



COEP Technological University (COEP Tech)

A Unitary Public University of Government of Maharashtra
(Formerly College of Engineering Pune)

Department of Instrumentation and Control Engineering
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Enquiry Letter

Sealed Quotations are invited by the Department of Instrumentation and Control Engineering from reputed manufacture/vendor/service provider for the providing labortory equipments

Enquiry Number :-	COEPTU/Instru/Enq/ACS Lab/Control kits/2024-25/223-A
Enquiry Date:-	02/12/2024
Material Description & Qty:-	Supply and Installation of Control trainer kit Qty-06 (Trainer Kit-04) Detailed Technical Specification in Annexure
Location:-	Department of Instrumentation and Control Engineering
Quotation Submission Date@ Time:-	Up to 16/12/2024 @ 5.00pm
Quotation Submission Place:-	Inward Section, Establishment Office, COEP Technological University Pune-411005
Quotation Opening Place:-	Office of Department of Instrumentation and Control Engineering COEP Technological University Pune-411005

Terms and Conditions:-

1. Fax and Email quotation are not acceptable.
2. The taxes, insurance, freight, packing and forwarding charges if any be quoted in Indian Rupees separately.
3. The rates shall be valid for 90 days.
4. Validity: Quotation Validity at least 90 days from the due date.
5. Quotations shall be sent in sealed envelopes clearly marked Quotation for Supply and Installation of, _____, Enquiry Number, Enquiry date and Enquiry due date addressed to The Head, Department of Instrumentation and Control Engineering, COEP Technological University Pune-411 005.
6. 100% payment will be paid after satisfactory delivery, installation and commissioning/work.
7. Please specify the make and model of the item.
8. Quotation(s) received after last date of Quotation submission will be rejected.
9. Delivery/Work Period and Terms Conditions should be mentioned clearly.
10. Delivery/Work: The penalty conditions are applicable for the late delivery as per Government norms.
 - a) at the rate of 0.5 % per week; maximum limit of 10% shall be charged in case of PO value is less than 2 Lakh.
 - OR
 - b) at the rate of 0.5 per week; maximum limit of 5% shall be charged in case of PO value is 2 Lakh and above.

Department of Instrumentation and Control Engineering

11. All following documents/certificates should be provided / attached at the time quotation submission.
- a) Shop Act License/Incorporation Certificate/Firm Registration Certificate Copy.
 - b) PAN Card Copy
 - c) GST Certificate Copy
12. Optional items should be quoted in separate sheet otherwise your quote will be rejected
13. Supply/Work and Installation:- Vendor shall be responsible for successful installation, commissioning and testing of the supplied items at Department of Instrumentation and Control Engineering, COEP Technological University Pune-411 005. Any defective component/device will be replaced by vendor at his cost.
14. The Registrar of COEP Technological University Pune reserves right to reject any one or all the quotation(s) without assigning any reasons there for.



Head of Department
Department of Instrumentation and Control Engg.
COEP Technological University, Pune

Head
Department of Instrumentation and
Control Engg.
COEP Technological University
Pune-5.

Annexure A

Commercial

(Quotation submitted by bidder on letterhead)

Sr. No	Material Description	Make & Model	Qty in Unit	Rate per Unit in Rs.	Total Amount in Rs
1	PID Controller Trainer Kit		01		
2	Compensation Design Trainer Kit		01		
3	Second Order Network		02		
4	Linear System Simulator		02		
Cost (Exclusive of all Taxes) in Rs.					
GST % in Rs.					
Total Amount (Inclusive of all Taxes) in Rs.					
Total Amount (Inclusive of all Taxes) in words Rupees Only					

PAN No:-.....

GST Registration No:-.....

Service Tax Registration No:-.....

Signature:-.....

Name:-.....

Address:-.....

Company Rubber Stamp:-.....

Sr. No.	Name of Instruments	Technical Specifications	Quantity
01	PID Controller Trainer Kit	<p>Features</p> <ul style="list-style-type: none"> * PID-action study on CRO * Simulated blocks for flexible system * Time delay (transportation lag) block * Synchronised square and triangular source for flicker free display <p>Experiments</p> <ul style="list-style-type: none"> * Open loop response of various process configurations * Study of closed loop response for above * P, PI, PD and PID design and performance evaluation in each case <p>Technical Specifications:</p> <ul style="list-style-type: none"> # Simulated blocks dead time (transportation lag), integrator, time constants, error detector and gain # PID Controller (configurable as P, PI, PD or PID) # Prop. Band: 5% to 50% (Gain 2-20) # Integral time: 10msec - 100msec # Derivative time: 2-20msec # Built-in signal sources # Set value: -1V to +1V # Square wave: 1V p-p (min.) at 40Hz (typical) # Triangular wave: 1V p-p (min.) at 40Hz (typical) # Built-in 3 digit DVM for d.c. measurements # Built-in IC regulated power supply # Detailed literature and patch chords included # Essential accessory a CRO 	01
02	Compensation Design Trainer Kit	<p>Features:</p> <ul style="list-style-type: none"> # Design of Lead, Lag, Lead-Lag, Lag-Lead and test cascade compensator # Simulated system for accurate results # Built-in compensator gain only passive external components needed # Built-in signal sources <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Simulated uncompensated system having adjustable damping. Peak percent overshoot MP, variable from 20% to 50%, and steady state error variables from 50% to 0.5% * Compensation network implementation through built-in variable gain amplifier. Gain is adjustable from 1 to 11 * Built-in square and sine wave generators for transient and frequency response studies. Frequency adjustable from 25Hz - 800Hz (approx.) * 220V(+/-)10%, 50Hz mains operation * Complete in all respects, except a measuring CRO 	01
03	Second Order Network	<p>Features:</p> <ul style="list-style-type: none"> Active second order network Damping control over, critical, and under-damping Built-in sine wave signal Needs an external CRO for response study Operates with 220V/50 Hz Detailed technical literature and experiment results supplied 	02

		<p>Experiments: Observe and trace from the CRO screen the step response for different values Compute approximate values of equivalent network parameters. Plot the frequency response for various and observe resonance</p> <p>Technical Specifications: Active RLC network using 3-Op Amps Damping 1.1-0.1 (approx) Square Wave 35-700 Hz., 0-1V (typical) Sine Wave 35-700 Hz., 0-1V (typical) Essential accessory: a CRO</p>	
04	Linear System Simulator	<p>Features: Time domain study of a Linear System Op-amp simulated system for greater accuracy Flexible systems configuration Full details of experiments included Additional experiments may be performed</p> <p>Descriptions: The most important performance aspect of a practical system is its response to known input. A large part of the analysis of such systems is therefore devoted to time domain studies. The set-up offered is a variable configuration simulated system designed for time domain studies of both open loop and closed loop systems. Selection at block diagram level eliminates the need to bother about the details of electronic circuitry and its assembly. Thus time and efforts could be directed towards understanding and experimenting with the basic aspects of linear control systems. Schematic diagram of the simulator shown includes transfer functions of the form $1/s$ and $1/(sT+1)$, a calibrated variable gain K and an error detector. These could be combined to form a variety of system configurations. The unity gain uncommitted amplifier can be used to ensure negative feedback.</p>	02