



## Central Purchase unit

### National Institute of Technology Srinagar (J&K) -190006

Tel:- 0194-2424792/2429423/2424809/2424797 Fax:- 0194-2420475

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### Document for Tender Notice No. 20 of 2018 Dated 04 .10.2018.

## **"Tender Notice for Invitation of bids for the supply of BET Surface Area Analyzer for Chemistry Department.**

**-0-0-0-**

1. Sealed Bids are invited for the lab equipment having detailed Specifications as given in Annexure -A. in two bid format on the terms & conditions given from para-2.
2. **Envelope- A (Techno-commercial Bid) Containing the following documents:-**
  - (a) Original equipment manufacturer proof.
  - (b) Proof of being Distributor/Marketing agent/ Authorized dealer in the shape of copy of agreement and registration under law in force.
  - (c) PAN card of the firm.
  - (d) Tax registration
  - (e) Proof of annual turnover of the firm for last three years which shall not be less than Rs.1.00 Crores to be proved by way of copy of audited accounts and income tax returns of 3 years.
  - (f) Proof of availability of after sale support/service.
  - (g) Bid security for Rs. 1.00 lac in the form of CDR/TDR in favour of Officer In-charge, Central Purchase Unit NIT Srinagar (J&K) and tender document fee Rs.1,000/- in the form of DD, in favour of Director, NIT Srinagar. Tender without CDR/document fee shall be rejected.
  - (h) Proof of legal status.
  - (i) The bidder shall fill in Bid form in the format given in Annexure-B, Technical specification Schedule as per Annexure-C.
  - (h) List of users of the said equipment.
3. **Envelope-B (Price Bid), Containing the following:-**
  - (a) Bid price quoted both in words & figures. The rates quoted should be covered with transparent tape.
  - (b) The rate quoted should be FOR NIT Srinagar (J&K).
  - (c) Bid price should be without over writing. However minor over writing should be clearly signed by the bidder. In case of any discrepancy between price quoted in figures and words, the price quoted in words will prevail. Bid price should be firm for the bid validity period.
  - (d) **All duties, taxes and levies ( GST or other charges) payable, must be quoted separately.**
  - (e) **As per SRO 129 of Government of Jammu & Kashmir, the institute is Exempted from state entry tax. The Institute will provide Entry tax exemption certificate to successful bidder with supply order. The Institute is also exempted from Custom/Excise duty.**
  - (f) Price bid schedule in the format enclosed in Annexure-D
4. **Validity of Bids**

Bids shall remain valid at least for 120 days from the date of opening of the bids.
5. **Evaluation of Bids.**
  - (a) The purchaser shall evaluate and compare the bids which are found Responsive. i.e
    - (i) Properly signed.
    - (ii) Conform to terms and conditions and technical specifications.
    - (iii) Accompanied with Bid security and all other documents.
  - (b) Bids shall be evaluated separately for each item.
6. **Award of contract**
  - (a) Contract shall be awarded to the bidder whose bid is commercially, technically responsive and offered at lowest evaluated price.

- (b) Successful bidder shall be notified about the award of the contract through a supply order where in terms and conditions of supply shall be incorporated.
7. **Payment.**  
90% payment shall be released after the delivery of equipment at NIT Srinagar in good condition and found as per prescribed specifications and successful installation/ commissioning and training of the staff. 10% shall be retained as performance security. payment through LC for foreign suppliers only will be as per rule of GFR 2017
8. **Warranty and after sale service:**  
(a) All items shall carry comprehensive standard warranty of two years from the date of commissioning and service support after expiry of warranty.
9. **Performance security.**  
(a) Performance security shall be retained for the warranty period..
10. **Settlement of disputes.**  
Settlement of disputes if any shall be subject to the jurisdiction of Srinagar Courts only.
11. **Liquidated Damages.**  
If the bidder after accepting the purchase order of goods/equipments or services, fails to deliver any or all of the goods/equipments or to perform the services within the specified period, a penalty of 0.50% (half percent) of the price value of the item per week or part thereof shall be imposed. The maximum penalty shall be limited to 10% of the cost. Once maximum is reached NIT Srinagar shall proceed on its own to consider the termination of the supply order, on the risk & responsibility of the defaulting bidder.
12. **Submission of Bids.**  
(a) ***The last date for submission of bids is 24.10.2018 upto 16.00 hours.***  
(b) Bids should be properly sealed.  
(c) The two envelopes A & B should be separately sealed and superscripted as Techno-Commercial Bid & Price Bid, due date of submission, Name of equipment. These two sealed envelopes should be sealed in a bigger Envelope with the address of the Tender receiving Officer & Tender No.  
(d) Bids should be addressed to Officer In-charge, Central Purchase Unit NIT Srinagar (J&K)-190006  
(e) Bids not from Srinagar shall be dispatched sufficiently well in advance so as to reach the destination as per scheduled time & date. NIT Srinagar shall not be responsible for any delay by posts Deptt. or Courier agency.
13. **Bid opening.**  
(a) The Technical Bid (Envelope- A) will be opened first and Price Bid (Envelope-B) of the qualified bidders will be opened subsequently. Interested bidders can attend the Bid opening.
14. **Custom clearance will be responsibility of the supplier, however, Institute. will pay custom on Line through on line portal (Indian Customs EDI Gateway)**
15. **Notwithstanding above, the purchaser reserves the right to reject any or all the bids received in response to this N.I.T. or withdraw it without assigning any reasons thereof.**

Officer In-charge  
Central Purchase unit, NIT Srinagar

N.B.

1. Before preparing your valuable bid kindly go through the document fully and take care of all the requirements.
2. Bidders from outside Srinagar may please send their Bids well in advance so that these are received in time.

**No. NIT/CPU/Chemistry/18/4344**

**Dated 04.10.2018**

## **Annexure-A**

### **Details of Equipment:-**

<b>S.No</b>	<b>Description of items</b>	<b>Specifications</b>	<b>Qty</b>	<b>Delivery Period</b>
1	<b>BET Surface Area Analyzer</b>	<b>Given below</b>	01 No	3 months from the date of issue of supply order.

### **TECHNICAL SPECIFICATION FOR BET SURFACE AREA ANALYZER**

#### **Purpose**

The equipment is intended for performing physisorption and chemisorption analyses. The instrument has to perform the following functions, analyze the specific surface area of the materials in various physical shapes and forms, determine other information such as gas uptake, micropore volume and pore size distribution.

#### **Detailed Specifications of BET SURFACE AREA ANALYZER A.**

##### **Main Features**

- **Specific surface area:** Minimum surface area of 0.01 m<sup>2</sup>/g or better to 'No known upper limit'
- **Gas volume range:** 1 x 10<sup>-3</sup> cc to > 1 x 10<sup>2</sup> cc or better
- **Reproducibility:** 0.5% or better
- **Operating environment:** 20-80% RH, 15° - 35° C or better
- **Pore Diameter Range:** 4 to 300 nm or better
- **Micropore Volume:** Detectable within 0.0001 cc/gm or better
- **Vacuum system:** The vacuum system should be capable of degassing the samples upto a vacuum level of 1 x 10<sup>-3</sup> Torr or better. Preferably there should be separate vacuum pump systems for degassing and for analysis so the vacuum pump system meant for degassing is not shared by analysis manifold.
- **Furnace controller:** PID, featuring auto-tuning
- The system should have minimum 12 gas inlets with 6 gas inlets for physisorption allowing connections to multiple gases thus eliminating the need to change gas lines. Another 6 gas inlets for chemisorption for simplifying the pre-programming of chemisorption studies.
- Analysis system along with appropriate high sensitivity pressure transducers should be provided.
- **Sample tubes/holders:** Variable IDs (inner diameter) of the sample tubes/holders **compatible** with the **BET SURFACE AREA ANALYZER** to be supplied so that samples with various geometries with irregular dimension/s could be accommodated for the measurements & analysis (total

thirty numbers; ten numbers each in three different types of holders with suitable capacity). Samples holder for fine powders should have the provision to vacuum seal

- **Standard Reference Materials:** Surface area reference material and Chemisorption reference material with details to be provided
- **Electronic weighing balance** capable of measuring weight with an accuracy upto 0.1 mg level ( $10^{-4}$  g or better) having maximum weighing capacity of ~ 200 gm (one number) to be supplied from reputed manufactures with comparable performance.

## **B. Computer and Software**

- **Computer:** Compatible latest high performance computer dedicated to the equipment with high RAM (2 GB and above) for faster data acquisition and processing. The computer should be guaranteed for a period of 2 years from the date of BET SURFACE AREA ANALYZER commissioning. It is preferred that the computer is procured in India, integrated with the equipment and the required software's are to be installed.
- **Printer:** Suitable compatible laser black and white printer
- The equipment should be fully automated with built-in micro-processors & control systems for the entire operation and analysis.
- **Software:** Suitable software and other interfacing & integration for carrying out the measurement and analysis with high levels of reliability and accuracy. Software should be capable of performing the following tasks
  - Generate both 'Single- and Multi- point BET specific surface area'
  - Generate all the measured 'Adsorption and Desorption Isotherms'
  - Langmuir surface area with slope, intercept, constant and correlation co-efficient
  - Mesopore volume and Mesopore area distribution by BJH, HK and other models
  - T-plot for micropore area & volume
  - Density functional theory to generate various parameters, e.g.,:
    - Micropore and mesopore distributions
    - Porevolume distribution of Poresize
    - Surface energy distribution of poresize
    - Surface area distribution of poresize
    - Summary report
- The software should allow the user to enter any Isotherm into the system by way of a data file or table for calculating thickness curves for T-plots;  $\alpha$ 's plots and BJH pore size distribution. There should be capability to overlay the reference isotherm with other plotted data for comparisons.

## **C. Power Requirements**

- Power 220-240 V AC, 50 Hz
- Suitable UPS(APC/ SOCOMEC) with backup power of upto 30 minutes with details of maintenance schedule and warranty to be quoted

#### **D. Qualification Criteria & Other Aspects**

- The vendor should have supplied minimum two **BET SURFACE AREA ANALYZERS** in India and details should be furnished. A certificate from the users should be furnished for, the satisfactory operation of the instrument
- Should have agents in India to provide after sales service, support and maintenance
- The machine should be guaranteed for a period of 2 years from the date of commissioning. During warranty period, if there is any repair to be carried out at the supplier's works, transportation cost of equipment/component besides repair / replacement charges, if any, should be borne by the supplier. All the related formalities should be borne by the supplier.
- AMC charges for 3 years beyond the warranty period of 2 years with details of maintenance schedule, item wise checking should be quoted
- Photographs and catalogues related to every item of should be enclosed
- **Training:** All the expenses related to training by OEM engineers at NIT Srinagar should be specified.
- Dimensions of equipment, weight and space requirements should be submitted in technical offer.
- Installation & Commissioning should be carried out at NIT Srinagar. Pre-installation requirements should be furnished.
- Commissioning charges, if any, to be indicated
- Compliance statement of specification to be submitted along with the offer. Failure to give compliance statement, the offer is liable to be rejected. All tender specifications to be compared with machine offered line by line and documentary evidence must be enclosed by the supplier along with quotation
- Two hard copies of all the operational manuals related to the BET SURFACE AREA ANALYZER system have to be provided after procurement of the equipment.
- Supplier must be ISO certified.

#### **E. Options**

- Suitable & recommended gas cylinders with regulators and gauges for regulating different gases (Nitrogen & Helium or other gases depending on the equipment configuration) to the main equipment (total two numbers, one cylinder for each gas). Further cylinder connectors, isolation valves, suitable gas line connectors & appropriate fittings for different gases required for the measurements in the desired pore size ranges should also be quoted
- Cryo can details with various capacities for storage of liquid nitrogen etc should be quoted with suitable safety trolley along with its recommended safety thermals (two pairs) and safety goggles (two numbers) for safe handling the liquid nitrogen etc should also be quoted
- TCD (Thermal conductivity detector) filament: Preferably tungsten-rhenium, diffusion- type, oxidation resistant or better and the sample thermocouple should be preferably positioned alongside sample for accurate temperature measurements

### **F. Spares and Accessories**

- Recommended spares and consumables that should be required for a period of two years for the equipment to be supplied. The supplier should also ensure that the spares are available for at- least ten years from the date of commissioning for trouble free operation.

### **G. Technical & Commercial bid submission**

**G.1.** Technical offer with all catalogues should be provided

**G.2.** Compliance statement meeting the specification line by line should be provided (Failure to give compliance statement, the offer is liable to be rejected)

**G.3.** Commercial bid with terms and conditions to be submitted in a separate Sealed Cover

**H. Delivery:** The equipment should be delivered within 3-4 months from the date of placement of purchase order.

**Note: All covers should be clearly marked indicating the contents and should be SEALED.**

**Note: Service centers should be preferably in India.**

**(Tender opening format)**  
**(To be filled-in by the Bidder)**

Name of the firm:- \_\_\_\_\_

Tender for supply of \_\_\_\_\_

NIT No. &Date:- \_\_\_\_\_

Technical specification/ literature attached:- Yes/No

Valid tax clearance certificate attached:- Yes/ No

Registration/ Authorization Dealership/  
manufacturer certificate attached:- Yes/ No

Revenue stamp affixed. Yes/ No

Rates covered with transparent tape:- Yes/ No

Bid document fee deposited:- Yes/ No

Call Deposit Receipt enclosed:- Yes/ No.

Bid price in Indian Rupees:- Yes/ No

FOR Srinagar:- Yes/No

Bid without correction/overwriting:- Yes/ No

Seal & Signature of the Supplier.

**Annexure-B**  
**BID FORM**  
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From M/S.....  
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To,  
Officer In-charge,  
Central Purchase unit, NIT Srinagar.

Ref: NIT No.: NITS/CPU/ 2018-19/..... Dated ..... goods/Equipment for  
.....Department

Sir,  
With reference to above invitation for bids we would like to say that we have gone through your bid document thoroughly and hence offer our competitive Technical/Price Bid in sealed envelope for the supply of various goods/equipment listed in your document.

The following documents constitute our Bid.

- (a) Bid form
- (b) Price Bid schedule in the requisite format
- (c) Authorization dealer ship certificate from the manufacturer
- (d) Valid sales tax certificate
- (e) Technical literature for the goods/equipment
- (f) Names of organization where this equipment has been supplied. (Applicable for equipment whose unit price exceeds Rs.2.00 lacks
- (g) Bid security as mentioned in the schedule of requirements in the form of CDR drawn in favour of the Officer In-charge Central Purchase Unit NIT Srinagar.
- (h) Telephone No.....

Kindly feel free for any enquiries and clarifications.

Yours Sincerely

(.....)  
From M/S.....

Place.....

Date.....



**Annexure-C**  
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**Technical specification.**  
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*Name of Equipment /Goods : e.g.,*

*Make /Model/ Country of origin: e.g.....*

S. No.	Technical Specifications (as per. NIT/CPU/Advertised)	Technical Specifications of the Make /Model	Complies	Higher/Better (with detail quantification)	
				Higher/Better	Quantification
1			Yes	----	
2					
3					
4					
5					

## Annexure-D

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## Price Schedule

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S. No	Name of equipment/goods	Ex Factory/Ex show room cost	Custom Duty & Excise Duty	CST/VAT	Packing & forwarding transportation	Incidental services	Total unit price	Quantity	Total Price
1									
2									
3									
4									
5									

