



National Institute of Technology Mizoram, CHALTLANG, AIZAWL,
MIZORAM-796012

INVITATION LETTER

Package Code: TEQIP-III/2019/nitz/62 /542
Package Name: NITMZ/EEE LAB EQUIPS.

Current Date: 26-Jul-2019
Method: Shopping Goods

SUB: INVITATION LETTER FOR QUOTATION OF LAB EQUIPMENTS FOR DEPT. OF EEE

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
1	Ac Network Analyzer	1	NIT Mizoram Chaltlang, Aizawl Mizoram-796012	Installation must be done as required by the Department
2	Power Electronics & Drives Experiment Bench Trainer	1	NIT Mizoram Chaltlang, Aizawl Mizoram-796012	Installation must be done as required by the Department
3	BLDC Motor Drives	1	NIT Mizoram Chaltlang, Aizawl Mizoram-796012	Installation must done as required by the Department
4	Recurrent Surge Generator	1	NIT Mizoram Chaltlang, Aizawl Mizoram-796012	Installation must be done as required by the Department

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 **40** 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
On Satisfactory Delivery, Installation & Acceptance	30	100



10. All supplied items are under warranty of **12** months from the date of successful acceptance of items and AMC/Others is .
11. You are requested to provide your offer latest by **03:00 PM** on **13-Aug-2019**.
12. Detailed specifications of the items are at Annexure I.
13. Training Clause: **Comprehensive Training as required by the Department**
14. Testing/Installation Clause: **Installation must be done for all the items as required by the Department**
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,
REGISTRAR
NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM
CHALTLANG, AIZAWL, MIZORAM-796012
17. The sealed envelope containing the quotations should be superscribed as "**Quotation of Lab Equipments for EEE Dept. (NITMZ/EEE LAB EQUIPS.)** "
18. We look forward to receiving your quotation and thank you for your interest in this project.


29/7/19
(Mrs. **LALTHIANGHLIMI ZOTE**)
Dy. Registrar (F & A)
NIT Mizoram
उप. कुलसचिव/Dy. Registrar
(लेखा)/(Accounts)
रा.प्रौ.सं. मिजोरम/NIT Mizoram

Annexure I

Sr. No	Item Name	Specifications
1	Ac Network Analyzer	<ul style="list-style-type: none"> A Single Phase System comprising: Model III capacity: 4 Generators, 4 Loads, 4 Transmission Lines (with provision for future expansion) as a teaching aid for various laboratory tests. Fault analysis: L-G, L-L, LL-G, 3L-G and L-L-L using the method of symmetrical components demonstrate the working of Protective Relays: (i) Short Circuit and Earth Fault (ii) Negative sequence & (iii) Reactance relays The bus bars on the central panel of the equipment are provided with banana sockets and jack sockets to measure or tap voltage and current PROVIDED WITH PROTECTIVE RELAYS <ul style="list-style-type: none"> i) Short circuit & Earth Fault Relay ii) Distance Relay Inclusive of FACTS device With provision for research 2 No's of HVDC Controllers Components & metering R,L,C on rotary switches, marked in per unit values; Auto- transformers; Digital multifunction meters at each Bus. Central Panel, Generator Bus and Load Bus Bars for interconnection. Complete notes on Lab experiments & Training. Dimensions Length = 2.5 ft (75 cms) each panel (Total 3 panels) Height = 6.0 ft (165 cms), Depth = 2.5 ft (75 cms) Bidder must provide onsite warranty of 1 year. Bidder must submit tender specific authorization form Original Equipment Manufacturer (OEM) in original letter head
2	Power Electronics & Drives Experiment Bench Trainer	<ul style="list-style-type: none"> Instrumentation Power supply cum Multichannel DPM panel $\pm 12V/500mA$, $+5V/300mA$, Unregulated 17V dc/750 mA, line synchronizing signal, 13V / 3 Amp. Multi-channel DPM for digital display of parameters. 20 pin FRC power bus to supply power to neighboring panel. 8 IGBT Power & sensing panel - Consisting of <ul style="list-style-type: none"> 1200V/40A IGBT with opto isolated (LV) TTL compatible driver circuit & individual heat sink with built in isolated DC power supply for gate drive – 8 nos. Current measurement AC (12 nos) & DC (1no) using Hall sensors (Max I/P up to 20A, 50/60Hz), Isolation up to 2KV, O/P = 0-3V for controller feedback. Voltage measurement AC (3 nos) & DC (1no) using hall sensors (Max I/P 10-500V, 50/60Hz), Isolation up to 2KV, O/P = 0-3V for controller feedback. 4 nos of LC (L=5mH/5A, C=2.2uF/630V) filter circuits. 2 nos of relays for ON/OFF control of I/P & O/P under /uc control. Opto isolated Encoder circuit to detect speed & dynamic position of Rotor. DC link supply for inverter 300V/5A. May be used in manual mode using SG3525 PWM controller (1 phase application) as well as from DSP/FPGA controller (Optionally User selectable choice of controller). DSP/FPGA based controller panel 16MHZ crystal operated multi-output clock source to operate various resources on Mother Board like CPU, Baud rate, T/C etc.

	<ul style="list-style-type: none"> • 8 PWM outputs to and 8 status feedback inputs from 8 nos IGBT power modules. • 2 digital outputs for ON/OFF Relay control & one for controller ON led. • Opto isolated 3 inputs for encoder and 1 input for DC bus fault interrupt. • 16 analogue inputs channels for feedback control of voltage (4 nos) & current (12 nos) • Input 3 phase DOL starter panel • 4 pole MCB of 415 V/4A. RYB three color phase indicators. • DOL 9A trip Contactor with 230V / 50 Hz / 11VA COIL. • Bimetallic thermal O/L relay with range 1.4A - 2.3A. • 3 phase squirrel cage Induction motor • 3 phase squirrel cage induction motor, ½ HP (2 HP optional), 4 pole, 1500RPM, 6 terminal (delta 220Vac/star 440Vac) motor with Hand held Tachometer for speed measurement • b) Zero sequence reactance X0. • c) Negative sequence reactance X2. • Bidder must provide onsite warranty of 1 year. • Bidder must submit tender specific authorization form Original Equipment Manufacturer (OEM) in original letter head
3	<p>BLDC Motor Drives</p> <ul style="list-style-type: none"> • BLDC Motor 3 Phase 360-400V, 3.7 KW, 1500 RPM (with Hall effect sensors) coupled with induction motor 3 Phase, 3.7 KW, 1500 RPM , 415V, 50Hz, 4 Pole (with encoder) mounted on base plate with anti-vibration mounting pad & dynamometer (containing load cell & indicator) • Inverter with front end converter for each machine • 2No's 2-level 3Phase inverters connected in back-to-back configuration (one of them working as FEC) • Input : 3Phase, 415 V, 50 Hz • Output: suitable for driving 3Phase 3.7kW BLDC motor • Grid side inverter configured as vector control based Active front end converter • Motor side inverter suitable for driving BLDC motor with Hall sensor feedback. Speed & current control should be incorporated in DSP platform • Bidder must provide onsite warranty of 1 year. • Bidder must submit tender specific authorization form Original Equipment Manufacturer (OEM) in original letter head
4	<p>Recurrent Surge Generator</p> <ul style="list-style-type: none"> • Charging Voltage: 0-500V+ 2% • Chopping delay continuously : 0.5-10.0 micro sec • Chopping decay approximately: 100 ns • Impulse Capacitance Selector, Cs: as per requirement • Impulse shape (front time) • Impulse Shape (time to half value) • internal Cs: 0.5...3500microsec • External Cs: 0.5....9000 micro sec • Inductance Selector, L: as per requirement • Load Capacitance Selector, CL: as per requirement • Parallel Resistor Selector, Rp: as per requirement • Bidder must provide onsite warranty of 1 year. • Bidder must submit tender specific authorization form Original Equipment Manufacturer (OEM) in original letter head

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							

Gross Total Cost (A+B): Rs. _____ (Amount in figures)

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. _____ (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. _____