



GOVT COLLEGE UNIVERSITY FAISALABAD

TENDER NOTICE NO. 216 / 2014

Government College University, Faisalabad (GCUF) invites sealed tenders / bids from the well reputed firms / importers / suppliers, registered with Sales Tax and Income Tax Departments, for procurement of **Control's Lab for Department of Electrical Engineering**. Detail and Specifications of required equipments are attached in the Tender Documents.

1. Tender Documents are available for download at GCUF's website www.gcuf.edu.pk and PPRA's website www.ppra.punjab.gov.pk. The procurement shall be completed in accordance with Punjab Procurement Rules 2014, on Single Stage - Two Envelope Bidding Procedure.
2. A single package containing two envelopes, Technical and Financial separate Bids, duly completed, signed, stamped, sealed and in complete conformity with Tender Documents should be dropped in Tender Box placed at Procurement Department of the GCUF, not later than **1000 Hrs on 07.07 2014** . Technical Bids will be opened first on **07.07.2014 at 1030 Hrs**, and Financial Bids will be opened (as per schedule issued later on) for only those Successful Technical Bids which are acceptable to the "Technical Committee". Whereas, Financial Bids of unsuccessful Bidders will be returned un-opened.
3. All bids must be accompanied by Tender Fee Rs; 2,000/- and Bid Security (Refundable) at the rate of 2% of total Tender/Bid value in shape of CDRs in favor of "Treasurer GCUF". The CDRs of Tender Fee and Bid Security (in original) must be attached with Technical Bid & Financial Bid, respectively. Bids which are incomplete, not signed, not stamped, not sealed, without tender fee & bid security, late or submitted by other than specified mode will not be considered.
4. Income/Sales Tax Registration Certificate, CNIC and other documents as mentioned in the Tender Documents must accompany the bids. Taxes will be deducted as per GOP rules.
5. GCUF Management may reject any or all bids at any time prior to the acceptance of a bid, as provided under Rule-35 of Punjab Procurement Rules, 2014.

(Dr. Iftikhar Hussain Bukhari)
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GOVT COLLEGE UNIVERSITY FAISALABAD

TENDER DOCUMENTS NO. 216 /2014

SUPPLY OF CONTROL'S LAB

FOR DEPARTMENT OF ELECTRICAL ENGINEERING .

Purchase Price: Rs. 2000/-

Sealed Tenders are invited from the well reputed firms / Importers / Suppliers, which are registered with Sales Tax and Income Tax Departments for supply of Control's Lab for the Department of Electrical Engineering. Detail & Specifications are separately attached as Appendix "A".

GENERAL TERMS & CONDITIONS

1. Tender Opening Date & Procedure:

- The procurement shall be completed in accordance with Punjab Procurement Rules 2014, on Single Stage - Two Envelope Bidding Procedure.
- A single package containing two envelopes, Technical and Financial separate Bids in complete conformity with Tender Documents will be dropped in Tender Box placed at Procurement Department of the GCUF, not later than **1000 Hrs on 07.07. 2014 .**
- Technical Bids will be opened first on **07.07.2014 at 1030 Hrs.** for evaluation by the " GCUF Technical Committee".
- Financial Bids of Successful Technical Bidders will be opened as per schedule issued later on.
- Financial Bids of unsuccessful Bidders will be returned un-opened.

2. Tender Fee, Bid Security and Performance Security:

- Technical Bid must be accompanied by Tender Fee of Rs:2,000/- in shape of Call Deposit Receipt (CDR) in original.
- Financial Bid must be accompanied by Bid Security @ 2% of the tendered bid / value (refundable) in shape of Call Deposit Receipt (CDR) in original.
- CDRs must be in favor of Treasurer, GC University, Faisalabad.
- The rates / bids should be inclusive of all applicable Govt. Taxes.
- Performance warrantee @10 % of the total bill shall be retained by the university and refundable after expiry of the warrantee period.

3. Validity of Offers.

- Offers shall be valid for at least 180 days from the date of submission of bids.
- Withdrawal / modification of the original offer within the validity period shall entitle the University to forfeit Bid Security.
- The Competent Authority reserves the right to increase or decrease quantities.

4. Failures and Terminations:

No offer of a supplier / firm will be considered if:-

- a) Bid received without Bid Security / Call Deposit or less CDR than the required.
- b) Bids received not in accordance with specifications of Tender Documents.
- c) Alternate bids received or alternative equipment offered.
- d) Bid received later than the date and time fixed for tender.
- e) Tender is incomplete in any respect or is unsigned.
- f) Offer is ambiguous and the offer is conditional.
- g) Offer from a firm which is black listed at any level.
- h) Any erasing / cutting / overwriting etc.
- i) The supplier fails to deliver the consignment within specified delivery period strictly in accordance with the terms and conditions as laid down in the Purchase Order.
- j) Situation warranted, then University is authorized to forfeit the bid Security and the firm may also be black listed.

5. Other special condition

- a) Bids should contain complete detail / brochure from manufacturing companies and definite information of accessories, country of origin, warranty period, after sale spare parts & service etc about quoted items.
- b) Successful bidder will be bound to provide manual, warranty document and technical support or training of quoted equipment, wherever applicable.
- c) After receipt of the items the inspection will be carried out by the end user department within 15 days.
- d) The decision of the Vice Chancellor of GC University, Faisalabad, would be final & binding on both the parties and not challengeable in any court of law.
- e) The quantities can be increased / decreased by the Competent Authority.
- f) The performance security applicable under the rules shall be deducted from the final bill of the successful bidder.
- g) All Government Taxes will be deducted according to applicable rules.
- h) The GCUF reserve the right to reject any or all bids at any time prior to the acceptance of a bid, as provided under Rule-35 of Punjab Procurement Rules, 2014.

Dr. Iftikhar Hussain Bukhari
Advisor, Procurement & Inventory Control

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**DETAIL & SPECIFICATIONS OF CONTROL'S LAB
FOR DEPARTMENT OF ELECTRICAL ENGINEERING.**

Sr. No.	Item Name	Specifications	Cost Per Unit	QTY	Total Cost (PKR)
1.	Computer based Measurement and Control Interface	Computer based measurement and control interface with the following features:- • Data Acquisition with 16 Analog input channel at 1.25MS/s, 2 Analog output at 2.8 MS.s, 24 DIO and 2 counters. LABVIEW/Matlab/C programmable. • 50MHz 2 Channels Oscilloscope, • 5 MHz Function Generator/Arbitrary Waveform Generator, • 5.5 Digits Multimeter, • LCR meter, • Variable Power Supply, • Bode Analyzer, • Impedance Analyzer, • 2 & 3 wire IV Analyzer, • Spectrum Analyzer, • Breadboard for sensor interface		5	
2	Analog and Digital Sensor Trainer Instrumentation Trainer	Digital and Analog Censor Board with at least the below sesnors push button, single-pole double-throw (SPDT) micro switch; transmissive optical switch; reflective optical switch; and magnetic Hall effect switch. potentiometer, optical analog distance, magnetic analog field, pressure, temperature, piezo film, EKG, sound sensors and motion detector. Breadboard for connecting third part sensor Compatible with LABVIEW Software Open Platform with ability to create new experiments Covers the below concepts:- - o Precision Measuring Equipment - o Signal measurement and processing - o PLL implementation - o Temperature measurement using RTD and thermocouples - o Pressure Measurement - o Sensor Calibration and Statistical Analysis - o Light Measurement - o Measuring distance using Ultrasound sensor Measurement		5	

		- o Measuring speed using Ultrasound sensor measurement - o Understanding Wheatstone bridge for measuring strain - o Controlling LEDS using Digital IO - o Biomedical Instrumentation using EKG			
3	Temperature Process Control Trainer	Modular board for teaching fluid and thermodynamics control concepts - o Conversions between Analog and Discrete Signals: ADC and DAC - o Temperature Control - o HVAC System modeling - o HVAC System On-off control - o HVAC System P control design and simulation - o HVAC System P control implementation - o HVAC System PI control implementation - o HVAC System PWM control - o System Identification Experiments should not be limited to the exercise manual and instructors should be able to create new experiments		5	
4	Servo Motor Trainer with Quanser	Modular board for teaching motor control concepts Control Simulation and Deployment using LabVIEW/mathscript DC servo with encoder, tachometer and inertial disk Should cover the below concepts - o System Identification of DC Motor - o Ziegler Nichols PID Emulation using DC motor - o DC Motor Controller Using Ragazzini Method - o Direct Digital PI Control of DC Motor - o Lag Compensator Emulation using DC motor - o Transfer function development - o Experimental determination of internal resistance - o Experimental determination the back EMF - o Experimental model verification - o Experimental modeling using step response - o Experimental modeling using frequency response - o Discrete equivalent of DC motor's transfer function - o Position and Speed Control		5	

		o Phase and Gain Margins Experiments should not be limited to the exercise manual and instructors should be able to create new experiments			
5	Inverted pendulum with Quanser	2 DOF rotational Inverted pendulum board Durable DC servo motor, precise and stiff machined components, Built-in power amplifier and High resolution optical encoders to sense positions Control Simulation and Deployment using LabVIEW/mathscript Should cover the below concepts:- - o Conversions between Analog and Discrete Signals: ADC and DAC - o System Identification - o Inverted Pendulum moment of inertia - o Inverted Pendulum modeling - o Inverted Pendulum Pole Placement using state feedback controller design - o Inverted Pendulum Pole Placement using state feedback Implementation - o Inverted Pendulum Pole Placement using state feedback digital emulation - o Inverted Pendulum LQR controller design - o Inverted Pendulum LQR controller implementation - o Balance Control - o Linear-Quadratic Regulator (LQR) Design - o Nonlinear Swing-up Control - o Hybrid Balance / Swing-up Control Experiments should not be limited to the exercise manual and instructors should be able to create new experiments		5	

Details of Call Deposit Receipt (CDR)

Signature_____

No_____Amount_____

Name of Bidder_____

Bank_____Branch_____City_____

CNIC No _____

Name of the Firm & Address _____Ph No_____

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Advisor, Procurement & Inventory Control