Central Purchase unit
National Institute of Technology Srinagar-190006
Tel:- 0194-2424792/2429423/2424809/2424797 Fax:- 0194-2420475
****

No. NITS/CPU/ /2017/ Steam-Heat/Mech/ 2887-95
Dated.:- 17.04.2017

M/S……..
……

Sub: Invitation of Bids for the supply of **equipment for Steam & Heat Laboratory of Mechanical Engineering 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. 300/- 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 with in 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 11.05 .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 Steam Lab of Mechanical Engg.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 s 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. Not withstanding 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:-

Specifications of equipment for Steam lab

S.No	Description of items	Specifications	Qty	Delivery Period
01	**SEPARATING AND THROTTLING CALORIMETER**	**Separating Calorimeter:** Material: Stainless Steel Diameter: 50mm Length: 200 mm **Throttling Calorimeter:** Converging and diverging section Material: Stainless Steel Diameter: 50mm Length: 200 mm (approx.) having Converging and diverging section **Pressure Drop Measurement:** U tube manometer **Condensers:** Insulation : Ceramic wool Cladding: aluminum foil. **Condensate Measurement:** Measuring Cylinder & Stopwatch. **Cold Water circulation:** Using tap water from lab. **Steam Generator** Material: stainless steel Mountings: level gauge, pressure gauge, safety valve, drain. Insulation: ceramic wool Cladding: Aluminum foil **Heaters:** 2 kW Nichrome wire heater **Control panel:** Digital Temperature Controller: 0-199.9°C (For Steam Generator/hot water bath) Digital Temperature Indicator: 0-199.9°C, with multi- channel switch, On/Off switch, Mains Indicator etc. Temperature Sensor RTD, PT-100 Type.	**01**	45 days
02	**Model of Lancashire Boiler**	**Model Dimensions:** Length:100 cm or above Height:37 cm or above Breadth:45 cm or above **Cylindrical Shell:** Material: steel Diameter: 22 cm or above Length: 75 cm or above **Parts/Fittings:** Safety valve, manhole, Mud hole, check valve, Regulating draught door, damper with counter weight, Chimney, Safety valve, Check valve, Steam Regulator, Water and Steam gauges etc.	**01**	

03	**Model of Cornish Boiler**	**Model Dimensions:** Length:100 cm or above Height:37 cm or above Breadth:45 cm or above **Cylindrical Shell:** Material: Cast Iron Diameter: 22 cm or above Length: 75 cm or above **Parts/Fittings:** Safety valve, Manhole, Mudhole, check valve, Regulating draught door, damper with counter weight, Chimney, Safety valve, Check valve, Steam Regulator, Water and Steam gauges etc.	**01**	
04	**Model of Babcock and Wilcox Boiler**	**Model Dimensions:** Length:100 cm or above Height:28 cm or above Breadth:77 cm or above **Drum:** Material: Cast Iron Diameter: 15 cm or above Length: 75 cm or above **Parts/Fittings:** Manhole, Mudhole, Regulating draught door, damper with counter weight, Chimney, Safety valve, Check valve, Steam Regulator, Water and Steam gauges etc.	**01**	
05	**Model of Locomotive Boiler**	**Model Dimensions:** Length:100 cm or above Height:45 cm or above Breadth:35 cm or above **Cylindrical Shell:** Diameter: 20 cm or above Length: 60cm or above **Material**: Steel **Parts/Fittings:** Whistle Steam dome, Safety valve, Check valve, Steam Regulator, Pressure gauge, Water and Steam gauges etc.	**01**	
06	**Model of Cochran Boiler**	**Cylindrical Shell of the Model:** Diameter: 25 cm or above Height: 60 cm or above **Material**: Steel **Parts/Fittings:** Safety valve, Manhole, check valve, Chimney, Safety valve, Check valve, Steam Regulator, Water and Steam gauges etc.	**01**	
07	**Model of Lamont boiler**	**Model Dimensions:** Diameter:30 cm or above Height:65 cm or above **Evaporator tube Material**: Cast iron **Parts/Fittings:** Economizer, Super heater, Safety valve, Check valve, Steam Regulator, steam separator, pressure gauge, Water and Steam gauges etc.	**01**	

08	**Thermal Property Analyzer**	**Range of Measurements** K: 0.02 to 4 Wm^{-1} C^{-1} ; D: 0.1 to 1.0 mm^2 s^{-1} R: 0.25 to 50mC W^{-1} ; C: 0.5 to 4 MJ m^{-3} C^{-1} **Accuracy** : ±5 to ±10% Thermal Conductivity/Resistivity ±10% Specific Heat; ±10% Thermal Diffusivity **Measurement Speed** 90 Seconds to 10 min **Data Storage** 4,095 readings, flash memory with USB data collection mode **Compliance To Standards** ASTM Standard D5334-08 and IEEE Standard 442-1981 **Operating Environment of Sensors** -50 to 150°C **Battery Source** 4 AA **Auto-Read Mode** Enabling Users to collect unattended data at user-defined intervals in the auto-read mode **Type** Ultra low-power 16-bit microcontroller w/ 24-bit A/D converter **Display** Liquid Crystal Display (LCD) 7.5 cm x 4 cm **Case Dimensions** 15.5 x 9.5 x 3.5 cm **Included Accessories** • Thermal Conductivity/Resistivity sensor (for liquids) • Thermal Conductivity/Resistivity sensor (for solids) • Dual-Needle Thermal Diffusivity and Specific Heat sensor (for solids) • Thermal conductivity/resistivity; for use with stone or cement samples **Data Logging facility** Portable connectivity with the computer for logging the data through the inbuilt software.	01 Unit	

Specifications of equipments for Heat Transfer lab

S.No	Description of items	Specifications	Qty	Delivery Period
1	**HEAT TRANSFER FROM A PIN FIN**	**Fin:** Pin Type **Material:** Aluminum **Size:** Dia. 20 mm (approx.), Length 170 mm (approx.). **Duct:** Made of Mild Steel **Heater :** Nichrome Wire **Control panel comprising of:** a) **Dimmer stat:** 0-230 V, 2 Amp. b) **Digital Temp. Indicator:**0-199.9ºC, with multi-channel switch c) **Temperature Sensors**: RTD PT-100 type-8-Nos with standard make On/Off switch, Mains Indicator etc.	**01**	45 days
2	**HEAT TRANSFER THROUGH LAGGED PIPE**	**G.I. Pipe Inner:** 5 cm dia. Approx. **G.I. pipe middle:** 10 cm dia. Approx. **G.I. Pipe outer:** 15 cm dia. Approx. **Length of Pipes:** 60 cm Approx. **Heater:** Nichrome Wire **Control panel comprising of:** a) **Digital Voltmeter:** 0-300 Volt. b) **Digital Ammeter:** 0-2 Amp. c) **Variac:** 0-230 V, 2 Amp, d) **Digital Temp. Indicator:** 0-199.9°C,with multi-channel switch e) **Temperature Sensors:** RTD PT-100 type-6-Nos with standard make On/Off switch, Mains Indicator etc.	**01**	
3	**THERMAL CONDUCTIVITY OF LIQUID**	**Liquid Chamber:** Diameter: 160 mm (approx.). **Heater:** Diameter: 100 mm sandwiched between copper plates. **Insulation:** Ceramic Wool **Cooling chamber:** Made of Aluminum for water circulation. **Control panel comprising of:** a) **Digital Voltmeter**: 0-300 Volt. b) **Digital Ammeter**: 0-2 Amp. c) **Variac**: 0-230 V, 2 Amp. d) **Digital Temp. Indicator**: 0-199.9°C, with multi-channel switch e) **Temperature Sensors**: RTD PT-100 type-6 Nos. with standard make On/Off switch, Mains Indicator etc.	**01**	
4	**STEFAN BOLTZMANN'S APPARATUS**	**Hemisphere:** Diameter 200 mm (approx.) made of Copper. **Jacket:** Dia. 250 mm (approx.) made of Stainless Steel. **Test Disc Size:** 20 mm Dia. x 1.5-mm thickness made of Copper. **Water Tank:** Stainless steel 12 Liters capacity. **Heater:** Nichrome wire immersion heater. **Control panel comprising of:** **a) Digital Temp. Controller:**0 to 199.9°C, (for water tank) **b) Digital Temp. Indicator:**0 to 199.9°C, with multi-channel switch **c) Temperature sensors:** RTD PT-100 type-2 Nos. With standard make on/off switch, Mains Indicator etc.	**01**	

(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……

……..

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					

Annexure-D

****

Price Schedule

****

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