



Harcourt Bulter Technical University, Kanpur (HBTU, Kanpur), Nawabganj
Kanpur 208002

INVITATION LETTER

Package Code: TEQIP-III/2019/UP/hbti/331

Package Name: EE PP

Method: Shopping Goods

Sub: INVITATION LETTER FOR EE PP

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	PC / PLC Based Control Automation Experimentation System	1	H.B.T.U., Kanpur	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 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
Delivery	30	90
After Delivery and Satisfactory Installation	30	10

10. Liquidated Damages will be applied as per the below:
 Liquidated Damages Per Day Min %: N/A
 Liquidated Damages Max %: N/A
11. All supplied items are under warranty of **12** months from the date of successful acceptance of items and AMC/Others is .
12. You are requested to provide your offer latest by **15:30** hours on **15-Jan-2020**.
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: **0%**
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, **Registrar, Harcourt Bulter Technical University, Kanpur (HBTU, Kanpur), Nawabganj Kanpur 208002. For any query contact to Prof. Yaduvir Singh (7081300508).**
19. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

Annexure I

Sr. No	Item Name	Specifications
1	PC / PLC Based Control Automation Experimentation System	<p>1.PC / PLC Based Control Automation Setup The system must be supplied with PC / PLC Processor, with data acquisition/control etc ,The PLC Siemens S200 PLC with10-DI, 10-DO configurable to both 24v DC & 230vac, Built in 24 V DC power supply. I/O LED indication on front line panel, 64 Kbytes memory. I/O simulating devices (Toggle switch). Provision to interface PLC module with customized system and for student project interface. Relays protected output. Mains socket with self illuminated switch and dual fuse protection. Process simulation on LED Indicators. With 3 MIMIC Diagram: Sequential motor Starter interface. Star /delta starter interface. Water level. DOL Starter. Filling System. Stepper Motor Control</p> <p>2.Robomatic Training System The system is composed by the following elements: The Robotic ARM performs five motions: Arm vertical motion Horizontal motion Gripper rotation Gripper opening and closing Controller Technical Specifications: Pneumatic supply section Electropneumatic power section Controllable and programmable via PLC Controllable and programmable via Personal Computer Compatible with above mentioned PLC (Sr. No. 1 or 2) Components of the supply section: 2 air-conditioning groups 1 pressure gauges 2 no's of 3/2 switch Components of the power section: 2 nos of 3/2 single-solenoid valves 2 nos of single acting cylinder Manifold 3 silencers Components of the control section: 1 IR sensor Photo Electric Sensor. Camera for sorting of products. Power Supply Electrical 230V – 50/60 Hz, 200 VA (115V upon request) Pneumatic Compressed air 10 bar 20 ltr. Manual control program Sequential program controlled by limit-switch. Color Detection with the help of camera 3.SCADA Software WinCC-single user license. 4.HMI 7 Inch With Serial Interface (10" HMI LCD Panel with complete programming library) 5.Temperature and Humidity Sensor The system must be supplied with 4-20 mAmp tempo sensor as well as Humidity for control applications 6.Water level Sensor The system must be supplied with advance capacity sensor with metallic enclosure etc 7.Sense / Control of Sliding Gates Technical Specifications: The set of modules for the automation of sliding gates consists of: 1 transformer 115-230 / 12-24 V 50-60 Hz 72 VA 1 electromagnetic contactor for industrial uses, 24-Vca coil 1 electronic control board for gate automation 1 pair of photoelectric crossing sensors 1 mechanical driving unit with single-phase motor and limit switches 1 2-way switch for domestic uses, 2 pushbuttons with 1 NO contact, 1 pushbutton with 1 NC contact. Compatible with above mentioned PLC (Sr. No. 1 or 2) Control Panel: Aluminum Stand. Accessories: It is carried out with aluminum sections, chemically treated and painted. Power Supply: 230 V/PE, 50-60 Hz Power supply unit 8.Sensor / Control Of 3-Floor Lift Technical Specifications: Floors presentation. doors for the lift opening and closing simulation 1 DC motor for the lift motion 3</p>

limit switch micro switches for the 3 floors Terminals of which 2 for 24-Vdc supply of the motor control relays. (The power supply is provided with the PLC) 2 relays for UP/DOWN control of the lift motor 1 signaling LED for power supply presence. Compatible with above mentioned PLC (Sr. No. 1 or 2) 1st Floor UP command with green LED signaling Green LED signaling: 1 ST FLOOR 2nd Floor UP and DOWN commands with green LED signaling Green LED signaling: 2 ND FLOOR 3rd Floor DOWN command with green LED signaling Green LED signaling: 3 RD FLOOR Lift Side Panels: Commands: Ground FLOOR with green LED 2 ND FLOOR with green LED 1 ST FLOOR with green LED STOP with green LED ALARM with red LED. Compatible with above mentioned PLC Control Panel: Aluminum Stand. Power Supply: 115/230 Vac $\pm 10\%$ – 50/60 Hz

9.Sensor and Control Level & Flow Process System The process unit consists of a tank with pump to provide the liquid necessary to reach and keep the level. The actuator consists of a proportional valve while the level transducer consists in a pressure sensor set at the bottom of the process tank. A windmill flow meter with a manual throttle valve set in series on the delivery pipe enables to carry out flow measurements. Beside the basic modules of the system, there is the control for the level and flow actuators and the conditioning modules of the signals provided by the two level and flow transducers. The system includes: Process unit Amplifier module Signal conditioner module for level transducer Signal conditioner module for flow transducer. 16X2 LCD Display to display the flow & level parameters. 2 No's Water Tank (One Overhead water Tank & One Underground some storage tank). Compatible with above mentioned PLC (Sr. No. 1 or 2) Control Panel: Aluminum Stand.

10.Automation Process with Conveyor Technical Specifications: Conveyor Unit: Mild Steel structure, chemically treated. Rubber conveyor belt Teflon rolls, complete with iron support pin 230-Vac single-phase asynchronous motor rotation speed of about 15 RPM. Piece Detection and Expulsion: Mechanical support for limit switches and cylinders Inductive sensors Single-acting cylinders with pieces pusher Electropneumatic Control: Support for solenoid valves Packet with 2 No's of 3/2 monostable solenoid valves with 24-Vdc electrical control. Electrical Control Board: Red and black safety connectors Single-phase power supply socket Protection fuses Cable for single-phase power supply. Control Pushbutton Board: The control pushbutton board of the conveyor system can be connected to the PLC with accessory cables and is composed of: Plastic envelope with front panel reporting the silk screen diagram of the electrical contacts Red and black safety connectors 2 pushbuttons with green signaling lamp. NO contact 2 pushbuttons with red signaling lamp. NC contact Compatible with above mentioned PLC (Sr. No. 1 or 2) Control Panel: Aluminum Stand. Pneumatic Power Supply: The two conveyor units need to be powered pneumatically via an external compressor. Compressed Air pressure: from 4 to 6 bar.

11.PLC based Rotary Table Stepper motor electrical with actuator driven mechanism, with circular transparent table. Circular platform: Diameter- 200mm, Thick- 5mm Bidirectional stepper motor. Torque:

		<p>10Kg / cm², shaft length: 20.6mm, shaft diameter: 6.35mm. Bipolar stepper driver card. Motor supply voltage: 24 VDC, auto – manual, enable – disable & direction selection facility, angular rotation / pulse: 1.8° / 0.9° Compatible with above mentioned PLC (Sr. No. 1 or 2) Electric supply: 1φ 230 V AC, 50 Hz. 12. Customized Workstation table with power sockets and enclosures for PC with key board platform and 4 chairs 13. 1.5 Ton split AC with complete installation along with power stabilizer 14. Complete glass partitioning from floor to ceiling with exhaust fan and door 15. Desktop PC (Intel 8th Generation) 02 (Two) numbers with multimedia facility</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 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. _____