राजकीय इन्जीनियरिंग कालेज

कटरिया याकूबपुर, अम्बेडकर नगर (उ०प्र०) – 224122 भारत

Rajkiya Engineering College

Katariya Yakoobpur, Ambedkar Nagar, (U.P.) – 224122Cell Phone: 91-9454439590

AICTE APPROVED GOVERNMENT ENGINEERING COLLEGE Website: www.recabn.ac.in

VIDE APPROVAL LETTER No. F. No. Northern/1-3511948247/2018/EOA DATED: 30-Apr-2018 E-mail: director@recabn.ac.in

Affiliated to Dr. A.P.J. Abdul Kalam Technical University Lucknow, U.P., India

RECABN/TEQIP-III/2019/197 **Date: 18/06/2019**

INVITATION FOR QUOTATION FOR POWER ELECTRONIC LAB

To,

_____

_____

_____

Dear Sir,

You are invited to submit your most competitive quotation for Power Electronic Lab for the Rajkiya Engineering College, Ambedkar Nagar. In this connection, submit your financial offers/quotation as per the product in the given format in Annexure-II for Power Electronic Lab. The details of specifications is given in Annexure-I

Sr. No	Name of Particular/ Product/Package Brief Description	Quantity	Place of Delivery	Installation Required
1	**Power Electronic Lab** As per specification (Attached in Annexure-I)	Attached in Annexure-I	Rajkiya Engineering College, Ambedkar Nagar	**YES**

Government of India has received a credit from the International Development Association (IDA) in various 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.

Instructions:

1. The quantity of the items is as mentioned as per attached annexure-I .
2. The bidders should quote their offer/rates in package and not for individual items with clear terms without any ambiguity.
3. The Institute will select bidder who has offered the lowest aggregate cost for complete set of items.
4. All duties, taxes and other levies payable by the bidder shall be included in the total price.
5. The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
6. The cost should be quoted in Indian Rupees only.
7. Quotation/Offer shall remain valid for a period not less than 45 days after the last date of submission.
8. For the said product warranty should be at least two years/ onsite manufacture warranty.
9. The last date of submission of offer is ***10/07/2019*** by ***5:00 PM.***
10. The quotation opening date will be notified later.
11. Sealed quotation to be submitted/ delivered at the address mentioned below:

Quotation (In the name of)	Delivery Address
TO DIRECTOR RAJKIYA ENGINEERING COLLEGE AMBEDKAR NAGAR PIN CODE-224122, UTTAR PRADESH	TEQIP-III OFFICE RAJKIYA ENGINEERING COLLEGE AMBEDKAR NAGAR PIN CODE-224122, UTTAR PRADESH

12. Bidders should mention at the top of envelop:

Quotation for POWER ELECTRONIC LAB Under TEQIP-III (in bold)

13. Make & Model should be specified, and material should be standard.
14. Submit a GSTIN registration and PAN copy of firm duly signed.
15. Delivery of the said items should be within 45 days from the date of P.O.
16. Payment shall be made in Indian Rupees as per P.O. no advance will be paid for the said.
17. Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the process and reject all quotations at any time prior to the P.O.
18. Postal or courier delay will not be considered, and the bid received late will be rejected.

for (TEQIP-III Coordinator)

Technical Specification **Annexure-I**

Sl. No.	Items Name	Technical Specifications	Quantity
	Digital Multi-meter	Voltage: DC: 600 volts; AC: 600 volts; Capable of measuring AC/DC voltage, resistance, capacitance, frequency measurement, Diode and continuity test with buzzer Make : Should be of standard company like Fluke, Meco, HTC, keysight, megger etc.	02
	Digital storage Oscilloscope	InfiniiVision 1000 X-Series Oscilloscope, 4Ch, 70 MHz, upgradeable to 200 MHz Key Features: 70 MHz Upgradable to 200MHz, 4 Analog Channels 50,000 wfrm/s update fast rate, 1Mpts memory and 2 GSa/s Sample Rate 7" Large WVGA Display Standard Segmented Memory, Mask & Limit Testing Feature Built – in 3 – digit digital voltmeter and 5 – digit frequency counter USB & LAN Connectivity Minimum 3 – year warranty Make : Should be of standard company like Rigol, Scientech ,Tektronix, keysight, megger etc.	02
	Dual DC regulated power supply	30-0-30 V, 2 Amps DC Output : 2 0 - 30 V, 2 A continuously variable by means of coarse and fine controls Current limit : 100 mA - 2 A continuously adjustable Resolution : Voltage: 100 mV Current : 10 mA Over Range Indication : Glowing 'ORA' and 'ORB' LEDs indicate Overload Make : Should be of standard company like Scientech , HTC, keysight, megger etc.	01

	3 Phase High Voltage Thyristor	• **Input 3 phase DOL Starter panel**
		  • ≈4 Pole MCB of 415V/4A.
		  • ≈DOL 9A contactor
		  • ≈Bimetallic thermal 0/L relay with range 1.4A-2.3A.
		• **DC voltmeter and DC ammeter panel**
		  • DC voltmeter (≈0-600V)
			01

	Control Trainer Kit	• DC Ammeter (≈0-5A) with polarity protection diode
		• **Lamp Load**
		  • ≈230V/15/40/60/100W X3 bulbs with individual ON/OFF using 6A toggle switch.
		• **Inductive (L) Load**
		  • Inductive load≈0.75W/3H
		• **3 Ph. Bidirectional power cum Energy meter panel**
		  • Bidirectional Multifunction
		  • ≈3 Phase 3/4 wire, 415V CT Input 5A
		  • LCD/LED display
		  • V, I, Hz, Pf, KVA, KW, KWh
		6 SCR Firing/Synchronizing Panel
		• Cosine firing scheme to facilitate linear control for better harmonic ripple control. Cyclo converter frequency generator
		6 SCR/Diode Power Module
		• Consist of 6 SCR, 6 Diode, 6 No. of uncommitted Snubbers for protection of thyristors
		List of Experiments
		1. Study of 3 phase SCR cosine firing circuits,
		2. 3-phase half bridge uncontrolled converter
		3. Full bridge uncontrolled converter
		4. Half bridge controlled converter
		5. Full bridge controlled converter
		6. 3-phase Cyclo converter
		7. 3-phase Induction motor speed control using SCR based AC voltage control.	

	Universal Power Electronics Trainer Kit	Power Electronics Trainer Kit with at least 6 no. of on board application, on platform bread board to circuit design -2 Nos. **List of experiments that can be performed using the kit** 1. Series Inverter Module: On board test points to observe signals, on board schematic diagram, Flexibility of making circuit connections, 2. UJT Relaxation Oscillator Module: On board test points to observe signal, On board schematic diagram, Flexibility of making	02

		circuit connections. 3. Single Phase PWM Module: Features: On board test points to observe signals, on board schematic diagram, Flexibility of making circuit connections 4. SCR Lamp Flasher Module: On board test points to observe signals, Onboard schematic diagram, Flexibility of making circuit connections 5. PWM Module: On board test points to observe signals, on board schematic diagram, Flexibility of making circuit connections 6. Cyclo converter Module: On board test points to observe signals, Onboard schematic diagram, Flexibility of making circuit connections, Operate at low voltage for safety.	
7.	Tool Kit (for power electronics lab)	Soldering Kit, Screw driver set, pliers, tester, exertion box, wire cutter, etc.	01

Annexure-II

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. _____