



## **TENDER DOCUMENTS**

### **Electrical Lab Equipment**

**NUTECH/SCM/Electrical Phase-III-2019/TD-091**

**NATIONAL UNIVERSITY OF TECHNOLOGY**

## **TENDER NOTICE**

**National University of Technology (NUTECH)**

**NUTECH/SCM/Electrical Phase-III -2019/TD-091**

Sealed bids are invited from Government / FBR Registered Firms for the procurement of EE Lab Equipment for NUTECH Labs.

1. Tender documents containing terms & conditions and detailed specifications of items can be downloaded from NUTECH website "<https://nutech.edu.pk/d-p.php>" w.e f **26 August 2019**.
2. Quotations shall be submitted as per requirement of the tender documents.
3. Bidders will be required to submit bank draft/PO equal to 5% of quoted value as Bid Bond in favor of National University of Technology (NUTECH).
4. Sealed bids with detailed specification should reach on the following address latest by **0930 hours on 12 Sep 2019**. Late submission will not be entertained.
5. Bids will be opened at **1000 hours on 12 Sep 2019** at SCM Office.
6. Project is to be completed in **90 days** from the date of award of contract.
7. Submit Rs 1500/- as Tender fee in favour of NUTECH HBL account: **NUTECH Tendering and contracts, 5037- 7000210755**. Please attach bank receipt with technical offer. Offers will not be entertained without payment of processing fee.

**Deputy Director (Supply Chain Management Office)**  
**NATIONAL UNIVERSITY OF TECHNOLOGY (NUTECH) UPROAD,SECI-12,**  
**ISLAMABAD**  
**Tel: 0092-51-5476768, Ext: 178**



## NATIONAL UNIVERSITY OF TECHNOLOGY

### SUPPLY CHAIN MANAGEMENT OFFICE

#### INVITATION TO TENDER

**Submission Date/Time 12 Sep 2019** at 0930 hours

1. NUTECH desires to procure the list of item(s)/Store(s) as per **Annexure-A**. Interested bidders are requested to send their bids through courier or deliver at NUTECH under two separate sealed envelopes (placed together in third envelope), marked clearly, "**Technical Offer**" and "**Commercial Offer**", respectively to the undersigned, latest by or before above mentioned due date. If due to any unforeseen circumstances, NUTECH establishment remains closed, then the last date of submission will be extended to next working day.

2. Please also note that Technical Offer should contain only Annexes-A & B duly filled in (supported with relevant technical literature /details/ catalogues etc) and receipt of tender processing fee. Commercial Offer will contain Annexure-C and bid bond (Dully mentioned and placed in separate envelope). Please ensure no space is left blank in the annexes.

3. Following must be noted for this IT (Invitation to Tender):-

- a. 4 x copies of technical offer are to be provided.
- b. Annexes A, B and C must be signed and stamped. Attach only relevant documents.
- c. Please complete all document as per given format. Do not use your format or letter head. Offer may be rejected if given format is not followed.
- d. Validity of offer will be 90 days.
- e. Delivery period will be 90 days from the date of award of contract.
- f. The firm should provide point to point acceptance of each clause of IT and special instructions attached with IT.
- g. Firm will render a certificate with technical offer that firm is neither defaulter nor blacklisted by any Government / semi Government organization directly or indirectly.
- h. Commercial Offer must be accompanied with a Bid Bond in agreement of faithful compliance of the conditions of Contract/Purchase Order. This amount will be equivalent to

5% of the total quoted value. In case of non-acceptance of any offer, the Bid Bond will be returned to the bidder by fastest possible means. The Bid Bond amount submitted by the successful bidder will however be refunded on effective termination of Contract/ Purchase Order. (The Bid Bond will be forfeited in case of default by the bidder from his commitments made through his offer). Submission of Bid Bond is mandatory; otherwise your offer will be rejected.

- i. Rates should be quoted on Free Delivery basis at NUTECH Islamabad.
- j. 2 year warranty against 5% bank guarantee will be required from the successful bidders from the date of commissioning as performance bond against warranty/Guarantee
- k. Bid Bond may be used as performance guarantee till the delivery of stores, otherwise separate performance guarantee valued at 5 % of contract value will be submitted by successful firm till stores are delivered and inspected
- l. The stipulated delivery period should be strictly adhered to. Any anticipated delay that is beyond the control of Seller will be informed (in writing) well in advance of the expiry of the due date of the activity along with reasons thereof, requesting for the grant of extension in delivery period. If the Seller fails to do so, or the Buyer is not convinced with the rationale provided by the Seller, Liquidated Damages up to/at 2% per month or part thereof, will be imposed. However, the maximum limit of the Liquidated Damages will not exceed 10% of the contract value, in any way.
- m. If even after applicability of 10% LD, the Seller fails to deliver the required stores, the Buyer will be at liberty to procure the stores from an alternate source, on the Seller's "Risk & Cost". In that case, the Seller will be bound to make payment to the new source through NUTECH
- n. NUTECH reserves the right to cancel the Contract without assigning any reason whatsoever during its currency / execution / after placement, if the firm is found to be involved in any dubious activity, litigation, lacking to meet contractual obligations with the purchaser or is blacklisted with any other Public procurement agency. No claims / loss / damage of whatsoever nature shall be entertained and NUTECH's decision in this regard will be final and binding on the Supplier / Seller.
- o. Bidders must provide authorization certificate from OEM which will be verified
- p. Bidders to provide OEM/Principal Performa invoice with tech bid
- q. An appropriate amount may be paid for mobilization against Bank Guarantee/CDR/Demand Draft/Pay Order

r. Partial payment/partial delivery allowed

4. We reserve the rights to accept or reject any or all tenders as a whole or in part without assigning any reason whatsoever. The decision in this regard will be firm, final and binding on all bidders.

DD (Supply Chain Management)



**NATIONAL UNIVERSITY OF TECHNOLOGY**

**SUPPLY CHAIN MANAGEMENT OFFICE**

**TECHNICAL OFFER**

**Annex A**

User Reference No **NUTECH/SCM/Electrical Phase-III -2019/TD-091**

Date: **19-08-2019**

**Technical Specification**

Ser	Items	Description	A/U	Country of Origin	Qty Req	Bidder Compliance			Tech Scrutiny to be done by user	
						Yes	No	Alternate	Accepted	Rejected
									Reason of Rejection	
1.	<b>Instrumentation Trainer</b>	<b>Input Transducers:</b> Carbon track. Wire wound & precision rotary potentiometers. Slide potentiometers. NTC thermistors. Type 'K' thermocouples. I.C. temperature sensor. Photoconductive cell. Photovoltaic cell. Phototransistor. PIN diode. Linear variable differential transformer. Linear variable capacitor. Strain gauge. Air-flow sensor. Air pressure sensor.	No	European/American	4					

	<p>Slotted opto-sensor.  Reflective opto-sensor.  Inductive Proximity Sensor.  Hall Effect sensor.  Precision servo-potentiometer.  Tacho-generator.  Humidity sensor. Dynamic microphone.  Ultrasonic receiver.</p> <p><b>Output Devices:</b></p> <p>Heater.  Filament Lamp.  DC Motor.  Solenoid Air Valve.  Ultrasonic transmitter.  Buzzer.  Loudspeaker.  Relay.  Solenoid.  Counter/timer unit with LED display.  Bar graph voltage indicator.  Analog 10V center-zero meter.  Signal Conditioning Circuits:  Buffers.  Inverters.  Comparator with switchable hysteresis.  Amplifiers with gain and offset control.</p>							
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	<p>Current amplifier.  Summing amplifier.  Differential amplifier.  Instrumentation amplifiers.  AC amplifier.  Oscillator 40 kHz.  Filter 40kHz.  Low-pass filter with switchable time constant.  Precision full-wave rectifier.  Sample and hold circuit.  Integrator with switchable time constant.  Differentiator with switchable time constant. V/F and F/V converters. V/I and I/V converters. Alarm oscillator with switchable latching. Power amplifier. Electronic switch.</p> <p><b>Internal Power Supplies:</b>  -5V, +5V 1A precision supply. -12V, +12V 1A regulated supply.  Pneumatic Supply: Internal</p> <p><b>Pneumatic pump:</b>  The system also features a shaft assembly that carries a D.C. motor, tacho-generator, slotted and reflective opto-sensors for incremental and absolute position, and a 360 degree precision potentiometer with indicator dial for closed-loop position control experiments.  System Includes: Trainer.</p>							
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		<p>Accessory and Lead Kit. Mains Lead. Curriculum Manual. Student Manual. Instructors Manual. Technical Manual. All Manuals in PDF Format on CDROM.</p> <p><b>Data acquisition of control systems:</b></p> <p>This is a virtual instrument unit that allows a PC to act as a set of test instruments. Instruments include an oscilloscope, multimeter, spectrum analyzer signal generator and data logger.</p>							
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Instl/Assy/Commissioning Req	Yes ✓	No	Contract with OEM/Supplier	Yes ✓		No	
Performance Bond Req	Yes ✓	No	Offer Req for Package Deal	Yes		No ✓	
<b>Note:</b> (If any)			Warranty req and Duration	Yes ✓		No	
List of "Additional Req may be" sent to procurement office, immediately							
Maint Spare Req	Yes	No ✓	Essentially Running spare req	Yes		No ✓	
Pub/Lit Req	Yes ✓	No	Req of Cert for test data results	Yes ✓		No	
Trg Req	Local ✓	Foreign	Req of Calibration	Yes ✓		No	
<b>Note:</b> Tick relevant box							

## Special Instructions

Description	Bidder			Tech Scrutiny to be done by User		
	Yes	No	Alternate Offer	Accepted	Rejected	Reasons of Rejection
<b>Environment Conditions</b> (a) Temperature range: -05°C to +60°C (b) Relative humidity: 0-70% non-condensing						
<b>Warranty period</b> Two years from the date of commissioning. A warranty sticker is to be pasted on each imported item by the Supplier / OEM highlighting Name of Firm, Contract No and date, Description of Store and Warranty validity						
<b>Training Notes</b> Supplier will provide a set of handouts for training on operation and maintenance of the equipment						
<b>Publications</b> Supplier is to provide hard and soft copies (CD) of following manuals. (a) <b>Operational / Maintenance manual:</b> - Qty 01 with Equipment and additional Qty 02 for record purposes and should consist of following sections:- (1) <b>Equipment Description /Operation:-</b> (a)Specifications (b)Description (c)Operation (2) <b>Servicing:-</b> (a)Maintenance Schedule (b )Adjustment / test (c)Removal / Installation procedure (d)Tools Used (3) Trouble shooting guide (4) Cleaning requirements (5) Shipping and receiving (6) Storage requirements (b) Diagram showing description the exploded view. (c) <b>Experimental manuals</b> which must contain the list and procedure of the experiments that equipment can perform.						

<p><b>Spares / Technical Support</b></p> <p>(a) Supplier to have in-country spares / technical support and ensure spares and technical support / assistance for next 10 years</p> <p>(b) Comprehensive list of spares required for scheduled maintenance of Equipment is to be provided</p> <p>(c) Any software provided must have its license</p> <p>(d) Software upgrade support must be provided free of cost for 10 x years with renewed license at every upgrade</p> <p>(e) Supplier must also provide calibration service for at least 5 x years after commissioning</p>					
<p><b>Additional Spare / Replaceable parts.</b></p> <p>(a) Replaceable spare / parts during scheduled inspections are to be identified and provided as per requirement along with equipment sufficient to cater five years consumption.</p> <p>(b) All specialized / standard tools required for inspection / repair / servicing must be supplied along with equipment.</p>					
<p><b>Physical Inspection Criteria:</b> 100% physical inspection of store will be carried out before commissioning of the equipment for following details:-</p> <p>(a) For physical damage, scratches and deformity.</p> <p>(b) Accessories /components as per contractual specifications.</p> <p>(c) Technical Manuals (Operation manual, user guide, IPBs).</p> <p>(d) Quality certificate and calibration certificate by the OEM</p> <p>(e) OEM certificate and verifiable documents by the supplier that store has been procured from certified source and is factory new and from latest production.</p> <p>(f) Brand name and country of origin.</p>					
<p><b>Commissioning</b></p> <p>(a) Commissioning of the equipment will be carried out by</p>					

<p>OEM rep at his own cost and risk at designated place at NUTECH.</p> <p>(b) Any special requirement for installation, operation and commissioning must be specified in the offer by the supplier.</p>						
<p><b>Training</b></p> <p>01 week OEM operational/ maintenance training at NUTECH</p>						
<p><b>Improvement and Safety Measures</b></p> <p>Any improvement and safety measures suggested by NUTECH during commissioning are to be resolved by the supplier / manufacturer at no extra cost.</p>						
<p><b>Liability of Supplier</b></p> <p>(a) OEM certificate of authorized dealership Supplier is to provide original OEM certificate of subject equipment bought directly from the manufacturer and being an authorized dealer.</p> <p>(b) In case the equipment supplied is not compatible with specifications, the supplier will be obliged to call his representatives at his own cost for consultation and corrective action.</p>						
<p><b>Special Notes</b></p> <p>(a) Additional requirements for the maintenance of equipment (if any) must be intimated by the supplier in technical offer.</p> <p>(b) Supplier must provide the list of organizations using same equipment in Pakistan (if any).</p> <p>(c) Equipment must be a standard product of OEM available at web address of OEM.</p> <p>(d) In case of premature failure of the equipment, OEM has to replace / rectify the item free of cost. Required transportation charges would be borne by the supplier.</p>						

Firm Name _____ Signature _____ Name _____ Designation _____
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**NATIONAL UNIVERSITY OF TECHNOLOGY**  
**SUPPLY CHAIN MANAGEMENT OFFICE**

**TECHNICAL OFFER**

**Annex B**

User Reference No **NUTECH/SCM/Electrical Phase-III-2019/TD-091**

Date: **19-08-2019**

**Please fill in the following essential parameters:**

1. Validity of Offer: \_\_\_\_\_ Days (Should not be less than 90 days)
2. Delivery Period: \_\_\_\_\_ Days (After Placement of order)
3. Country of Origin: \_\_\_\_\_

**General**

GST No: \_\_\_\_\_ (Please enclose copy)

NTN/CNIC: \_\_\_\_\_ (if exempted, please provide valid exemption certificate)

**Payment Terms:**

1. 50 % advance payment against BG/CDR/Pay Order/DD
2. 50% payment after delivery, installation /commissioning, user satisfaction certificate.

**3. Details of Payment Recipient**

(1) Name/Title: \_\_\_\_\_

(2) Address: \_\_\_\_\_

OEM Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Focal Person: \_\_\_\_\_

Official Seal: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Name : \_\_\_\_\_

Email Address: \_\_\_\_\_

Designation: \_\_\_\_\_



**NATIONAL UNIVERSITY OF TECHNOLOGY**

**SUPPLY CHAIN MANAGEMENT OFFICE**

**FINANCIAL OFFER**

**Annex C**

User Reference No **NUTECH/SCM/Electrical Phase-III -2019/TD-091**

Date: **19-08-2019**

Ser	Items	Description	A/U	Qty Req	Unit Price (Rs) (Incl all taxes)	Total amount for total qty (Rs) (Incl all taxes)
1.	<b>Instrumentation Trainer</b>	<b>Input Transducers:</b> Carbon track. Wire wound & precision rotary potentiometers. Slide potentiometers. NTC thermistors. Type 'K' thermocouples. I.C. temperature sensor. Photoconductive cell. Photovoltaic cell. Phototransistor. PIN diode. Linear variable differential transformer. Linear variable capacitor. Strain gauge. Air-flow sensor. Air pressure sensor. Slotted opto-sensor. Reflective opto-sensor. Inductive Proximity Sensor. Hall Effect sensor. Precision servo-potentiometer. Tacho-generator. Humidity sensor. Dynamic microphone. Ultrasonic receiver.	No	4		

		<p><b>Output Devices:</b></p> <p>Heater.</p> <p>Filament Lamp.</p> <p>DC Motor.</p> <p>Solenoid Air Valve.</p> <p>Ultrasonic transmitter.</p> <p>Buzzer.</p> <p>Loudspeaker.</p> <p>Relay.</p> <p>Solenoid.</p> <p>Counter/timer unit with LED display.</p> <p>Bar graph voltage indicator. Analog 10V center-zero meter. Signal Conditioning Circuits:</p> <p>Buffers.</p> <p>Inverters.</p> <p>Comparator with switchable hysteresis.</p> <p>Amplifiers with gain and offset control.</p> <p>Current amplifier.</p> <p>Summing amplifier.</p> <p>Differential amplifier. Instrumentation amplifiers.</p> <p>AC amplifier.</p> <p>Oscillator 40 kHz.</p> <p>Filter 40kHz.</p> <p>Low-pass filter with switchable time constant.</p> <p>Precision full-wave rectifier. Sample and hold circuit. Integrator with switchable time constant.</p> <p>Differentiator with switchable time constant. V/F and F/V converters. V/I and I/V converters.</p> <p>Alarm oscillator with switchable latching. Power amplifier. Electronic switch.</p>				
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	<p><b>Internal Power Supplies:</b> -5V, +5V 1A precision supply. -12V, +12V 1A regulated supply. Pneumatic Supply: Internal</p> <p><b>Pneumatic pump:</b> The system also features a shaft assembly that carries a D.C. motor, tacho-generator, slotted and reflective opto-sensors for incremental and absolute position, and a 360 degree precision potentiometer with indicator dial for closed-loop position control experiments. System Includes: Trainer. Accessory and Lead Kit. Mains Lead. Curriculum Manual. Student Manual. Instructors Manual. Technical Manual. All Manuals in PDF Format on CDROM.</p> <p><b>Data acquisition of control systems:</b> This is a virtual instrument unit that allows a PC to act as a set of test instruments. Instruments include an oscilloscope, multimeter, spectrum analyzer signal generator and data logger.</p>				
<b>Gross Total</b>					

Bid Bond Ref # \_\_\_\_\_ Total GST \_\_\_\_\_

Total Value (Incl Tax) \_\_\_\_\_

\*Bid Bond to be attached with Annex C. Copy of Bid Bond be attached with technical offer without showing its value. Exposure of bid bond may result in rejection of offer.

Firm Name _____ Signature _____ Name _____ Designation _____
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