Mahatma Gandhi University

School of Energy Materials

Priyadarsini Hills P.O., Kottayam – 686 560, Kerala, INDIA.

E-mail: sem@mgu.ac.in, *www.sem.mgu.ac.in*

SEM/01/NIT-5/2024 **Dated : 18/01/2024**

NOTICE INVITING TENDER

The Director, School of Energy Materials (SEM), Mahatma Gandhi University invites tenders (both technical and financial bid) for Supply , Installation, Testing and commissioning of High Vacuum Pumping System for PVD System in School of Energy Materials. The details are as given below.

1	Name of the Scientific Equipment	**High Vacuum Pumping System for PVD System (Detailed specifications given in Annexure-1)**
2	Earnest money deposit (EMD)	1% of the estimated value
3	Tender submission fee	0.2% of the cost of the equipment (PAC) rounded to the nearest multiple of 100, subject to a maximum of Rs.25,000/- + GST as applicable
4	Period of supply and Installation	Within 90 days from L/C opening date
5	Address	**Director** **School of Energy Materials** **Mahatma Gandhi University** **PD Hills Kottayam**
6	Date and time of Technical bid opening	**02/02/2024, 11.00 am**
7	Date and time of Financial bid opening	**02/02/2024, 2.00 pm**
8	Last date and Time of submission of tender with relevant documents.	**01/02/2024, 4.00pm**

Duly filled up and signed tender schedule along with relevant documents should be sent to **Director, School of Energy Materials, Mahatma Gandhi University, Kottayam** by speed post so as to reach before the date and time specified. The cover containing the document should be super scribed the **name of the scientific equipment, tender number and last date of submission** of the tender.

ELIGIBILITY CRIETERIA

1	Bidder should be a company registered in India or Registered Partnership /proprietary firms	Copy of valid registration certificate/Copy of Certificates of incorporation
2	Should not have been blacklisted by any of the Government entities under state / central government.	Self-Certificate
3	The bidder should have a registered number of (i) GST where his business is located (ii) Income Tax / PAN number.	Copies of relevant certificates of registration

Further details can be had from the office of **School of Energy Materials, Mahatma Gandhi University, Kottayam** Email: sem@mgu.ac.in on all working days during working hours.

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.

Director
School of Energy Materials,
Mahatma Gandhi University

Director
School of Energy Materials
Mahatma Gandhi University
Kottayam - 686 560

Please see the Annexures

ANNEXURE-1

Technical Specification of the High Vacuum Pumping System for PVD System

High Vacuum Pumping System:

It consists of the following.

1. Diffusion Pump of pumping capacity ≤ 285lps
   - Size & Model : 4 ½" & Diffstack model
   - Pumping Speed: ≤ 285 lit/sec.
   - Ultimate vacuum: 10(-6) mbar.
   - Material of construction: Body: Stainless steel 304.
   - Jet: Stainless steel 304.
   - Backing Pump displacement: 250 lit/min.
   - Heater rating: 500 watts.
   - Operating Voltage: 230V AC 50 Hz. Single phase.
2. Rotary Vacuum Pump of pumping capacity 250lpm
   - Free Air displacement capacity : 250 lit/min
   - Ultimate Vacuum at the intake
   - With Macleod Gauge (with Gas ballast closed) : 10(-3) mbar
   - Vacuum Connection : KF-25
   - Motor H.P.: ½ H.P.
   - Cooling: Forced air-cooling.
   - Pump rotation speed: 1440 RPM.
   - Vacuum with gas ballast open: 10(-2) mbar.
   - Oil temperature: 55-degree C, after 7 hours.
3. Collar: 4" size Collar is made of SS304 and is mounted above the High Vacuum Valve
4. Liquid Nitrogen Trap: A Liquid Nitrogen Trap is mounted above the Diffusion Pump. It is essentially a double chamber made of SS and inner container contains Liquid Nitrogen
5. High Vacuum Valve – 4" size manually operated High Vacuum Valve is Butterfly valve to isolate LN2 Trap and DP from vacuum chamber. The valve is made out of SS304 materials.
6. Backing Valve & Roughing Valves – These valves are manually Operated Quarter Swing 1" Butterfly type.
7. Air Admittance Valve
8. Fine Control Needle Valve
9. Plumbing Lines : Plumbing lines consist of roughing and backing lines made out of metal and flexible vacuum hose with KF flanges
10. Vacuum Measuring Gauges: Digital Pirani Penning Gauge Model is the vacuum measuring gauges covering the range of 0.5 mbar to 10(-6) mbar. Pirani gauge is used to measure vacuum in the range of 0.5 mbar to 10(-3) mbar. Pirani gauge is provided with two sensors.
    - Measuring range: 10^{-3} mbar to 999mb. (N2 equivalent)
    - Operating range: 15 Degree to 50 Deg. Centigrade.
    - Electrical power (VAC): 230V AC.
    - Power : 10W Nominal

- Frequency: 50Hz.
- Coupling: 10KF coupling.

11. Digital Penning Gauge: Digital Penning Gauge with one-gauge head will be provided for monitoring the high vacuum in the range of 10^{-3} mbar to 10^{-6} mbar.
    - Pressure range: 10^{-3} to 10^{-6} mbar.
    - Construction: Metal construction.
    - Response time: 0. 5 Sec.
    - Operating voltage: 2 KV DC.
    - Input Voltage: 230V AC, 50 Hz.
    - Coupling : QF 25 Quick

Stamp and Signature of the Tenderer

ANNEXURE-2

Terms and Conditions

1. **Tenders must accompany a copy of the "Annexure II and Annexure III" section of this document, signed and stamped on each page indicating that they agree to these.**
2. **The non-refundable application fee of 0.2% of cost with the chalan of 5% of it as GST must be accompanied with tender for each instrument. The application fee must be as D.D. drawn infavour of Director, School of Energy Materials, Mahatma Gandhi University, Kottayam**
3. **The DD/Cheque for EMD or any other must be drawn in of favour of Director, School of Energy Materials, Mahatma Gandhi University, Kottayam payable at SBI Mahatma Gandhi University CampusBranch.**
4. **The tenders received late,without tender fee, without EMD, without required documents or incomplete in any respect / misleading will rightly be rejected.**
5. **Instrument should have a warrantee of at least oneyear and should have at least one year and two years extended warranty and should have at least oneService engineer and one application scientist based in India with onsite training facilityon the same quoted equipment. Training should include operation, handling and maintenance of system.**
6. **A good record in supply and service to other research institutes will be considered as a positive point for a particular company. User list of similar equipment supplied recentlyin India should be provided.**
7. **Laboratory floor space, electrical power requirements, earthing, room temperature/ humidity requirements etc. should be mentioned appropriately.**
8. **All necessary accessories should be supplied with the instrument, as per standard package offered, including complete set of service and operation manuals for diagnosis, trouble shooting, maintenance and electronic circuitry (hard and soft copies). The prices quoted must be inclusive of all accessories and installation charges etc if any and should be clearly mentioned , otherwise , it will be presumed that the rates quoted are inclusive of all these charges and will not be paid.**
9. **The Delivery Schedule, Payment Terms & Warranty/Guarantee etc must be clearly indicated in the technical bid. The charges for extended warranty and/or Annual Maintenance Contract after the expiry of offered warranty period should also be specified in the financial bid.**
10. **The price of the equipment should be quoted in Indian rupee. The total price of the equipment quoted should be inclusive of GST & other taxes if any; material cost; transportation cost; loading and unloading cost; installation cost; labour charges and allother expenses in whatsoever means.Other wise it will be presumed that the rates quoted are inclusive of all the charges and will not be paid.**
11. **Payment process will be initiated only after supply of items as per tender specificationsand satisfactory installation of the items.**
12. **It will be the responsibility of the supplier to deliver the ordered materials at School of Energy Materials, Mahatma Gandhi University, Kottayam. All required materials for satisfactoryinstallation are to be provided by the supplier at their own cost.**

13. For ensuring the guarantee relating to the quality of the articles supplied, a written agreement must be submitted by the firm.
14. Certificate from the vendor must be attached stating that they have not been blacklisted by any of the Government entities under State/ Central Govt.
15. The validity of the tenders shall be 6 months from the last date of submission of the tenders.
16. A qualified bidder should submit 5% of PAC as Security Deposit
17. If the date of opening of the tender happens to be a Public Holiday, then the tender will be opened, next working day at the same time.
18. The Purchase committee of the School of Energy Materials reserves the right to accept/ reject any or all of the tenders at any time without assigning any reason.

Stamp and Signature of the Tenderer

ANNEXURE 3

TENDER FORM PART-I (TECHNICAL BID)

Date:

From,

M/s. .....

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To,

Director,

School of Energy Materials

M.G. University, Kottayam, Pin-686560

Kerala, India.

Dear Sir,

I/We have gone through the tendering conditions pertaining to the Tender and General Terms and Conditions of Contract and other requirement for delivery and complete Installation and Special Conditions of Contract contained herein with this tender document. I/we hereby agree to supply the stores conforming to the tender specifications incorporated in ANNEXURE 1 of the tender document and also agree to abide by your General Conditions of all Contra acts and Special Conditions of Contract contained in the ANNEXURE 2 of the Tender document.You will be at liberty to accept any or more of the items of stores offered by us and I/we shall be bound to supply you the stores as may be specified in the Purchase Order/Contract.

I/We hereby agree to keep the price valid for your acceptance for a period of 30 days from the date of opening of Part-II (Financial bid) of the tender. Deviations to Technical specifications contained in ANNEXURE 1 of the tender documents are detailed in ANNEXURE-A to the tender form while deviations proposed to the General Special Conditions of Contract contained in ANNEXURE 2 are detailed in Annexure-B to this tender. Price applicable for the stores are indicated separately in a sealed envelope marked as financial bid of the tender.

I/We are also enclosing herewith all the leaflets catalogue etc. pertaining to the stores offered.

Yours faithfully

Stamp and Signature of the Tenderer

ANNEXURE 4

TENDER FORM PART-II (FINANCIAL BID)

Date:

From,

M/s. .....

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To,

Director,
School of Energy Materials
M.G. University, Kottayam, Pin-686560
Kerala, India.

Dear Sir,

In response to your invitation and as per your tendering and contracting conditions, the prices applicable for the scope of supply contained in ANNEXURE-3 (TECHNICAL BID) of our tender are indicated in the format at annexure "A" to this tender.

We hereby agree to keep the price valid for your acceptance for a period of 30 days from the date of actual opening of Part-II (FINANCIAL BID) of the tender.

Yours faithfully,

Stamp and Signature of the Tenderer