INVITATION FOR QUOTATION

TEQIP-II/2013/WB1G04/Shopping/42 **12-Dec-2013**

TEQIP-II/WB/WB1G04/65

To,

Sub: Invitation for Quotations for supply of Goods

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	Design and simulation of different types of close-loop its' controller	1	60	University Institute of Technology The University of Burdwan Golapbag (North), Burdwan-713104	Installation Required
2	High End PC	1	60	University Institute of Technology The University of Burdwan Golapbag (North), Burdwan-713104	Installation Required
3	Instrumentation designing simulator	2	60	University Institute of Technology The University of Burdwan Golapbag (North), Burdwan-713104	Installation Required

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 II** 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, initialing, 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 **50** 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:

   Delivery and Installation - 0% of total cost

   Satisfactory Acceptance - 100% of total cost

10. All supplied items are under warranty of **24** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **15:00** hours on **08-Jan-2014 .**
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Hands on Training Required**
14. Testing/Installation Clause (if any) **Testing & Installation Required**
15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,
    Golapbag (North), Burdwan- 713104
17. 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	Design and simulation of different types of close-loop its' controller	Built in power supply : DCsupply 12V,500mA. 1phase sine reference for cosine firing 30Vpp max. 17Vdc, 500mA unregulated for driving pulse X'mer VariableDCpower supply : 7 to 14V/3A Display A)DPM- 2Nos. i) ForTemp. upto 100 C&intensity in Lux (2000) ii) ForTemp. upto 500 C B) Analog Meter - 2Nos. i) Centre zero for display of process error (9V) ii) ForMV/SP(0-2.5V) Operating voltage Switch able 220-240Vac, ±10%, 50Hz, 75VA Computer Interface Adapter / CIA Optoisolated Adaptor to prevent damage to PC parallel port (25 pin LPT) due to wrong connections. Interfaces through 25 pinMto F cable 1mtr Length. P4/XP not in scope of supply. 4ADCchannels : 0 to 2.5V full scale. 1DACchannel : / 2.5VFS. Vto I Function block : Input : 0- 2.5Vdc O/p: 0-20 or 4-20mA, in 100E load Max USB converter to interface 25 pin D connector on CIA panel to USB using PIC18F microcontroller 28 Pin SOIC enclosed in 25 PinD shell using TypeAto miniBcable. Analog PID controller with built in lowfreq. function generator Controller ionP,PI,PD,PID with slide switch Parameter settings: Integral Time Ti (0.5-25Sec) Derivative Time Td (0-2Sec) Proportional Band Pb (5-200%) Set point (-9V- +9V) Operating modes : Fast (X 100/10mSec) for oscilloscope, Slow(X0.1/1Sec) forPC interface. 2 No. Level shifter converting process O/p (9V) to 0-2.5V forPC interface&Actuator panel Test points for Process Error, Set Point (Rn), Measured Value (Cn), Controller output (Un). Built in function generator O/pwaveformable sine, triangular&square. O/p freq. range from 0.016Hz to 166Hz, 4 steps&fine control pot. ii) Modular Experimental :Panel Process Simulator Panel / CE1 (Provided with 49 banana tags.) Functional blocks for Lag (3No), Integrator (3No), Transport Lag (1No), Summer (2No), Gain (1No), Inverter (2No) for constructing simulated Type 0,1,2,3 & 1 ,2 ,3 Order processes towork under PID. Experiments with Lead / Lag / Lead - Lag compensators to control behaviour of matching processes using

		above function blocks. Open loop & close loop response of processes under different P, PI, PID - Analog or Digital controllers. Experimental varification of PID Controller settings (Pb, Ti, Td) AutoTuning explained using Ziegler Nicolas I&II. Fast (10mS)&slow (1sec) mode ion for all processes to observe response on eitherCROor PCusing CIA. Drawing Bode plot & Nyquist plots, transfer function determination. Advance process control scheme viz; Ratio, Cascade, feed forward. Level shifters (2No) 9V to 0-2.5V & 0-2.5V to 9V to match voltage levels of PC (2.5V) and opamps (9V). iii) Online monitoring / Data acquisition / PID Software : on Installable (CD) works under XP, WIN7. PC with parallel port /USB needed. Operating modes a)SimulatorMode Tests data already stored in files (*.txt) & Drawing graph for all P,PI,PD&PID modes. b)Process MonitoringMode Drawing graphs of analog data presented atCH0&CH 1 of Computer Interface. Cursors forX&Yaxis for measurement&online graphs savings for reproduction c) PID controller Mode PID controller with parameters like Integral Time Ti (0.01-64000), Sampling TimeTs (0- 99.9), (0- 99.9), PID output Upper Limit Uh(0-99.9), PID output Lower Limit Ul (0-99.9). Facility to set units for output viz. Percentage (%) C, RPM,Voltage (V), mm, LPH, kg/cm , si/cm, degree.
2	High End PC	High end PC I-5 CPU, 4GB RAM, 500GB HDD, DVD RW & UPS, multimedia keyboard ,optical mouse, LED display 17" , 1kva UPS, windows 7 software. Computer table hight : 2.5 feet with rack to place keyboard, ups, monitor, printer, mouse and in addition wooden drawer to keep A4 documents comfortably
3	Instrumentation designing simulator	High end PC I-5 CPU, 4GB RAM, 500GB HDD, DVD RW & UPS, multimedia keyboard ,optical mouse, LED display 17" , 1kva UPS, windows 7 with virtual Instrumental simulating software like Cimplicity, SCADA Computer table hight : 2.5 feet with rack to place keyboard, ups, monitor, printer, mouse and in addition wooden drawer to keep A4 documents comfortably

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

_____

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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: _____