm column with 5 micron-2 Nos with guard column.

### 1.5. Fraction Collector

- Flexible approach to manual and automated fraction collection.
- Should have facility to collect small and large scale preparative fractions.
- Necessary Vials and Rack should be offered
- It should have method to collect high purity & high recovery rate.

### 1.6. Chromatography Software

- Chromatography software should cover full one-point digital instrument for both Preparative and Analytical modules control, qualitative and quantitative processing, report creation and self-diagnosis
- It should have seamless control of all the modules including the PDA Detector.
- There should be an on-line help function context sensitive
- The reporting format should be flexible and easy to use in any desired format

### 1.7. Accessories

- Column holding module to stack both Preparative and Analytical Columns
- Analytical to Preparative switching facility
- Analysis recycling facility.
- Four Solvent bottles with reservoir trays.

## 2. Installation Accessories

- Suitable Computer should come with Original operating system to support the chromatography software with i3 or higher processor with 4GB RAM on board or higher, 250 GB hard disk or higher, DVD-RW drive, 19" LED colour monitor, 101 keys key board and mouse, Pre-installed Original Windows 7/Windows 10 [32/64bits only], Branded Laser printer
- 5 KVA Branded on-line UPS with 1Hr back up.
- Suitable Sonicator with 3 Ltr capacity with accessories.
- Sample & Solvent filtration kit with accessories.

## 3. Optional:- Water Purification System

- Water purification system with HPLC grade (ASTM type 1) water with additional cartridges for the complete warranty period.

It should be capable of producing 18.2 Megaohm resistivity or better with pre-treatment cartridge. Reverse Osmosis and mixed bed ion exchange resins and activated carbon in a single pack, mixed bed ion exchange resin and Orgamex for removal of organic contaminants, with feed water acceptance up to 2000 micro Siemens conductivity or better, Fouling Index (SDI) < 12 or better, Total Chlorine < 1 ppm or better. Ultra pure water from tap water directly. Should include all the cartridges for the warranty period.

Other particulars

Conductivity: < 0.055 uS/cm or better

Bacteria: <1cfu/mL

Pyrogen: <0.001Eu/mL

RNase: <0.01ng/mL

Flow rate: 0.5L/min Particulates >0.22u :<1P/mL

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