



Central Purchase unit
National Institute of Technology Srinagar-190006

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

No. NITS/CPU/ /2016/ Nano Mission/Phy/2579-85

Dated.:- 03.01.2017

M/S.....

Sub: Invitation of Bids for the supply of equipment for Nano Mission Project of Physics Department.

Dear sir,

- 1.. You are here by invited to submit your most competitive Bid for the lab equipment with detailed Specification of these goods as give in Annexure-A. The offer to be submitted in two bid System.
2. **(Envelope- A (Technical Bid) It should contain the following; (As per tender opening format)**
 - (a) Authorization /dealership/manufacturer certificate.
 - (b) Valid tax clearance certificate for bidders from J&K State.
 - (c) Technical specification/ literature for the goods/equipment
 - (d) Bid security @ 3% in the form of CDR in favour of Chairman, Central Purchase Unit NIT Sgr. and tender document fee Rs. 500/- in the form of DD, in favour of Director, NIT Srinagar.
 - (e) Certificate of sale after sale service support wherever necessary.
 - (f) Proof of legal status.
3. **(Envelope-B (Price Bid) It should contain the following**
 - (a) Bid prices (Preferably in Indian Rupees)
 - (b) Bid price should be firm for the bid validity period.
 - © **All duties, taxes and levies (CST/GST/VAT or other taxes) payable, must be quoted separately.**
 - (d) **As per SRO 129 of Government of Jammu & Kashmir, the institute is Exempted for state entry tax. The Institute will provide Entry tax exemption certificate to successful bidder with supply order. The Institute is also exempted for Custom/Excise duty.**
 - (e) The rate quoted should be FOR NIT Srinagar.
 - (f) 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 shall be accepted.
 - (g) **The rates should be covered with transparent tape.**
 - (h) Bid form in the format given in Annexure-B
 - (i) Technical specification Schedule as per Annexure-C
 - (j) 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.
5. **Evaluation of Bids.**
 - (a) The purchaser shall evaluate and compare the bids which are found substantially Responsive. i.e which are
 - (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 where in terms and conditions of supply shall be incorporated.

7. **Payment.**
100% payment shall be made against delivery of goods at NIT Srinagar Campus in good condition, as per specifications and successful installation/commission.
8. **Warranty:**
(a) All items shall carry comprehensive standard warranty of two years.
9. **Performance security.**
(a) Successful Bidders shall submit performance security promptly after award of contract.
(b) Performance security shall be in the form of Bank Guarantee for the amount as mentioned in the award of contract letter/supply order. However it shall not exceed 10% of the contract value.
10. **Penalty for delay.**
A penalty of 0.15% (fifteen paisa per hundred) per day shall be imposed if the supply is made beyond the prescribed period mentioned in supply order.
11. **Settlement of disputes.**
Settlement of any dispute will be made under the jurisdiction of Srinagar court.
12. **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 15 paisa per hundred per day shall be charged. The maximum penalty can be limited to 10% of the cost. Once maximum is reached NIT Srinagar may proceed on its own to consider the termination of the supply order.
13. **Submission of Bids.**
(a) **The last date for submission of bids is 31.01 .2017 upto 2.30 P.M.**
(b) Bids should be properly sealed.
(c) The two envelopes A & B should be kept in separate one envelope. Enquiry No., due date of opening and **Quotation for supply of equipment for Nano Mission of Physics Deptt.** must be mentioned on this envelope.
(d) Bids should be addressed to Chairman Central Purchase unit NIT Srinagar.
(e) Bids shall be accepted up to one hour before opening.
(f) Bidders not from Srinagar shall dispatch bids sufficiently well in advance so as to reach the destination one day prior to bid opening.
14. **Bid opening**
(a) The Technical Bid (Envelope- A) will be opened first and price Bid (Envelope-B) of the bidder will be opened after qualifying the Technical Bid (Envelope-A).
(b) Interested bidders can attend the bid opening.
15. **Notwithstanding above the purchaser reserves the right to reject any or all the bids.**
16. **We look forward for your quotation.**

Thanking you,

Chairman
Central Purchase unit, NIT Srinagar

Note:

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 much in advance so that they are received in time.

Annexure-A
Schedule of Requirements.
Details of Equipment:-

S.No	Item	Description	Qty	Delivery Period
1	BenchTop X-Ray Diffractometer (XRD)	<p>Configurations Generator 600 W (power)</p> <p>X-ray Generator (preferred above specification) Max. continuous rated output: 600W Voltage: 20- 40 KV with increment of 1kv Current: 2 – 15mA with increment of 1mA HT Stability better than +/-0.01% for Mains stability +/- 10 %. X-ray tube power: 2.2 KW</p> <p>Gonimeter (preferred above specification) High Precision, vertical type Goniometer with theta two theta Geometry Range: -3 to +145⁰ Radius: 150mm Scanning Speed: 0.01 ~ 100 degree/min Max Scanning speed: 500deg/min Sollar slit(Incident & receiving): 2.5 deg Incident height limiting slit(DHL): Open (10mm) With software</p> <p>Detector (preferred above specification) High speed silicon strip detector, it should work in 0D,1D mode. Also fluorescence reduction mode should be available. Scanning Range: -3 to 145⁰ Speed: 0.01 to 100o/min Max. usable angular range (depending on accessories) $-110^{\circ} < 2\theta \leq 168^{\circ}$</p> <p>Resolution (FWHM) (depends on accessories) 0.028⁰ 2 Theta at ~ 30⁰ 2Theta in Bragg-Brentano geometry Maximum angular speed (depends on accessories) 20⁰/s</p> <p>Power supply Single Phase, 200 to 230 V, 50/60 Hz</p> <p><u>Sample Holders: 40mm or above</u></p> <p>Soft ware</p>	01 No	60 days

		<p>Software should have a provision for the following:</p> <ul style="list-style-type: none"> • All active operations should be controllable through the software • Simultaneous data collection and data processing facility <p>Facilities for peak search, peak match, and pattern treatment such as data smoothing, background subtraction, 2θ correction, 3D multiple pattern display, Kα2 calculation and removal, integrated intensity calculation, relative intensity ratio (RIR) quantitative analysis and crystallite size.</p>		
2	UV Visible spectrophotometer	<p>Wavelength Range : 180 nm – 3300 nm Spectral Bandwidth : 8 steps in ultraviolet/Visible region 0.1, 0.2, 0.5, 1, 2, 3, 5, 8 nm, 10 steps in near infrared region 0.2, 0.5, 1, 2, 3, 5, 8, 12, 20, 32 nm</p> <p>(preferred above specification) Resolution : 0.1 nm WL Sampling pitch : 0.01 – 5 nm Wavelength Accuracy : UV/VIS region +/- 0.2 nm NIR region : +/- 0.8 nm Wavelength Repeatability: UV/VIS region : +/- 0.08 nm NIR region : +/- 0.32 nm Wavelength scanning Speed : When setting wavelength UV/VIS region approx. 18000 nm/min. NIR region approx. 700000 nm/min in wavelength scanning UV/VIS region Max. About 4500 nm/min. NIR PMT/InGaAs region Max. about 9000 nm/min. NIR Pbs region. Max. About 4000 nm/min (excludes time required for switching)</p> <p>Light Source switching : Automatic switching Synchronized with wavelength Selectable between 282-393nm range (0.1 nm increments) (preferred above specification)</p> <p>Stray Light : 0.00008% or less (220 nm, NaI)</p>	01 No	

		<p>0.00005% or less (340 nm, NaNO₂) 0.0005% or less (1420 nm, H₂O) 0.005% or less (2365 nm, CHCl₃) Photometric system : Double beam Photometric range : -6 to 6 Abs Photometric accuracy: +/- 0.003Abs (1 Abs) +/- 0.002 Abs (0.5 Abs) determined with NIST 930D standard filter Photometric Repeatability : 0 .0008 Abs (0-0.5 Abs), 0.0016 Abs (0.5 -1 Abs), 1 sec integration, Standard deviation from 5 measurement max Light source : 50W halogen lamp (2000 hr Life), Deuterium lamp (socket Type, 2000 hr life) Automation Position alignment mechanism built in. Detector : UV/VIS region. PhotomultiplierR-928 NIR region. InGaAs photodiode & Cooled PbS optical conductive element Sample Compartment: Inside dimensions 150 W x 260 D x 140 H (mm) Data Acquisition Modes :Spectrum, Kinetics and Photometric modes. Spectrum : Comparison of multiple spectra / relative processing (note), Save all processed data with original data set including a history of allmanipulation, Spectrum enlargement / shrinking, auto scale and Undo / Redo of these operations, Annotation on spectrum screen. Data Processing in Spectrum Mode: Normalization, Point pick, Peak/Valley detection, Area calculation, Transformation, 1 st -4 th derivatives, Smoothing, Reciprocal, Square root, Natural log, Logarithm power, Abs to %T conversion, Exponential conversion, Kubelka-Munk conversion, Ensemble averaging, Interpolation, data set and constants arithmetic (between spectra, between spectra and constants) Photometric (Quantization) : Single /</p>		
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		<p>Multiple wavelength (includes 1,2 or 3 wavelengths), spectrum quantitation (peak, maximum minimum, area, etc for specified wavelengths).; Multi-point, Single point, K-factor calibration curves(1 st , 2 ND , 3 rd order function fits, pass-through-zero specification), Photometric processing with user-defined functions (+, -, x, /, Log, Exp, etc. Functions, including factors); Weight correction, Dilution factor correction and other corrections using factors; Averaging of repeat measurement data, Simultaneous display of standard table, unknown table and calibration curves, Display of Pass/Fail indications.</p> <p>Film Holder Used in transmittance measurement of thin samples such as films and filters. Holds thin samples, such as films and filters, for analysis.</p>		
	<p>Microwave synthesis system Microwave Digestion System</p>	<p>Capable of heating of Solid mixture Magnetic stirrer inbuilt Remote IR control in 12/16 position plate</p> <p>MAGNETRON: The microwave system should be a closed system with good diffuser for homogenous microwave irradiation in the cavity. Microwave frequency should be 2450 MHz and power should be 1700W minimum.</p> <p>CAVITY: The cavity should be made of stainless steel with PTFE plasma coating for corrosion resistance. Also should have a protective coating for the resistance from acid. The system should be designed for volume of 40 ltrs or more for digestion.</p> <p>Rotors and vessels</p> <p>□ Minimum 12 or more position rotor should be offered. Vessels on the rotor should be segmented for easy use. Minimum rotor specifications should be as below, No of vessels can be used in run- 1 to 12 (even single vessel digestion should be possible.) Maximum Temperature capacity of vessel - Up to 300°C</p>	02 No's	

		<p>Maximum Pressure capacity of vessel- Up to 100 bar Volume of Vessel- 100ml Vessel Material- PTFE-TFM No. of vessels quote: 12 no.</p> <p>Every vessel must have a vent-and-reseal spring to safely release the pressure in case of overpressure.</p> <p>Vassal Material TFM/PTFE material (outer material should be explosion proof, preferably aerospace composite fiber)</p> <ul style="list-style-type: none"> - Protected against acids/solvents with PTFE coating on both inner and outer surfaces. - Self-resealing pressure responsive door mounted on springs to ensure maximum safety, even in case of overpressure release during the digestion cycle. - Built-in <u>Video Camera</u> with PTFE Teflon foil protection for recording of the runs - Automatic door locking system to ensure the door closed until the set temp is reached. Four independent door safety interlocks to prevent microwave emission in case of improper door closure or misalignment. - Built-in exhaust system located above the microwave cavity and separated from the electronics to prevent any corrosion. <p>Microwave Synthesis/Extraction System with Rotor of at least <u>15 slots of HIGH PRESSURE</u> vessels rotor for quick organic synthesis/extraction</p> <p>The microwave should also be able to carry out solid-liquid synthesis reaction under “normal” or ambient pressure in a reflux type set-up.</p> <p>The microwave should also be able to carry out solid-solid(Quote optinally) synthesis reaction under normal or vacuum conditions with homogeneous mixing of the slurry or powders.</p>		
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It should allow reactions with user selection of “pulsed” or “un-pulsed/continuous” power

The system should have metal body (not plastics/polymer) and should have solid stainless steel door for SAFETY. **FOR SOLID-LIQUID SYNTHESIS (Ambient Pressure)**

- A full glassware set should be provided that will allow the user to perform high volume synthesis reactions under ambient pressure at the boiling point of the solvent.
- The round bottom flask should be minimum 500 mL in volume.
- Higher volume round bottom flask can be used – up to 3.0 L volume
- Maximum pressure: 100 bar (1,500 psi) or more
- Volume of vessel: 100 mL or more
- Vessel Material: PTFE-TFM
- Color touch screen with high resolution
- Icon driven software allowing the user to edit, saving and run a virtually unlimited number of methods.
- Real time monitoring of video recorded by the instrument.
- Multiple level accesses by password: such as Administrator, User etc.

The software must control and display real time temperature, microwave power, time etc. during the entire digestion cycle.

Having capability for Synthesis as well as for Digestion

(Tender opening format)

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

From M/S.....
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To,
Chairman,
Central Purchase unit, NIT Srinagar.

Ref: NIT No.: NITS/CPU/ /2016-17 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 Chairman 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

Technical specification.

Name of Equipment /Goods : e.g., Tribometer

Make /Model/ Country of origin: e.g., Marus Tribometers and Instruments/ TR20-2013/

S. No.	Technical Specifications (as per. NIT/CPU/13/ aaaa-aaaa Advertised)	Technical Specifications of the Make /Model	Complies	Higher/Better (with detail quantification)	
				Higher/Better	Quantification
1			Yes	----	
2				Higher	
3					

