



Office of the TEQIP-III
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INVITATION LETTER

Package Code: TEQIP-III/2020/ntis/48

Current Date: 05-Feb-2020

**Package Name: Equipment for Air Pollution
Laboratory**

Method: Shopping Goods

To,

Sub: INVITATION LETTER FOR Equipment for Air Pollution Laboratory

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	Item Name	Quantity	Place of Delivery	Installation Requirement
1	STACK MONITOR/SAMPLER	1	Head of the Dept Dept. of Chemical	Installation required
2	RESPIRABLE SAMPLER	1	Engg NITK Surathkal P.O. Srinivasnagar	
3	FLUE GAS ANALYSER	1	Mangalore, D.K.	
4	SOUND LEVEL METER	1		

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 contract shall be for the full quantity as described above.
 - 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
 - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
 - 3.4 Applicable taxes shall be quoted separately for all items.
 - 3.5 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.
 - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **90** days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which
 - 6.1 are properly signed; and
 - 6.2 Confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. 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.*
9. Payment shall be made in Indian Rupees as follows:



Payment Description	Expected Delivery Period (in Days)	Payment Percentage
Satisfactory Delivery & Installation	60	00
Satisfactory Acceptance	60	100

10. Liquidated Damages will be applied as per the below:
Liquidated Damages Per Day Min %: 1
Liquidated Damages Max %: 5
11. All supplied items are under warranty of **36** months from the date of successful acceptance of items and AMC/Others is **NA**.
12. You are requested to provide your offer latest by **03:00PM** hours on **27-Feb-2020**.
13. Detailed specifications of the items are at **Annexure I**.
14. Training Clause (if any) **Training required**
15. Testing/Installation Clause (if any) **Testing and installation required**
16. Performance Security shall be applicable: **5%**
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below,
Procurement Coordinator
Office of the TEQIP-III
National Institute Of Technology Karnataka, Surathkal
Post Srinivasnagar Mangalore - 575025
19. We look forward to receiving your quotation and thank you for your interest in this project.



Nodal Officer (Procurement)
TEQIP-III, NITK, Surathkal



Annexure I

Sr. No	Item Name	Specifications
1	STACK MONITOR/SAMPLER	<p>Stack Temperature Range: Ambient to 600 deg C read on a Digital Pyrometer.</p> <p>Stack Velocity Range: 3 to 60 m/sec</p> <p>Thermocouple: T/C sensor in SS 304 casing, length of insertion: 1 m with 2m long cable.</p> <p>Manometer: Digital with 0-1060 mm of H2O range Pitot tube: Calibrated S-type fabricated -SS 304, 1m long</p> <p>Particulate Sampling: 0 -30 lpm collection on thimble type filter up to 0.3 micron rating.</p> <p>Gaseous Sampling: 0 - 3 lpm collection in a set of Borosilicate glass impingers.</p> <p>Rotameter: Acrylic body with 2% FSD accuracy, 0 - 30 lpm for PM and 0-3 lpm for GAS. Sampling Probe: 1m long SS tube with inside lining of Teflon & provision for controlled at 120 deg C heating.</p> <p>Filter Holder: Glass filter holder with heating provision suitable to hold either cellulose filtration thimble (size 28mm ID X 100mm long) or glass fibre thimble (size 19mm ID X 90mm long).</p> <p>Nozzles: A set of 5 glass nozzles.</p> <p>Digital Clock: 0-60 minutes, 1 second readout with start and stop switches.</p> <p>Temp. Controller: Digital type temperature controller.</p> <p>Dry Gas Meter: Range 0 to 60 LPM connected to SPM line.</p> <p>Sampling Train: 4 Nos. of 275 ml cap glass impinger, 1 No. condenser glass coil, 1 No. moisture bottle 750 ml & 1 No. cartridge tube accommodated in separate ice tray with instrument panel with a provision to cool down flue gas temperature.</p> <p>Vacuum Pump: Monoblock Rotary Vane type, oil free, 0.5 HP single phase motor (230V) with more than 50 lpm free flow capacity.</p>

B/

2 RESPIRABLE SAMPLER (PM 10 & Gaseous Sample MONITORING)

Flow Rate: Free flow (with flow stabilization disabled) > 1.3 m³ /min. 1.0 m³ /min with Filter Paper installed and Flow Controller enabled

Particle Size: Particles of 10 microns & below collected on Filter Paper holder. SPM bigger than 10 microns collected in a separate sampling bottle under the cyclone

Sampling Time: 28 hours (maximum)

Sampling Time Record: 0 to 9999.99 hrs. recorded on a Time Totalizer

Power requirement: Nominal 220 V, Single Phase, 50Hz AC mains supply.

Automatic Sampling: 24 hrs programmable timer to automatically shut off the system after pre-Control set time interval.

3 FLUE GAS ANALYSER

Parameter	Sensor	Range	Resolution	Accuracy
O ₂	Electrochemical	0 - 25 %	0.1 %	±0.2 % vol
CO, H ₂ compensated w/built-in NO _x filter	Electrochemical	0 - 8000 ppm	1 ppm	±8 ppm <200 ppm; ±5 % rdg up to 2000 ppm; ±10 % rdg for >2000 ppm
CO diluted	Electrochemical	0.8 - 10.00 %	0.1 %	±10 % rdg
CO ₂	Calculated	0 - 99.9 %	0.1 %	
NO	Electrochemical	0 - 5000 ppm	1 ppm	±5 ppm <100 ppm ±5 % rdg for >100 ppm
NO ₂	Electrochemical	0 - 1000 ppm	1 ppm	±5 ppm <100 ppm ±5 % rdg for >100 ppm
Low NO and/or Low NO ₂	Electrochemical	0 - 100 ppm	0.1 ppm	±1.5 ppm <40 ppm ±5 % rdg for <100ppm
NO _x	Calculated	0 - 5000 ppm	1 ppm	
SO ₂	Electrochemical	0 - 5000 ppm	1 ppm	±5 ppm <100 ppm ±5 % rdg for >100 ppm
Low SO ₂	Electrochemical	0 - 100 ppm	0.1 ppm	±1.5 ppm <40 ppm ±5 % rdg for <100ppm
T _{air}	Pt100	-20 to 120° C	.1 °C	±1 °F±1 °C
T _{gas}	Tc K	-20 to 1250° C	0.1 °C	±2 °F±2 °C
Pressure/ Draft	Semiconductor	-10 to 200 mbar	0.01 mbar	±1 % rdg.
Excess air	Calculated	0 - 850 %	1 %	-
Efficiency	Calculated	0 - 100 %	0.1 %	-

4	SOUND LEVEL METER	<p>SOUND LEVEL METER • Standard: IEC 61672 Class 1, IEC 60651 Class 1, and IEC 60804 Class 1 ANSI S 1.4 Class 1 and ANSI S 1.43 Class 1 • Measurement range: 30 dB to 130 dB (Expandable to 160 db by using a ¼ inch microphone) Dynamic range of 100 dB • Accuracy and resolution: Accuracy of ± 1.0 dB Resolution of 0.1 dB • Frequency range: 10 Hz – 20 kHz • Measurement functions: Sound Pressure Level (SPL), LEQ, LN, PEAK, MAX, MIN, RMS, SD Simultaneous measurement of three profiles with independent sets of filters and detector time constants • Frequency weighting: A, C, Z – can be measured in parallel • Time Weighting: Fast, Slow, Impulse – can be measured in parallel • Integration time: Programmable (1s to 24h) • Octave filter: 1/1 octave at 5 points of frequency: 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz • Sampling frequency: 48 kHz • LCD display: LCD with backlight. Can display the measurement with 0.1 dB resolution • Analysis rate: 64 times per second • Storage: Inbuilt 4GB and above storage through a Micro SD card • Export data: Use adapter (Micro SD to SD card sets), or directly connect the computer to read the memory card data files; RS 232 interface • Timer: In built timer with current date and time displayed on the main screen. Also has an auto-power off mode that can be set manually • Power: 4*1.5V AA alkaline batteries, sustainable use of more than 18 hours • Calibration: Auto calibration using 94 dB and 114 dB external calibrators • With all Standard accessories</p>
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FORMAT FOR QUOTATION SUBMISSION
(In letterhead of the supplier with seal)

Date: _____
To: _____

Sl. No.	Description of goods \ (with full Specifications)	Qty.	Unit	Quoted Unit rate in s. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ Gross Total Cost (A+B): Rs. _____
_____ (Amount in figures) (Rupees _____ amount in words) within the period specified in the Invitation for Quotations.

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.

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. _____