(42)

Institute of Engineering & Technology, Lucknow,Sitapur Road, Lucknow, Uttar Pradesh - 226021

INVITATION LETTER

IET/TEQIP-III/2019-225-L

Package Code: TEQIP-III/2019/UP/ietl/285
Package Name: IET-TEQIP-ECD-LAB-12

Current Date: 05-Jul-2019
Method: Shopping Goods

Sub: INVITATION LETTER FOR IET-TEQIP-ECD-LAB-12

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 (if any)
1	Temperature Transducer Trainer Kit	2	Institute of Engineering and Technology, Lucknow	
2	Digital pH meter	2	Institute of Engineering and Technology, Lucknow	
3	DIGITAL CONDUCTIVITY/ TDS METER	2	Institute of Engineering and Technology, Lucknow	
4	Ultrasonic Transducer Kit	2	Institute of Engineering and Technology, Lucknow	
5	Pressure Transducer Training Kit	2	Institute of Engineering and Technology, Lucknow	
6	Water Level Measurement Kit	2	Institute of Engineering and Technology, Lucknow	
7	Motor Control Trainer	2	Institute of Engineering and Technology, Lucknow	
8	Transducer Trainer for Motion, sound and Force	2	Institute of Engineering and Technology, Lucknow	
9	PROJECT BASED ON SENSOR (HARDWARE)	2	Institute of Engineering and Technology, Lucknow	

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 **60**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:

Satisfactory Delivery & Installation and Acceptance - 100% of total cost

10. Liquidated Damages will be applied as per the below:
Liquidated Damages Per Day Min % :0.50
Liquidated Damages Max % : 10

11. All supplied items are under warranty of **36** months from the date of successful acceptance of items and AMC/Others is .

12. You are requested to provide your offer latest by **14:00** hours on **22-Jul-2019.**

13. Detailed specifications of the items are at Annexure I.

14. Training Clause (if any) **YES**

15. Testing/Installation Clause (if any) **YES**

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, **TEQIP-III Institute of Engineering & Technology, Lucknow,Sitapur Road, Lucknow, Uttar Pradesh - 226021**

19. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation
COORDINATOR
TEQIP PHASE-III
Institute of Engineering &
Technology, Lucknow-21

Annexure I

Sr. No	Item Name	Specifications
1	Temperature Transducer Trainer Kit	Transducers 4 Nos: (1) N.T.C. Thermistor, (2) Platinum R.T.D, (3) K Type Thermocouple, (4) IC Temperature Sensor Heating Element: Wirewound Resistance 47W, 7W. Signal Conditioning Circuitry: (1) Instrumentation Amplifier, (2) X100 Amplifiers, (3) DC Amplifier, (4) Comparator, (5) Electronic Switch. Input Circuits: Rotary & Slide Potentiometers. Output Circuits: (1) Relay, (2) Buzzer. Experimental manual, Interconnection cords.
2	Digital pH meter	Range: 0.00 to 14.00 pH/ 0-±1999 mV. Resolution: 0.01pH. Accuracy: 0.01pH±1 digit. Buffer Calibration: 7.00, 4.00 and 9.20pH.Temperature Range: 0-100°C.Display: digital 16character x 2 line LCD Automatic Temperature compensation, Polarity and Decimal: Automatic, Power Supply: 220VAC. Accessories: pH electrode, stand, Rod, Clamp, Buffers, dust cover. Experimental manual, Interconnection cords.
3	DIGITAL CONDUCTIVITY/ TDS METER	Range : Four selectable range for TDS: 20ppm, 200ppm, 2ppm and 200ppt; Conductivity range: 0-20µS, 200 µS, 2 µS and 200ms/cms. Frequency source: in-built Resolution: 0.01, 0.1, 0.001, . Measuring accuracy: ±1 of FS Display: 3½Digit LED display, Calibration: single point; Conductivity cell: 1.0 cell constant. Accessories: conductivity cell, stand, rod, clamp, dust cover. Experimental manual, Interconnection cords
4	Ultrasonic Transducer Kit	Ultrasonic Transducer: 27 cm to 1.5 meter (approximately). Clock Generator: 40 KHz, Amplifier: 60 db, Display: Seven segment, Threshold detector: 0 to 9 V DC, Buzzer Indicator: 5 V DC Test Point: 15 nos. Operating Conditions: 0-40 C, 85% RH. Experimental manual, Interconnection cords.
5	Pressure Transducer Training Kit	Pressure Transducer: 0 to 100 psi, Differential input, Pressure Gauge: 0 to 100 psi, Pressure Vessel: 0 to 100 psi, Safety Valve: 0 to 100 psi Hoses: 1.5 m, Foot Pump: 0 to 150 psi, V-I Specification: 0 to 5 VDC input, 4 to 20 mA output. Buzzer Indicator: 5 VDC, LED Indicator: 5VDC, Digital Voltmeter: 0 to 10 V, Test Points: 18 nos (Gold Plated) Operating Conditions: 0-40 C, 85% RH, Experimental manual, Interconnection cords. (Trainer should be encased in a box ,with no circuitry components on the top only block diagram should be provided on top)
6	Water Level Measurement Kit	Capacitive Transducer: 0 to 2 liters, Level Measurement Range: 0 to 120 mm, F-V Specification: 5 KHz to 50 KHz input, 0 to 5 V output V-I Specification: 0 to 5 VDC input, 4 to 20 mA output Buzzer Indicator: 5 V DC, LED Indicator: 5 V DC. Digital Voltmeter: 0 to 10 V. PC Interface: USB, Power supply: 110V - 260V AC, 50/60Hz. Test Point: 18 nos, Operating Conditions: 0-40 C, 85% RH. Experimental manual, Interconnection cords.(Trainer should be encased in a box ,with no circuitry components on the top only block diagram should be provided on top)
7	Motor Control Trainer	Actuators: Unipolar Stepper Motor, Bipolar Stepper Motor, Servo Motor, DC Motor Displays: 16x2 LCD Display (Mode indication, Direction and Step Rate Measurement), 3mm RED LEDs for (Motor phase Indication, Direction and Modes). Switches: Matrix Keypad: For Selecting Mode: Microcontroller Mode or RS232 mode and also for selecting Direction and Input Stepping). SPDT Switch: This for Stand Alone Mode without Microcontroller. Mode selection (HALF, FULL and WAVE), Speed Controlling, STEP Mode and RUN Mode Selection. Microcontroller Based:

		Onboard AT89C51RC microcontroller with 32K bytes of Flash programmable ROM & 512 bytes of RAM. Serial Communication: PC Interface-RS 232 communication port Clock: Auto Clock, Manual Clock Power Supply: On Board 5V adapter Jack. Training contents: Setup a stepper motor's driver, Utilize a stepper motor for positioning control, Stepper motor's speed control, Encoder's application in stepper motor control, Utilize a potentiometer module for stepper motor's positioning control, Utilize an encoder to design a closed loop control, Angle Measurement on Particular modes, Modes Selection (HALF, FULL and WAVE), DC Motor Speed Control, DC Motor Direction Control, Servo Motor Angle Selection (+90, +45, 0,-45,-90 degrees) 5. Encoder in the stepper motor closed-loop control m, Potentiometer in stepper motor's control, Encoder in the stepper motor closed-loop control. Experimental manual, Interconnection cord
8	Transducer Trainer for Motion, sound and Force	Transducer &Instrumentation trainer for Motion, Sound & Force has following specifications:- Should be supplied with the instrument which can log the value of the parameter like temperature, resistance etc. in to the Computer via a USB Port. The software running in computer should have following features: Sampling Time, Minimum Sampling Time of Meter Data: 1 sample/second. In auto mode, it is real time receive data from meter. In manual mode, you can set the sampling time in second. HARDWARE SPECIFICATION: INPUT TRANSDUCERS: Linear variable differential transformer, Linear variable capacitor, Strain gauge, Humidity Sensor, Dynamic microphone, Ultrasonic receiver OUTPUT DEVICES: Buzzer, Relay, Solenoid, Loudspeaker, Ultrasonic Transmitter, Bargraph voltage indicator, Analog 10V Center-zero meter SIGNAL CONDITIONING: Signal conditioning amplifiers, Comparator, Oscillator and filters, Mathematical Operation. POSITIONAL RESISTANCE TRANSDUCERS: Carbon Potentiometer, Wire wound potentiometer, Slide potentiometer, Wheatstone Bridge TYPICAL TOPIC AREAS INCLUDE: Positional resistance transducer, Wheatstone bridge measurement, Linear position or force Application, Environmental measurement, Sound measurement, Sound output, Linear motion, Display Devices. Experimental manual, Interconnection cord.
9	PROJECT BASED ON SENSOR (HARDWARE)	Stand alone board for the following transducers : LVDT TRANSCUDER To study of LVDT as displacement transducer. Built in AC excitation source 2.5kHz typical. Linear variable differential transformer in metallic structure. Micrometer attachment with mechanical displacement system. Displacement range ± 5mm. STRAIN GAUGE TRANSCUDER To study of Strain Gauge transducer. Built in DC (3.2V) excitation source for internal bridge balance. Strain Gauge Sensor in metallic structure. Strain measure upto 500 micro strain (approx) in amplifier output. LOAD CELL TRANSCUDER. To study of Load Cell transducer. Built in DC (+12V) excitation source for internal bridge balance. Load Cell Sensor in metallic structure. Load measure upto 1.5Kg. RTD (PT-100) TRANSCUDER Study of RTD as temperature measuring transducer. RTD (PT - 100) probe with protection cover. Bridge circuit for transducer. Differential amplifier with feedback. Temperature measurement upto -10°C to 100°C. THERMOCOUPLE TRANSCUDER To study of Thermocouple transducer. Thermocouple Sensor in metallic structure. Temperature Measurement upto -10°C to 100°C.

MAGNETIC PICKUP TRANSDUCER

Study of meausrement of magnetic pickup transducer. On-board RPM meter for measurement of speed. On-board potentiometer for varying speed. On-board magnetic sensor and DC motor with shaft. On-board push button to reset the count.

SMOKE DETECTOR SENSOR

Study of smoke detector. On-board smoke sensor. On-board fire alarm.

GENERAL SPECIFICATIONS

Sockets at different places for observing / measuring the signals. 3.5 digit digital voltmeter meter having range 0-200mV for load cell. 3.5 digit digital voltmeter meter having range 0-2V for LVDT, Thermocouple & Strain Gauge (Switch Selectable). 220 V, Built in IC regulated power supply. Enclosed in an attractive ABS plastic cabinet with cover. Detailed instruction manual.

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 Rs. (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							

Gross Total Cost (A+B): Rs. _____

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.
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. _____