

**DR. S. S. BHATNAGAR UNIVERSITY INSTITUTE OF CHEMICAL
ENGINEERING AND TECHNOLOGY, PANJAB UNIVERSITY, CHANDIGARH**

No. SSBUI CET/TEQIP-III/2019/277

Date: 27/05/2019

To,

Sub: Inviting Quotations for purchase of TGA with DTA-DSC.

Dear Sir/Madam,

You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at **Annexure I**,

Sr. No	Brief Description	Quantity	Delivery Period(Indays)	Place of Delivery	Installation Requirement (ifany)
1.	TGA with DTA-DSC	1	45	Dr. SSBUI CET , PanjabUniversity, Chandigarh	Will be done at site

1. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the purchase for which this invitation for quotations is issued.

2. **Quotation: -Should be submitted under two bid system(Technical and Financial Bid).**

The Technical bid envelop will contain following documents.

- i. Make and Model offered, its features and complete specifications
- ii. Universities/Institutes to whom this equipment has been supplied in last two years ending March 31, 2019 and name of the contact persons along with their phone no's
- iii. The turn overof the company /firms for the last three years ending March 31, 2019.
- iv. Name of your Principal supplier/ Manufacturer.

Note: Price should not be indicated in the Technical bid otherwise the bid will be rejected

3. **Financial bid envelop will contain financial bid on one prescribed PerformaAnnexure-2**
- i. **Both sealed envelopes of Technical and financial bid** may be sealed in one bigger Envelop and sent to **Project Head TEQIP-III, Dr. SSBUI CET, Panjab University, Chandigarh** on or before due date and time.
 - ii. The **Technical bid will be opened first** and after evaluating the same according to our requirement and desired documents, price bid will be opened for those who qualify technically.

4. **Terms and Conditions**

- a. The contract shall be for the full quantity as described above.
- b. Corrections, if any, in specifications for matter offered and rates & terms and conditions shall be made by crossing out, initialing, dating and re-writing.
- c. All duties and other levies payable by the supplier under the contract shall be included in the unit price.
- d. Applicable taxes shall be quoted separately for all items.
- e. The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- f. **The Prices should be quoted in Indian Rupees only.**
- g. Each bidder shall submit only one quotation.
- h. Quotation shall remain valid for a **period not less than 3 months** after the last date of quotation submission.
- i. Conditional and unsigned quotation will not be accepted.
- j. CMC(Comprehensive Maintenance Contract) for the equipment should be provided or should be valid between 3-5 years.
- k. The Tenderer must ensure that the equipment being offered is a new one and not refurbished or repaired one.
- l. If any of the equipment supplied by the Tenderer is found to be substandard/ refurbished or not in accordance with the description /specification or otherwise faulty, the institute has the right to reject the equipment or its part(s). The prices of such equipment shall be refunded by the vendor with 18% interest if such payments for such equipment has already been made to him.
- m. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced

within 45 days on receipt of the intimation from the TEQIP office at the cost and risk of supplier including all other charges.

- n. In case of any loss/damage to equipment and supplies during the transportation from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. Dr. SSBUI CET will not be liable to any type of losses in any form.
- o. The offering firm should clearly mention whether they are the manufacturer or authorized agent/dealer of the manufacturer.
- p. The Tenderer should mention in the *Technical bid* the response time for attending to a complaint about the equipment by TEQIP office.

5. Evaluation of Quotations

The Project Head, TEQIP-III will evaluate and compare the quotations determined to be substantially responsive and technically acceptable.

- a. are properly signed ; and
- b. Confirm to the terms and conditions, and specifications.

6. The Quotations would be evaluated for all items together.

Award of contract:

The Project Head TEQIP-III will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

- a. Notwithstanding the above, the Project Head, TEQIP-III, Dr. SSBUI CET, Panjab University reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
- b. The bidder whose bid is accepted will be notified of the award of contract by the Head TEQIP-III, Dr. SSBUI CET, Panjab University, prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

7. Payment shall be made in Indian Rupees as follows:

Delivery and Installation - 90% of total cost

Satisfactory Acceptance - 10% of total cost

- 8. All supplied items are under warranty of **2-5** Years from the date of successful acceptance of items.

9. You are requested to provide your offer latest **on or before June 17, 2019 by 04:00 PM.**
10. Detailed specifications of the items are at **Annexure I.**
11. **Training Clause (if any)**

Two weeks training should be provided free of charge at the premises of Dr. SSBUI CET out of which one week should be on equipment usage & software and one week in maintenance
12. **Testing/Installation Clause (if any):**The equipment and software should be installed and tested to the specifications *free of cost.*
13. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for in Technical Bid. A set of User's manuals and Service manuals of the main instrument, attachments and related equipment should be supplied with the equipment.
14. Sealed quotation to be submitted/ delivered at the address mentioned below,
**TEQIP CELL,
2nd Floor, Dr. S. S. Bhatnagar University Institute of Chemical Engineering & Technology,
Panjab University, Chandigarh-160014**
15. Tenders received after the due date will not be accepted. If the last date for submission of Tender falls on any declared holiday in the University, the next working day will be considered as the last date for the same.
16. Telegraphic/electronic/conditional offers will not be accepted.
17. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

Annexure I

TECHNICAL SPECIFICATIONS OF TGA with DTA-DSC

Simultaneous- TGA-DTA, DSC TGA with following features is required for Thermal measurement of both heat flow and weight changes in a material as a function of temperature or time in a controlled atmosphere. The system should have high sensitivity with minimum buoyance & chimney effects along with the necessary software for instrument control & data analysis with DTA signal and Dynamic heating rate to automatically and continuously change heating rate as a function decomposition and modulated TGA capability where Direct measurement of activation energy included with

S.No	Parameter	Instrument Specifications
1.	DSC system Design	Simultaneous DSC -TGA, DTA-TGA and TGA measurements.
2.	Temperature Range	Room Temperature to 1500°C or better
3.	Temperature Accuracy	±1 °C or better
4.	Isothermal Temperature Precision	±1 °C or better
5.	Linear Heating rate	0.1 to 100 °C/min or better
6.	Calorimetric accuracy/Precision	Better than 5%
7.	Furnace Cooling	Forced Air 1500°C to 50°C in 40 min or less time
8.	Balance sensitivity	0.1 µg or better
9.	Sample Capacity (max)	200 mg or better
10.	Weighing accuracy	0.5% or better
11.	Weighing Precision	± 0.1% or better
12.	Weight Resolution	0.1 µg or better
13.	Same unit should also be capable of simultaneously measuring true, quantitative real time DSC signal	Same unit should also be capable of simultaneously measuring true, quantitative real time DSC signal
14.	Heat Capacity accuracy	Better than 5%
15.	Advanced testing modes of TGA	<ul style="list-style-type: none">• Dynamic Heating Rate to automatically and continuously change heating rate as a function of decomposition (sample weight loss)• Stepwise Isothermal to automatically change from heating to an isothermal hold• TGA with ability to measure the activation energy directly.• Advanced DSC - DSC/TGA instrument to measure Heat Capacity (Cp) directly. Determination of onset, peak, inflection and end temperatures
16.	Vacuum	<10 ⁻¹ mbar or better
17.	Sample Pans	Platinum – 6 Nos.

		Ceramic/ alumnia - 20 Nos. Ceramic cups & lids – 5 Nos. Aluminium - 300
18.	Integrated MFC with min. 2 inlets	Two inlets for gas scanning (inert or reactive) with MFC should be inbuilt
19.	Personal Computer (PC) with coloured laser-jet printer	i7-6700 with Intel HD Graphics 530 (3.4 GHz, up to 4 GHz with Intel Turbo Boost, 8 MB cache, 4 cores), Up to 64 GB DDR4, 500 GB up to 4 TB SATA (7200 rpm) 4, up to 500 GB SATA SED, Front: 2 USB 3.0; 2 USB 2.0 (1 charging); 1 headphone; 1 microphone, Back: 2 USB 3.0; 4 USB 2.0; 2 Display Port 1.2; 1 DVI-I single link; 1 serial (optional); 1 parallel (optional); 2 PS/2; 1 RJ-45; 1 audio line-in; 1 audio line-out; 2 IEEE 1394b (optional) Internal: 1 USB 3.0; 3 USB 2.0 1 USB 3.0 and 3 USB 2.0 ports available as 2 separate 2x10(3.0 x1, 2.0 x1) and 2x5(2.0 x2) headers. Supports one HP Internal USB 2.0 Port Kit and one USB 3.0 media card reader With (27") IPS UHD Display
20.	Software	<ul style="list-style-type: none"> • User friendly analysis Software compatible with latest Windows version to control the system to perform the measurements • It should analyze TGA, DSC (Melting and crystallization behavior, glass transition, polymorphism, solid-solid transitions, heat capacity etc) and should be upgradable or inbuilt to DTA/TGA/DTG analysis and peak deconvolution. • Graphic and data export • Comparison and/or evaluation of DSC, TGA and DMA measurements in one plot • The certified/licensed software and programs should be the part of the supplies. There should be <i>free up gradation of software upto 5 years</i>
21.	UPS	Isolated UPS with minimum 1 hour backup
22.	Cylinder	Nitrogen, oxygen and air cylinders (with capacity of 45-50 litres) with regulators
23.	Chiller	Suitable International make chiller to be supplied along with the main system and warranty with maintenance should be managed by bidder. French/German/Swiss/US/Japanese make chiller should quoted.
24.	Power Requirement	100-240 Volt, 50/60 Hz
25.	Warranty	The warranty period should be minimum 2 years (with spares)/5 years (with spares) from the date of installation with satisfactory performance as per

		specifications. The up time of instrument during warranty should not be less than 90% in one year. In case the fault persists for more than one week then the institute has right to impose penalty and the vendor will have to extend the period of warranty accordingly.
26.	Installation	The Supplier will clearly mention installation requirements on our part in the <i>Technical bid</i> . The equipment and software should be installed and tested to the specifications <i>free of cost</i> by a factory trained engineer.
27.	Optional Accessories	Appropriate model with auto-sampler min. 20 position or more

ANNEXURE-2
FORMAT FOR QUOTATION SUBMISSION
(On the letterhead of the supplier with seal)

To _____

Date: _____

Sl. No.	Description of goods (with full specifications)	Quantity	Unit	Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (In INR only) (A)	Sales tax and other taxes payable	
						In %age	In Figures (B)
Total Price							

Gross Total Cost (A+B) (in INR):

- i. We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.
- ii. We confirm that the normal commercial warranty/ guarantee of _____ months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.
- iii. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: _____

Address: _____

Contact No: _____