Government College of Engineering

Station Road, Osmanpura, Aurangabad – 431 005

"In Pursuit of Global Competitiveness"

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INVITATION LETTER

Package Code: TEQIP-III/2019/MH/geau/90

Package Name: GECA_EED_03

Current Date: 16-Dec-2019

Method: Shopping Goods

To,

GECA Web Site and Geca Notice Board

Sub: INVITATION LETTER FOR GECA_EED_03

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	FPGA Based Controller WAVECT, Control Software, and sensors	1	Principal, Government College of Engineering, Aurangabad - Maharashtra	As per Satisfaction of Expert Faculty Member

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 **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:

Payment Description	Expected Delivery Period (in Days)	Payment Percentage
Satisfactory Delivery & Installation	45	90
Satisfactory Acceptance	45	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 **05:00** hours on **30-Dec-2019.**

13. Detailed specifications of the items are at Annexure I.

14. Training Clause (if any) **2 Days Training for Faculty and staff**

15. Testing/Installation Clause (if any) **As per Satisfaction of Expert Faculty Member**

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, **Government College of Engineering, Aurangabad,Station Road, Osmanpura, Aurangabad, 431005. Subscribed as Quotation for TEQIP Cell, Inv. No. TEQIP-III/2019/MH/geau/90 Due Dt. 30-Dec-2019.**

19. We look forward to receiving your quotation and thank you for your interest in this project.

(Authorized Signatory)

Name & Designation

Sr. No	Item Name	Specifications
1	FPGA Based Controller WAVECT, Control Software, and sensors	Three phase 2 HP Induction Motor With Loading arrangement and incremental encoder 1.5 KW, 2 HP, 415 V, 1420 rpm, three phase induction motor with 1024 ppr Incremental Encoder connected externally for speed feedback , Mechanical Loading arrangement (Brake Drum) / DC generator along with required power supplies for Sensors and shielded cables for motor terminals. WAVECT - FPGA based RCP System configuration: ❖ Wavect (WCU300) Controller Box IO Card Description VI Sensor Card 4V + 4I 1 PWM Card 8 Encoder Card Relay Card RCP Controller • Xilinx ZYNQ-7000 SoC,• Dual ARM Cortex-A9 MP Core,• NEON Processing/FPU Engines• Artix-7 Programmable FPGA,• 512 MB DDR3,• 256 MB Quad-SPI Flash PWM Outputs No of channels 8 per card Output Voltage 5 /15 V ,Propagation Delay 14 ns/ less than 20,Protection Short Circuit, Isolation Galvanic Isolation Digital Interface, Protection Over current Voltage Sensor Wavect - Software Features o Input Registers o Up to 32 input registers o Used for run time control commands o Online tuning of user selected control parameters. o Output Registers o Up to 32 Output registers o For display, plot and recording of user selected slow signals o 10ksps sampling rate o Can have 1 hour of buffer data o Real-time waveform/Signal Probe o Up to 64 real-time user-configurable signals. o For display, plot, measurement and recording of user selected real-time fast signals o 50-200ksps sampling rate o buffering option from 1-30 sec o FFT analysis of the Voltage and current waveform in both Scope mode and programmed mode. o Scope mode with voltage and current measuring. o Dashboard arrangement for experiment setups. o Matlab support for captured data analysis. o Tcl Scripting o Tcl command support for GUI Configuration. o Automate Wavect tasks such as Creating various plots, panels, and dashboards. o Real-time Storage o Storage of real-time data for post analysis o Data exporting provision to .png/.csv file format. Hardware Management functions o Device discovery, Device Status Check and Binary compatibility check o Remote Programming, Remote Firmware Upgrade and Sensor Calibration. o Connectivity o 1 Gigabit Ethernet connectivity is provided for communication with PC Wcu300Lib Library Blocks o Block set o WAVECT library in Simulink environment o Configurable Hardware Interface blocks for ▪ Voltage sensors ▪ Current sensors ▪ PWM outputs ▪ Encoder Inputs ▪ Digital input ▪ Digital Output ▪ Analog Input ▪ Digital Output ▪ Relay outputs o Application Block set Consists of required Building blocks (like PI controller, Carrier wave, Sinusoidal wave, PLL, Digital filter, Measurement blocks, transformation blocks, PWM generator etc.) for basic algorithm development of power electronics, power system and renewable energy system. Three phase IGBT based Inverter details (Rectifier + Inverter + Brake Chopper+ Gate driver) General Specifications I/P AC Voltage: - 415 Volt DC Voltage: - 600 Volt O/P AC Voltage: - 415 Volt O/P AC Current 30 Amp Switching Frequency upto20 kHz Fundamental Frequency 50 Hz Type of Cooling: - Forced Air Ambient Temp:- 40 Deg Duty Class: - Class I Cooling Method Forced Air Cooled. 3-phase uncontrolled rectifier and 3-phase IGBT based controlled Inverter. It should also have a brake chopper.

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							

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ Gross Total Cost (A+B): 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. _____