



THE NATIONAL INSTITUTE OF ENGINEERING

(An Autonomous Institution)

TECHNICAL EDUCATION QUALITY IMPROVEMENT PROGRAMME PHASE-III

Manandavadi Road, Mysuru – 570 008.

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Date: 21-04-2018

Invitation for Quotations

Quotations are invited for the procurement of the following equipments under TEQIP– III

Equipment: Power Electronics Lab Equipments, Quantity -1 each.

Sl. No	Item Name	Specifications
1	Closed loop DC motor speed control unit	Thyristor controlled rectifier for speed control of DC motor Armature and tacho feedback Over current protection DC shunt motor-0.5HP/180V/1500 rpm with mechanical loading arrangement Tachogenerator coupling for tacho feedback Voltmeter and Ammeter to measure Armature voltage and current Calibrated meter to indicate rpm directly Closed loop system should work for speed range from 200-1000rpm
2	Closed loop speed control of 3-PH induction motor	vector controlled 3 phase AC drive 0.5H.P/1440RPM/3Phase squirrel cage induction motor Mechanical loading arrangement for the motor Encoder fitted to induction motor shaft for speed sensing for closed loop operation with interface card
3	DSP based Vector controlled (FOC) for induction motor	TMS320F2812 based DSP controller board TMS320F2812 Digital signal Processor @ 150 MHz 150 MIPS operating speed 18K words on-chip RAM,128K words on-chip flash memory 256K × 16 words off chip SRAM memory 12 PWM buffered O/Ps with parallel test point 3 × 2 capture I/Ps for encoder ,3 ZCDs,1 Opto-coupler I/P 3 LPFs for PWM observation 6 ADC buffered I/Ps,8 ADC I/Ps, 4DAC O/Ps @ 12 Bit resolution 3 buffered GPO,1 buffered GPI, 7 GPIO 16 × 2 LCD, 8 LED 4 push buttons switches, 2toggle switches BOOT mode ion, Serial Port (RS232) On board IEEE 1149.1 JTAG emulation connector
4	Single Phase PWM inverter	Based on 89C52 microcontroller 2 × 16 line LCD display to indicate and monitor the parameters and type of modulation Single Pulse modulation,Sine triangle modulation,Multi pulse modulation,Trapezoidal modulation and Stair case modulation techniques, 5 keys-SET,INC,DEC,FRQ/DTY and RUN/STOP to vary and set the parameters Optocoupler based isolation circuit to drive 4 IGBTs connected as I-ph,Bridge Inverter Single phase diode bridge rectifier with capacitor filter to get direct DC supply from variable AC supply. 4 IGBTs with snubber and fuse protection
5	Speed control of a separately excited DC motor using an IGBT or MOSFET chopper	Microcontroller based control circuit to accurately vary the duty cycle from 0% to 100% and frequency from 50 Hz to 500 Hz. LCD display(2 × 16 characters) to display the duty cycle and frequency. Keyboard should consistsof 4 keys to frequency/duty cycle,increment/decrement the parameter and RUN/STOP the chopper Power circuit should consist of a Power MOSFET,an IGBT and a freewheeling diode In built filtered DC supply-24V,48V,110V and 220V DC @ 2 Amps using step down transformer ,diode bridge rectifier and capacitor filter, A fixed DC supply of 220V 10% @ 0.5A for field of DC shunt motor

6	Speed Control of separately excited DC motor using single phase semi converter	Should Consist of 2 SCRs and 2 diodes connected in single phase semi converter configuration, Speed control unit using MOSFET/IGBT Chopper suitable for 0.5HP/220V DC shunt motor, DC shunt motor 0.5HP/220V/1500RPM with mechanical loading arrangement, Digital tachometer.
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Delivery Period: 60 Days from the date of issue of purchase order. Warranty Period: 36 Months

Terms and Conditions

- i. Quotation should be invariably in the prescribed **format enclosed**; otherwise it is **liable to be rejected**.
- ii. Quotation should be sent in a **sealed cover superscribed as "Quotation for the supply of Power Electronics Lab Equipments under TEQIP III" to the office of the Principal (TEQIP- III), The National Institute of Engineering, Manandavadi Road, Mysore 570 008.**
- iii. Last date and time for submission of quotation **5th May, 2018, 14:00 hours**
- iv. Installation and demonstration shall be at the Department of Electrical and Electronics Engineering, NIE, Mysuru.
- v. Quotation should be valid for **45 days** from the last date of submission of quotation.
- vi. Equipment should be delivered at the Department of Electrical and Electronics Engineering, NIE, Mysuru.
- vii. **100% payment on installation, demonstration, successful completion in all respects and final acceptance by the Purchaser.**
- viii. **Authorized Dealer/ Channel Partner Certificate from the company** should be enclosed along with the quotation.
- ix. 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.

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. _____

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: _____