INVITATION FOR QUOTATION

TEQIP-III/2019/seip/Shopping/65 **09-Feb-2019**

To,

The CONCERNED

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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	Hardware peripheral board for Real-Time implementation	1	60	NPSEI Pithoragarh	Yes
2	Inverted Rotary Pendulum Control System kit	1	60	NPSEI Pithoragarh	Yes
3	Simulation Software With real time Application For control system	10	60	NPSEI Pithoragarh	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, 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 **55** 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 - 50% of total cost

   Satisfactory Acceptance - 50% of total cost

10. All supplied items are under warranty of **36** months from the date of successful acceptance of items.
11. You are requested to provide your offer latest by **12:00** hours on **28-Feb-2019 .**
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Yes**
14. Testing/Installation Clause (if any) **Yes**
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 through **INDIAN SPEED POST** only,

    Director/ TEQIP Coordinator
    NANHI PARI SEEMANT ENGINEERING INSTITUTE PITHORAGARH
    (Erstwhile Seemant Institute of Technology, Pithoragarh)
    GIC Campus, Link Road, Pithoragarh-262 502, Uttarakhand

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	Hardware peripheral board for Real-Time implementation	Hardware peripheral board for Real-Time implementation Features of TS-7300 Kit. • Real Time Application Interface (RTAI) with 20-sim • Execution of dynamic models • Supports differential equation models • 200Mhz ARM9 CPU with MMU • 32 MB SDRAM • 1-channel on-board 12-bit ADC • 10/100 Ethernet port • Digital input / output lines • Supplied with 1 DC motor • Supplied with 1 optical encoder (600 PPR min) Supplied with standard power supply, SD Card, driver board, 1 DC motor , 1 encoder , manual and wooden enclosure Some of the experiment which can performed using ARM9 board: • Modeling: How to model and run control system models. Like friction, DC motor, encoder modeling. • Measurement: Measure speed, velocity, acceleration of motions with encoder, measure temperature or other sensor data. • Identification: Using experiments you learn how to identify the components that contribute to the dynamic behaviour of the models. • Control: Learn about feedback loops and run experiments to discover the basics of P, PI and PID control. Various feed-forward controllers can be also experimented. Make various logic based control model for PLC based applications or deeper understanding.
2	Inverted Rotary Pendulum Control System kit	Inverted Rotary pendulum control system : System must have the following features. • A complete system to demonstrate and exercise on designing control system for rotary inverted pendulum balancing. • High performance processor based system to implement and demonstrate rotary inverted pendulum balancing system. • Main processor is ARM9 with math co-processor for execution to give real time performance. • Monitor and log every variable that is available on the target, with facility to display as waveforms. • Logged file format preferred is comma separated values (.CSV). • Software interface should be seamless with facility to compile C code generated from 20-sim control model, and downloading program in board. The software work on Windows OS based platforms. • The system is fully compatible with 20Sim and 4C toolchain • The control system

		model is supplied with board, complete demo of stable working model to be shown. • Digital input/outputs for status indications. • Ethernet LAN for high speed communication. • Onboard 1 channel 12-bit Analog to Digital Converter. • Real Time Application Linux (RTAI) with a target daemon for communication. • High quality one DC motor 500rpm / >1kgcm torque and with gears mounted. • High grade durable plastic body for low weight and cost of system. • All design files can be shared for project implementation by students Must cover the following topics Topics which can be covered: • Modeling a pendulum • Transfer function representation • Frequency response representation • Balance control • Controller system ion • Control optimization
3	Simulation Software With real time Application For control system	20-sim 4.7™ Professional with 4C tool chain Simulation software must have the following features and tool box in built. • Software must have features to model and simulate the Behavior of Dynamic systems such as electrical, mechanical or hydraulic system or any combination of these. • Software must contain model library with domain oriented components, block diagram and bond graph Element. • Software editor must have large model library with building block to construct model using block diagram, Iconic diagram, Bond graph or combination of these. • Software must have features to simulate and debug the Modeled design using in built simulator with results in Plot and 3D animation. • Software must contain power full simulation algorithms For solving ordinary differential equation and Differential algebraic equation. • Software must contain numerical Integration method one step, multi-step and multi order. • Software must have features to analysis the model using Time domain tool box and Frequency domain tool box and must support various analysis method like Parameter sweeps, Sensitivity analysis, Monte carlo analysis, Variation analysis, Parameter optimization, etc. • Software must have code generation tool box and have features to exportmodelsasMatlab, Simulink and other packages. Supported platforms are Matlab Simulink, standard C-Code,

		Arduino Sketch, etc Software must comes with a number of built-in toolboxes that help to design and analyze models. • Time Domain Toolbox • Frequency Domain Toolbox • Control Toolbox • 3D Mechanics Toolbox • Animation Toolbox • Mechatronics Toolbox • Scripting Toolbox Software for real time application • Software must have features to Run "c" code on the real time hardware to control the machine and system. • Software must have features to import model from Simulink and Scilab and runs them on hardware like embedded arm boards, PC 104 systems and much more. • Software must have features to start and stop the code, inspect variables and log data. • Software must have features to do measurements, run actuators and control machines. Authorized vendor should only quote with Purchase order copy

Additional Terms & Condition:

1. The manufacturer/authorized dealer should submit three purchase orders along with their satisfactory work completion certificate for similar types of items supplied to other Engineering colleges/organizations.
2. All manufacturer/authorized dealer need to mention the make and model no for the item quoted and authorized dealer has to submit the recent valid authorization certificate from the original manufacturer.
3. The manufacturer/authorized dealer has to provide three years warranty and free service/maintenance required at the college site.
4. Pre dispatch inspection may be carried out if necessary for certain goods at the manufacturer site.
5. At the time of technical evaluation of products, the vendor may be called for the demonstration if required.
6. Quotation will be evaluated for the whole package.
7. FREE installations and FREE Demonstration at College.
8. The manufacturer/authorized dealer should provide catalog/leaflet in support of the quoted product in respect of the same.

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: _____