



**Sant Longowal Institute of Engineering & Technology, Longowal**  
(Deemed to be University)

**TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME (TEQIP)**  
**[Phase-III]**

Sub-Component 1.3: (Twinning Arrangement to build capacity and Improve Performance of Participating Institutes)

**INVITATION FOR QUOTATION**

**Ref No. SLIET/TEQIP-III/**

**12/06/2019**

To,

**Sub: Invitation for Quotations (Bids) for supply of Goods (Package No. TEQIP-III/2019/SLIE/27).**

Dear Sir,

1. 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(In days)	Place of Delivery	Installation Requirement (if any)
1	Supercritical Fluid Extraction System	1	45	SLIET Longowal	Yes

2. 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 contract for which this invitation for quotations is issued.
3. Quotation,
  - 3.1 The technical & financial bids should be submitted on company's letter head.
  - 3.2 The contract shall be for the full quantity as described above.
  - 3.3 Corrections, if any, shall be made by crossing out, initiating, dating and re writing.
  - 3.4 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
  - 3.5 Applicable taxes shall be quoted separately for all items.
  - 3.6 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.
  - 3.7 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit one quotation.
5. **Technical bid and Financial bid should be placed in separate sealed envelopes.**
6. Quotation shall remain valid for a period not less than 40 days after the last date of quotation submission.
7. Evaluation of Quotations,  
The purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which
  - 7.1 are properly signed; and
  - 7.2 confirm to the terms and conditions, and specifications.
8. The Quotations would be evaluated for all items together.
9. Award of contract:  
The Purchaser 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.
  - 8.1 Notwithstanding the above, the Purchaser 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.
  - 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
10. Payment shall be made in Indian Rupees as follow:  
**Satisfactory Acceptance-100% of total cost**
11. All supplied items are under warranty of 36 months from the date of successful acceptance of items.
12. You are requested to provide your offer latest by **03/07/2019** upto 16:30 hours.
13. Detailed specifications of the items are attached as **Annexure I**.
14. Training Clause (if any) Yes
15. Testing /Installation Clause (if any) to be installed at SLIET Longowal.
16. Information brochures/Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
17. Sealed quotation to be **submitted/delivered by post/in person** at the address mentioned below:  
**Coordinator TEQIP-III, Department of Mechanical Engineering,  
S.L.I.E.T., Longowal-148106 (Distt. SANGRUR) Punjab**
18. We look forward to receiving your quotation and thank you for your interest in this project.

**Prof. V.K. Kukreja**  
**Coordinator (Procurement) TEQIP-III**  
[teqip2sliet@gmail.com](mailto:teqip2sliet@gmail.com), 8427757135

## ANNEXURE-I

### SPECIFICATIONS FOR SUPERCRITICAL FLUID EXTRACTION SYSTEM

Carbon dioxide based extraction system suitable for extraction of bioactive compounds from food byproducts, essential oils, herbal extracts of medicinal value from plants etc.

**Extractor Capacity:** 500 ml.

**CO<sub>2</sub> Pump:**

- Circulating Cooling facility
- Wetted materials should be High strength stainless steel, sapphire, GFPM, PEEK.

**Cooling Heat Exchanger:**

- Cool and Liquefy CO<sub>2</sub> before it enters the pump for maximum efficiency.

**Extraction vessel:**

- Volume – 100 ml
- Should include Cap with spring- loaded seal.
- Suitable for fluids like CO<sub>2</sub> and most organic solvents.

**Automated Back pressure regulator:**

- Motor driven and temperature controlled to compensate for cooling during depressurization.
- Built in pressure sensor must be included.

**Temperature control module**

- Maximum temperature – 150 degree Celsius.
- Monitors and control up to six temperature zones independently.
- Alarm setting: Six independent zones.

**High Pressure Collection Vessel**

- Volume: 500 ml.
- Compatible Fluids – CO<sub>2</sub> and most organic solvents.

**Manual Back Pressure Regulator**

- To maintain pressure on high pressure fraction collection vessel in SFE mode for efficient collection and prevents freezing that occurs at depressurization.

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### High Pressure Co- Solvent Pump

- Maximum Pressure – 400 Bar
- Flow Rate – 10g/min

### High Pressure Static Mixture

- Flow Rate – 200g/min
- Operating Pressure – Up to 600 Bar

### Circulating Bath

- Circulating coolant through CO<sub>2</sub> Pump heads and heat exchanger.
- Reservoir Volume- 10 l
- Coolant - Antifreeze/ H<sub>2</sub>O Mixture

### Software:

- The software should be PLC based with comprehensive graphical display of all the components and actual reading of temperature and pressure. Should be able to manipulate each instrument in the system individually or use recipes/scripts. Safety features such as rupture discs, pressure transmitters and interlock logic software should be built in system.
- Software should be programmable, based on the user's requirement. The data should be logged at user selectable intervals. The data import and export capabilities should allow sharing and archival capabilities and can also be imported into excel for analysis.

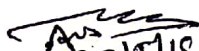
### Data Processing:

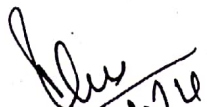
PC – High end Branded Workstation –

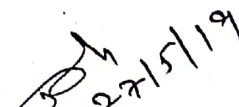
Printer - B/W Laser jet printer

Online UPS – 5 KVa with 1 hour battery backup

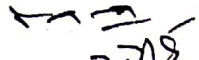
- With all the other accessories to make the system operational.
- With option of extended warranty/AMC for a period of 3 years

  
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**FORMAT OF QUOTATION**

Sr. No.	Description Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs.	Total Amount	
						In Figures	In Words

Gross Total Cost: Rs. ....

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. ....(amount in figures) (Rs. .... amount in words) within the period specified in the Invitation for Quotations.

We also confirm that the normal commercial warrantee/guarantee of ..... months shall apply to the offered goods.

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: \_\_\_\_\_

Contact No. \_\_\_\_\_