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Date: 2nd August 2018

Closing date: 19th August 2018

(Closing Date Extended)

Ref. No. *STC/MSE/TM/2018-2019/05*

Sub: Request for submission of quotation for Specific Heat Measurement Unit

For the Plasmonics and Perovskites Lab located in WL204A, it requires the quotation for a Specific Heat Measurement Unit complying with or better than all of the specifications mentioned in **Appendix A**. The closing date for the above item is **5 PM, 19th August 2018**. The prospective suppliers are required to send quotation in two parts in sealed envelopes, as “Technical Bid” and “Financial Bid”. The Technical Bid should contain detailed technical specification of the product being offered and should not mention any prices. The Financial Bid should include the detailed price quotation clearly including the cost of the equipment, taxes, service charges if any, shipping and handling charges. The two separate and sealed envelopes should be clearly marked appropriately as “Technical Bid” and “Price Bid”.

Terms and Conditions:

1. Maximum education discount, if any should be offered
2. Validity of quotation should be at least for 60 days
3. Prices should include **delivery up to IIT Kanpur**
4. Prices should be on **CIF (Delhi)** (if imported) with additional **local transport charge** applicable for delivery up to IIT Kanpur.
5. **Warranty** should be for at least **two years** after installation.
6. Delivery period: **Within 60 days** from the date of purchase order
7. Normal payment terms for the Institute will be applicable (90% on delivery of the items and the remaining 10% after satisfactory installation/ inspection)
8. Quotation should carry proper certifications like agency certificate, proprietary certificate, etc.
9. An undertaking that the vendor will supply all the spares and services for the equipment for at least 5 years from the date of commissioning

Kindly send the Technical and Financial bids in sealed envelopes latest by **5 PM, 19 August 2018** to:

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Appendix A
Technical Specifications for Specific Heat Measurement Unit

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Required Specification:**

Sl. No.	Parameter	Required Specification
1.	Description	High Temperature Modulated Differential Scanning Calorimeter for Specific Heat measurement. <ul style="list-style-type: none"> ▪ Especially, the equipment should be capable of measuring oxide thermoelectric samples which can have high electrical and thermal resistance ▪ Fully automatic system providing a flexible and reliable experimental platform on which researchers can make their material measurements with very high precision even at very high temperature.
2.	Model Name	Clearly mention make, model and model number of the equipment being offered. The quotation should include Specific Heat Measurement Unit, specification sheet with detailed performance information.
3.	Sample	Should measure a wide range of materials, including semiconductor, metal and ceramics.
4.	Temperature range	From room temperature to 1200 °C. DSC should use modulated temperature to measure Specific Heat. <ul style="list-style-type: none"> • Mention separately if there is a provision to upgrade this tool for low temperature measurement.
5.	Resolution	Should have the resolution of heat flow measurement of 0.5 μW or better.
6.	Temperature accuracy	+/- 0.5 °C (substance calibration)
7.	Heating and cooling rates	From 0.1 °C/min to 50 °C/min
8.	Atmospheres	Should be capable of measuring in wide range of atmosphere such as vacuum, neutral, reducing and oxidizing atmosphere.
9.	Calibration standards	MUST provide at least FOUR standard samples for Specific Heat measurement in the whole temperature range from R.T. to 1200 °C, with their heat-flow and sp. heat data.
10.	Furnace and thermocouple	Details about the furnace and thermocouples should be provided.
11.	Crucibles	At least 6 Platinum crucibles should be provided
12.	Software and Interface	<ul style="list-style-type: none"> • PC interface with data acquisition, program storage and processing analysis facility. • Should be capable of conducting both cooling and heating cycle fully controlled by computer so that user can collect the measurement data at every temperature from the computer and see the data on the display monitor of the computer. • Should be compatible with Windows 64 bit operating system.

Appendix A
Technical Specifications for Specific Heat Measurement Unit

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13.	Hardware	<p><u>Quote as optional accessories:</u></p> <ul style="list-style-type: none"> • The unit should come with a high performance computer with the latest version of Windows operating system. • Color laser printer
14.	Power Supply and UPS	<p><u>Quote as optional accessories:</u></p> <ul style="list-style-type: none"> • Specify the requirements of the power supply for the offered measurement unit • Quote for UPS with the minimum back-up of 30 or 15 minutes to run the equipment
15.	Other accessories	<p><u>Quote as optional accessories or spares:</u></p> <ul style="list-style-type: none"> • Please quote any other accessories or spare parts needed for carrying out the measurements.
16.	Documentation	<ul style="list-style-type: none"> • Two sets of operating manual for the equipment and control system should be provided in hard copies. • A soft copy of the above manuals should also be provided in a CD/DVD/ pen-drive.
15.	Safety Norms	<ul style="list-style-type: none"> • The instrument should be compliant with international norms for safety and environment
16.	Installation, Commissioning and Training	<ol style="list-style-type: none"> a. The delivery should be considered complete only after successful commissioning of the instrument b. The pre-installation requirements should be communicated to IIT Kanpur well in advance of the installation c. The Installation, commissioning and training should be done only by well trained factory engineers d. The supplier should provide training to at least two candidates at the installation site to make them familiar with smooth operation of the instrument
17.	After-sales Service	<ol style="list-style-type: none"> a. The supplier should provide a prompt after-sales service such as regular instrument maintenance, troubleshooting and fixing b. The list of service centers in India should be included.
18.	Warranty	Must have warranty for at least two years
19.	Annual Maintenance Cost	<p><u>Quote as optional accessories:</u></p> <p>Include the cost of annual maintenance for each year for five years after the guarantee/ warranty period. Provide the amount and the terms. Note that those providing better after sales service and support with proven track record will be given preference</p>
20.	Units in India	Provide the list of institutes in India where similar model is installed.