



TENDER DOCUMENTS

Computer Lab Equipment

NUTECH / SCM / Computer Lab Eqpt (PSDP) 2020 / TD-115

NATIONAL UNIVERSITY OF TECHNOLOGY

TENDER NOTICE

National University of Technology (NUTECH)

NUTECH / SCM / Computer Lab Eqpt (PSDP) 2020 / TD-115

Sealed bids are invited from Government / FBR Registered Firms for the procurement of Computer Lab Equipment for NUTECH on **CPT Basis**.

1. Tender documents containing terms, conditions and detailed specifications of items (including draft contract) can be downloaded from NUTECH website "<https://nutech.edu.pk>" w.e.f **17 Jan 2020**.
2. Quotations shall be submitted as per requirement of the tender documents.
3. Bidders will be required to submit **Bank Draft / CDR** equal to **5%** of quoted value as Bid Bond in favor of National University of Technology (NUTECH).
4. Sealed bids with detailed specifications should reach on the following address latest by **1400 hours on 19 Feb 2020**. Late submission will not be entertained.
5. Bids will be opened at **1430 hours on 19 Feb 2020** 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 favor 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)

NATIONAL UNIVERSITY OF TECHNOLOGY, UPROAD, I-12, ISLAMABAD

Tel: 0092-51-5476768, Ext: 227

NATIONAL UNIVERSITY OF TECHNOLOGY
SUPPLY CHAIN MANAGEMENT
INVITATION TO TENDER

Tender submission time: 1400 hours, 19 Feb 2020

1. NUTECH desires to procure the list of item(s) / Store(s) on **CPT** basis. as per **Annexure-A**. Interested bidders are requested to send their bids through courier or deliver at NUTECH under "Single Stage – Two Envelopes" (two envelopes placed together in third envelope), marked clearly as "**Technical Offer**" and "**Commercial Offer**" respectively to the undersigned, latest by or before above mentioned due date.

2. **Conditions Governing Contracts.** The contract made as result of this IT will be in accordance with the draft contract published on NUTECH University website and other special conditions (Mentioned in this document) that may be added to given contract for the supply of Mechanical Lab Equipment.

3. **Delivery of Tender.** The offer is to be submitted i as under:-

- a. **Technical Offer.** Please also note that Technical Offer should contain only Annexure-A, special conditions compliance & Annexure B duly filled in (supported with relevant technical literature / details / catalogues etc) and receipt of tender processing fee. Copy of bid bond WITHOUT MENTIONING PRICE should be attached with technical offer as well. Only technical details (literature/brochures/relevant material) without mentioning the financial aspect of the offer in duplicate would be enclosed in an envelope. In technical proposal, all items must have the brand names, model number, manufacturer name, country of origin, manufacturer's warranty including parts with complete specs and brochures. Re-conditioned and re-furbished equipment shall not be acceptable. Following information will be clearly marked on the envelope:

- (1) Technical Offer
- (2) Original Performa Invoice (without price)
- (3) Tender number
- (4) Date/ time of opening

b. **Commercial Offer.** Commercial Offer will contain Annexure-C and bid bond (Dully mentioned and placed in separate envelope. The offer indicating the quoted price (**IN USD only**) in figures as well as in words along would be enclosed in an envelope. Following information will be clearly marked on the envelope.

- (1) Commercial Offer
- (2) Original Performa invoice with price
- (3) Tender number

c. Both the envelopes i.e. commercial offer and technical offer would be enclosed in yet another properly sealed envelope that will be marked with address of this office only. There should be clear indication that this envelope contains tender documents.

d. The tender duly sealed will be addressed to the following:-

Deputy Director (Supply Chain Management Office)
NATIONAL UNIVERSITY OF TECHNOLOGY (NUTECH)
I J P ROAD, I-12 ISLAMABAD
Tel: 0092-51-5476768, Ext: 227

4. **Date and Time For Receipt of Tender.** SCM Office will not accept any excuse of delay occurring in post. Tenders received after the appointed / fixed time will NOT be entertained. The appointed time will, however, fall on next working day in case of closed / forced holiday.

5. **Tender opening.** The offers shall be opened 30 minutes after submission time. Commercial offers will be opened at later stage if Technical Offer is found acceptable on examination by technical authorities. Date and time for opening of commercial offer

shall intimated later. Only legitimate / registered representatives of firm will be allowed to attend tender opening.

6. **Validity of Offer.** The validity period of quotations must be indicated and should be 90 days from the date of opening of commercial offer. Conversion rate of Foreign Exchange (FE) / Local Currency (LC) components will be considered with effect from opening of commercial offer.

7. **Documents.** Following information's / copy of documents must be provided / attached with offer:-

- a. A copy of letter showing firm's financial capability.
- b. NTN/GST number be mentioned on the offer and copy of registration Certificate issued by Sales Tax Department, attached.
- c. Foreign supplier to provide its Registration Number issued by respective Department of Commerce authorizing export of subject stores.
- d. Annexes A, B and C and special conditions must be signed and stamped. Attach only relevant documents.
- e. Complete all Annexes as per given format. Do not use your format or letter head. Offer may be rejected if given format is not followed.
- f. OEM/principal agency agreement must be provided.

8. **Disqualification.** Offers are liable to be rejected if:-

- a. Validity of offer is not quoted as required in IT or made subject to confirmation later.
- b. There is any deviation from the General/ Special / Technical Instructions.
- c. Offers are found conditional or incomplete in any respect.
- d. Tender processing fee (with tech offer) and EM/Bid Bond (with fin offer) are NOT attached.
- e. Multiple rates are quoted against one item.
- f. Manufacturer's relevant brochures and technical details on major equipment assemblies are not attached in support of specifications.

- g. Offer received later than appointed / fixed date and time.
- h. Subject to restriction of export license.
- i. Offers (Commercial / technical) containing non-initialled / unauthenticated amendments / corrections / overwriting. If the validity of the agency agreement has expired. The commercial offer against FOB / CIF / C&F tender quoted in local currency
- j. If the offer is found to be based on cartel action in connivance with other sources/participants of the tender.

9. **Earnest Money / Bid Bond.** Commercial Offer must be accompanied with a Bid Bond (CDR/Pay Order/Bank Draft) in agreement of faithful compliance of the conditions of Contract. This amount will be equivalent to 5% of the total quoted value. The Bid Bond amount submitted by the successful bidder will however be refunded on effective termination of Contract. (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. Bid Bond will be used as performance guarantee till the delivery of stores, otherwise separate performance guarantee valued at 5 % of contract will be submitted by successful firm till stores are delivered and inspected.

10. **Return of Earnest Money/Bid Bond.**

- a. Bid Bond to the unsuccessful bidders will be returned on finalization of the contract.
- b. Bid Bond of the successful bidder/bidders will be returned on submission of Bank Guarantee against warranty period OR Bid bond retained for the warranty period as the case maybe.

11. **Terms of Payment/ LC Charges** In case of CPT/FOB (all categories) contracts payment will be made through letter of credit (LC). LC opening charges in Pakistan are to be borne by NUTECH. Payment will be made through irrevocable LC in favour of Manufacturer. Payment will be in USD.

12. **Bank Guarantee (BG)**.In case where equipment is backed by warranty, the BG submitted equal to 05% of FOB/FOR/CPT etc value shall remain valid for up to 60 days after completion of warranty period.

13. **Insurance:-** Insurance will be NUTECH's responsibility through NICL.

14. **Freight charges /Custom clearance:** Custom clearance and all freight related will be supplier's responsibility. NUTECH will provide applicable exemption certificates and documents. Delivery till NUTECH will be firm's responsibility and all associated costs will be part of quotation as well.

15. **Warranty.** All goods /store offered would be brand new, from current year of production and will be governed as per warranty clause. The warranty period may be covered by a BG as stipulated above depending on the value /criticality of the tender equipment /stores.

16. **Delivery Schedule.** Store will be delivered within 90 days from contract signing date.

17. **Force Majeure.** If non-compliance with the period of delivery or services can be proved to be due to Force Majeure, such as but not limited to mobilization, war, riot, strike, lockout or the occurrence of unforeseen events, the period shall be reasonably extended.

18. **Subletting** Supplier is not allowed to sublet wholly or part of the contract to any other firm /company without prior permission of the purchaser's .Firm found in breach of the clause will be dealt with as per purchaser's right and discretion

19. **Arbitration.** The dispute shall referred for adjudication to a board comprising of Rector NUTECH and two arbitrators, one to be nominated by each party who before entering upon the reference shall appoint an umpire by mutual agreement, and if they do not agree a judge of the Superior court will be requested to appoint the umpire. The arbitration proceeding shall be held in Pakistan under Pakistan Law. The venue of arbitration shall be the place from which the contract is issued or such other place as the purchaser at his discretion may determine. Arbitration award so given will be firm and final

20. **Export License/Permit /End User Cert.** It shall be the responsibility of the Supplier to obtain from the Government concerned all permits and export licenses, etc required to enable each consignment to be shipped immediately as per the delivery schedule. In case the supplier fails to arrange export license within 30 days of signing the contract the purchaser reserves the right to cancel the contract on the risk and expense of the supplier without prior notice. The purchaser will provide End User

Certificate for the purpose of getting the export licenses/permit on behalf of the supplier for the export of the Contracted good /stores.

21. **Technical Specification:** The supplier will provide OEM certificate, quality certificate /inspection document to the purchaser confirming the quality of the product being supplied under this contract .Store must bear the manufacturer's identification marking /monogram.

22. **Inspection /Testing of Store:** Inspection testing will be carried out at NUTECH by the concerned inspection team /inspector as detailed by the technical authority of respective department on behalf of the NUTECH in accordance with the laid down Acceptance Criteria .(Acceptance Test Procedure (ATPs)/Drawing /Test standard AND SPECIFICATION). **The supplier will provide ATPs with technical offer.** Mutually agreed/approved ATPs will form part of contract to govern the inspection of store subsequently

23. **Requirement of Samples.** The requirement of tender sample will be included in the case if required for evaluation by technical authorities' .Beside this advance sample if required will be also made part of the IT as well as the contract.

24. **Change In Specification /Mfr/Model.** No alternation marked/brand and quality of store will be entertained after the tender have been opened.

25. **Checking of Store at Consignee End.** All stores will be checked at Consignee's end in the presence of the supplier's representative. If for some reason, the supplier decides not to nominate his representative for such checking, an advance written notice to this effect will be given by the supplier to the consignee prior to or immediately on shipment of store .In such an event the supplier will clearly undertake that decision of consignee with regard to quantities and description of consignment will be taken as final and discrepancy found will be according made up by supplier. In all other cases the consignee will inform the supplier about arrival of consignment immediately on receipt of store through registered email/letter and telephone .If no response from the supplier is received within 15 days from initiation of letter the consignee will have the right to proceed with the checking without supplier's representative .Consignee's report on checking of the stores will be binding on the supplier in such cases.

26. **Packing /Marking.** The supplier shall be responsible for proper packing of the Store in standard export packing worthy of transportation by sea /air /road rail so as to ensure their content being free from lose or damages due to faulty packing on arrival at the ultimate destination. Packing of stores will be done at the expenses of the supplier. All packing cases, containers and other packing material shall become the property of the NUTECH on receipt. Marking of packages /instruction will render the store liable to reject .Any loss occurred /demurrage paid due to wrong marking will be make good by the supplier

27. **Original Performa Invoice:** Please ensure Original Performa invoice has fol components incorporated:-

- a. HS Code
- b. Incoterm
- c. Payment Terms
- d. Origin of good
- e. Port of shipment
- f. Port of departure
- g. Seller & Buyer acceptance (on Performa Invoice)
- h. Invoice Date
- i. Latest date of shipment
- j. Seller complete bank detail

28. **General Instructions:** Following must be noted:-

- a. The firm should provide point to point acceptance of each clause of IT and special instructions attached with IT.
- b. Firm will render a certificate on stamp paper with technical offer that firm is neither defaulter nor blacklisted by any Government / semi Government organization directly or indirectly.
- c. Rates should be quoted on Free Delivery basis at NUTECH Islamabad.
- d. **2 years** warranty against **5% Bank Guarantee** of the store value will be required from the successful bidders from the date of commissioning as performance bond.
- e. 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.

- f. If even after applicability of 10% LD, the Seller fails to deliver the required stores, the Buyer will be at liberty to Cancel the contract, and /or procure the stores from an alternate source, on the Seller's "Risk & Cost/Expense". In that case, the Seller will be bound to make payment to the new source through NUTECH. The purchaser's decision under this clause shall NOT be subjected to arbitration.
- g. 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.
- h. An appropriate amount may be paid for mobilization against Bank Guarantee/CDR/Demand Draft/Pay Order.
- i. Firms with previous pending business with NUTECH may not be considered for award of this tender.

Deputy Director
Supply Chain Management Office

Annex-ATechnical SpecificationsNUTECH / SCM / Computer Lab Eqpt (PSDP) 2020 / TD-115

Ser	Part No	Items	Description	A/U	Country of Origin	Qty Req	Bidder Compliance		
							Yes	No	Alternate
1		Digital Oscilloscope (Type 2)	Student Package contains: (x6) a) USB oscilloscope student bundle b) Protoboard a) USB oscilloscope student bundle contains: • USB Oscilloscope: <ul style="list-style-type: none"> • Two-channel oscilloscope (1MΩ, \pm25V, differential, 14-bit, 100MS/s, 30MHz+ bandwidth - with the BNC Adapter Board) • Two-channel arbitrary function generator (\pm5V, 14-bit, 100MS/s, 12MHz+ bandwidth - with the BNC Adapter Board) • Stereo audio amplifier to drive external headphones or speakers with replicated AWG signals • 16-channel digital logic analyzer (3.3V CMOS, 100MS/s)1) 2) • 16-channel pattern generator (3.3V CMOS, 100MS/s)3) 4) • 16-channel virtual digital I/O including buttons, switches, and 	No	USA	06			

			<p>LEDs – perfect for logic training applications 5) 6)</p> <ul style="list-style-type: none"> • Two input/output digital trigger signals for linking multiple instruments (3.3V CMOS)7) • Two programmable power supplies (0...+5V , 0...-5V). The maximum available output current and power depend on the Analog Discovery 2 powering choice: <ul style="list-style-type: none"> • 500mW total when powered through USB • 2.1W max for each supply when powered by an auxiliary supply • 700mA maximum current for each supply • Two-channel voltmeter (AC, DC, $\pm 25V$) • Network analyzer – Bode, Nyquist, Nichols transfer diagrams of a circuit. Range: 1Hz to 10MHz • Spectrum Analyzer – power spectrum and spectral measurements (noise floor, SFDR, SNR, THD, etc.) • Digital Bus Analyzers (SPI, I²C, UART, Parallel, CAN) <ul style="list-style-type: none"> • One regular-sized project box (without sticker sheet) • One USB A to micro B programming cable • One 2x15 flywire signal cable assembly • 5-pack of 6-pin male headers • One ferrite cable snap-on • Power Supplies • Analog parts kit 						
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			<ul style="list-style-type: none"> • Supporting Software <p>b) Protoboard:</p> <ul style="list-style-type: none"> • Solderless Protoboard • All myDAQ signals accessible from breadboards • 3 onboard user LEDs • 1 10K Potentiometer • 2 Audio Jacks • External power connector for breadboard circuits • Switches on all power supplies • SP connector (+5 VDC and ± 15 VDC) • Eight configurable digital I/O pins • Two analog inputs • Two analog outputs • Uses the Mini System Port (MSP) connector 						
2		FPGA Kit (Type 2)	<p>Student package contains: (x10)</p> <p>a) Student embedded device</p> <p>b) Protoboard</p> <p>a) Student embedded device:</p> <ul style="list-style-type: none"> • Xilinx FPGA and dual-core ARM Cortex-A9 Zynq processor • 10 analog inputs, 6 analog outputs, 40 digital I/O lines • Wireless, LEDs, push button, accelerometer onboard • Programmable with LabVIEW or C; adaptable for different programming levels <p>Accessory contains:</p> <ul style="list-style-type: none"> • Driver and software evaluation DVDs • USB cable • Power supply with international adapters 	No	USA	10			

		<ul style="list-style-type: none"> • 1 MXP protoboard accessory • MSP connector • Screwdriver and MSP screw-terminal connector • Audio in/Out Cables <p>b) Protoboard</p> <ul style="list-style-type: none"> • Solderless Protoboard • All myDAQ signals accessible from breadboards • 3 onboard user LEDs • 1 10K Potentiometer • 2 Audio Jacks • External power connector for breadboard circuits • Switches on all power supplies • SP connector (+5 VDC and ±15 VDC) • Eight configurable digital I/O pins • Two analog inputs • Two analog outputs • Uses the Mini System Port (MSP) connector 						
3	Portable SDR Device (Adlam Pluto)	<ul style="list-style-type: none"> • Portable self-contained RF learning module • Based on Analog Devices AD9363--Highly Integrated RF Agile Transceiver and Xilinx® Zynq Z-7010 FPGA • RF coverage from 325 MHz to 3.8 GHz • Up to 20 MHz of instantaneous bandwidth • Flexible rate, 12-bit ADC and DAC • One transmitter and one receiver, half or full duplex • MATLAB®, Simulink® support • GNU Radio sink and source blocks • libio, a C, C++, C#, and Python API 	No	USA	25			

			<ul style="list-style-type: none"> • USB 2.0 Powered Interface with Micro-USB 2.0 connector • High quality plastic enclosure 						
4		Microcomputer Trainer (Type 2,3)	<p>Type 2a: (x1) Early Bird: pi-top [4] + screen + keyboard Package includes:</p> <ul style="list-style-type: none"> • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • 1 x Foundation Plate • 1 x detachable Bluetooth keyboard • 1 x 11.6" Full HD Touchscreen <p>Additional component:</p> <ul style="list-style-type: none"> • Sensor to monitor local environmental condition <p>Type 2b: (x1) pi-top [4] + pi-top [AVK] Package include:</p> <ul style="list-style-type: none"> • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • Component case • 1 x Expansion Plate • 1 x pi-top [AVK] <p>Type 3: (x1) Pitop3</p> <ul style="list-style-type: none"> • Screen: <ol style="list-style-type: none"> 1. 13.3" HD LCD screen with eDP interface 2. 1366x768 resolution 3. Colour active matrix TFT LCD module with anti-glare finish 	No	Any	3			

			<ol style="list-style-type: none"> 4. 3W power consumption 5. PWM screen dim control (available on PCB rail) 6. 60Hz refresh rate 7. 262K colours 8. eDP 1.2 interface <ul style="list-style-type: none"> • Base Top: <ol style="list-style-type: none"> 1. Keyboard 2. Fully reprogrammable via USB 3. Any character can be put on any key position, to suit user's exact preferences 4. UK and US vinyl layouts available 5. 2.2mm operating distance 6. 28 pin FPC cable 7. Trackpad 8. PalmCheck feature helps prevents unwanted mouse clicks 9. PS/2 interface 10. 1N mouse click operating force 11. 8 pin FPC cable • Base Bottom: <ol style="list-style-type: none"> 1. Smart Battery Pack 2. Two-wire SMBus v2.0 interface 3. JEITA recommended charge profile 4. Over-current, over-voltage, over-temperature and short-circuit protection 5. Charge balancing for extended lifetime 6. 51.8 Watt-hour capacity 7. 10-12 hours run time • Hub board: <ol style="list-style-type: none"> 1. Power management 2. Screen driver (HDMI to eDP conversion) 3. Battery LED indicators 4. 18V. 3A input 						
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		<ol style="list-style-type: none"> 5. 5V. 3.5A output 6. 3.3V 500mA output 7. Persistent 3.3V output (available even when powered off) 8. PCB rail specification pinout connects UART, I2C and SPI to Raspberry Pi for use with add-on boards. <ul style="list-style-type: none"> • Raspberry Pi 3 <ol style="list-style-type: none"> 1. Chipset: Broadcom BCM2837 2. CPU: 1.2GHz quad-core 64-bit ARM cortex A53 3. Ethernet : 10/100 (Max throughput 100Mbps) 4. USB: Four USB 2.0 with 480Mbps data transfer 5. Storage: MicroSD card or via USB-attached storage 6. Wireless: 802.11n Wireless LAN (Peak transmit/receive throughput of 150Mbps), Bluetooth 4.1 7. Graphics: 400MHz VideoCore IV multimedia 8. Memory: 1GB LPDDR2-900 SDRAM 9. Expandability: 40 general purpose input-output pins 10. Video: Full HDMI port 11. Audio: Combined 3.5mm audio out jack and composite video 12. Camera interface (CSI) 13. Display interface (DSI) <p>Also included:</p> <ol style="list-style-type: none"> 1. SD Card (8GB) with pi-topOS 2. Cables connecting pi-top pieces 3. Wifi Dongle 4. Charger 						
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			5. Instruction Booklet						
5		Robotic Arm Kit	<ul style="list-style-type: none"> • 6-axis mini industrial Mirobot Arm • Open Source Firmware • At least .2mm repeatability • Up to 110°/s joint speed • Atleast have 150g payload • Must have Bluetooth, Wi-Fi, USB connectivity • Compatible with Programming Languages (Blockly, Python, G-Code, C, C++, Java) <p>Robotic kits in Package 1: (x2) Production line kit:</p> <ol style="list-style-type: none"> 1) Mirobot Robot Arm 2) High-speed USB Cable 3) Micro Servo Gripper 4) Pen Holder 5) Power Supply 6) Suction Cup & Pneumatic Kit 7) Robot Controller <p>Package 1 also include</p> <ul style="list-style-type: none"> • 1x Universal Ball Gripper & Pneumatic Kit. • 1x Sliding Rail • 1x Conveyor Belt <p>Robotic kits in Package 2 (x6):</p> <ol style="list-style-type: none"> 1) Mirobot Robot Arm 2) High Speed USB Cable 3) Power Supply <p>Attatchments (Package 2):</p>	No	Any	8			

			1x Robo cart 1x Suction Cup						
6		Two wheeled robot	<ul style="list-style-type: none"> ● MinSeg V3 Board: Arduino Compatible Mega 2560 (compatible with Arduino IDE) ● Supports 2 motors and 2 encoders ● DRV8833 motor driver ● MPU9250 (3-axis accelerometer 3-axis gyro, 3-axis Magnetometer/Compass, temperature sensor) ● Potentiometer for user input ● Bluetooth Header for plug in Bluetooth module ● Header for ultrasonic sensor ● I2C header and other headers for additional sensors ● User Input button and output LED ● NXT DC Motor with Encoder and wheels OR optional 2 N20 micro gear motors for the ability do drive and steer! ● 6AA (9v) battery holder and included battery cover ● Retractable USB Cable ● Project Box 	No	Any	5			
7		The DC Motor Control Trainer	<p>This Package contains 2 control kits:</p> <p>a) Robot motor control kit (x1)</p> <p>b) DC motor control kit (x1)</p> <p>a) (V3 Lab Robots motor Control Kit)</p> <ul style="list-style-type: none"> ● 3x MinSeg V3 Board: Arduino Compatible Mega 2560 (compatible with Arduino IDE) ● 3x Supports 2 motors and 2 encoders ● 3x DRV8833 motor driver 	No	Any	2			

		<ul style="list-style-type: none"> ● 3x MPU9250 (3-axis accelerometer 3-axis gyro, 3-axis Magnetometer/Compass, temperature sensor) ● 3x Potentiometer for user input ● 3x Bluetooth Header for plug in Bluetooth module ● 3x Header for ultrasonic sensor ● 3x I2C header and other headers for additional sensors ● 3x User Input button and output LED ● 3x NXT DC Motor with Encoder and wheels OR optional 2 N20 micro gear motors for the ability do drive and steer! ● 3x 6AA (9v) battery holder and included battery cover ● 3x Retractable USB Cable ● 3x Project Box <p>b) (DC Motor Control Kit)</p> <ul style="list-style-type: none"> ● 3x Arduino Nano Compatible board with a micro usb connector ● 3x DRV8833 Motor Driver ● 3x - 2 FPC headers for easy connection to included DC Motor ● 3x - 2 JST ZH 1.5mm headers to directly connect micromotors ● 3x Male Pinouts for 2 motors with encoders (see pinout diagram, MinSegNano currently posted, this kit has same pinouts only switches are in different locations - will be updated soon) ● 3x DC motor with 334 encoder counts (1336 quadrature decoded) ● 3x Micro USB Cable 						
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			<ul style="list-style-type: none"> • 3x Altoid sized tin box • 3x - 2mm motor shaft • 3x - 2 different sized gears 						
8		Quad Copter	<ul style="list-style-type: none"> • Pi top Drone Kit that includes GPS, accelerometer, magnetometer and barometer • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • Component case • 1 x Foundation Plate • And other items to build a drone 	No	Any	2			

Firm Name: _____ Signature: _____ Name: _____ Designation: _____

Annex A-1**Special Instructions**

Description	Bidder		
	Yes	No	Alternate Offer
Environment Conditions (a) Temperature range: 05°C to +45°C (b) Relative humidity: 0-70% non-condensing			
Warranty period Two years from the date of commissioning.			
Training Notes Supplier will provide a set of handouts for training on operation and maintenance of the equipment			
Publications Supplier is to provide hard and soft copies (CD) of following manuals. (a) Operational / Maintenance manual: - Qty 01 with Equipment and additional Qty 02 for record purposes and should consist of following sections:- (1) Equipment Description /Operation:- (a)Specifications (b)Description (c)Operation (2) Servicing:- (a) Maintenance Schedule (b)Adjustment / test (c)Removal / Installation procedure (d)Tools Required (3) Trouble shooting guide (4) Cleaning requirements			

<p>(b) Full parts description along with detailed diagrams (exploded view).</p> <p>(c) Experimental manuals which must contain the list and procedure of the experiments that equipment can perform.</p>			
<p>Spares / Technical Support</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 years after commissioning</p>			
<p>Additional Spare / Replaceable parts.</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>Physical Inspection Criteria: 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) Verifiable 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>Commissioning</p> <p>(a) Commissioning by 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>Training 3 Days OEM operational/ maintenance training at NUTECH</p>			
<p>Improvement and Safety Measures</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>Liability of Supplier</p> <p>(a) 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>Special Notes</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>			



TECHNICAL OFFER

NUTECH / SCM / Computer Lab Eqpt (PSDP) 2020 / TD-115

Fill in 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: _____
4. Warranty Period: _____

General

1. GST Number: _____ (Enclose Copy)
2. NTN / CNIC: _____ (if exempted, provide valid exemption certificate)

Payment Terms (through LC)

1. 80 % through LC on sight.
3. 20% after delivery, installation / commissioning, user satisfaction certificate.

Details of Foreign Principal Information with account details)

1. Name / Title: _____
2. Address: _____

OEM Name:	Firm Name:	Signature:
OEM Focal Person:	Firm Focal Person:	Official Seal:
OEM Phone Number:	Firm Phone Number:	Name:
OEM Email Id:	Firm Email Id:	Designation:

Annex CSCHEDULE TO TENDER

Ser r	Part No	Item Name/Size	Specification	A/U	Qty Req	Price Per Unit (USD)	Total Price (USD)
1		Digital Oscilloscope (Type 2)	Student Package contains: (x6) c) USB oscilloscope student bundle d) Protoboard c) USB oscilloscope student bundle contains: • USB Oscilloscope: <ul style="list-style-type: none"> • Two-channel oscilloscope (1MΩ, \pm25V, differential, 14-bit, 100MS/s, 30MHz+ bandwidth - with the BNC Adapter Board) • Two-channel arbitrary function generator (\pm5V, 14-bit, 100MS/s, 12MHz+ bandwidth - with the BNC Adapter Board) • Stereo audio amplifier to drive external headphones or speakers with replicated AWG signals • 16-channel digital logic analyzer (3.3V CMOS, 100MS/s)1) 2) • 16-channel pattern generator (3.3V CMOS, 100MS/s)3) 4) • 16-channel virtual digital I/O including buttons, switches, and LEDs – perfect for logic training applications 5) 6) • Two input/output digital trigger signals for linking multiple instruments (3.3V CMOS)7) 	No	06		

			<ul style="list-style-type: none"> • Two programmable power supplies (0...+5V , 0...-5V). The maximum available output current and power depend on the Analog Discovery 2 powering choice: • 500mW total when powered through USB • 2.1W max for each supply when powered by an auxiliary supply • 700mA maximum current for each supply • Two-channel voltmeter (AC, DC, $\pm 25V$) • Network analyzer – Bode, Nyquist, Nichols transfer diagrams of a circuit. Range: 1Hz to 10MHz • Spectrum Analyzer – power spectrum and spectral measurements (noise floor, SFDR, SNR, THD, etc.) • Digital Bus Analyzers (SPI, I²C, UART, Parallel, CAN) <ul style="list-style-type: none"> • One regular-sized project box (without sticker sheet) • One USB A to micro B programming cable • One 2x15 flywire signal cable assembly • 5-pack of 6-pin male headers • One ferrite cable snap-on • Power Supplies • Analog parts kit • Supporting Software <p>d) Protoboard:</p> <ul style="list-style-type: none"> • Solderless Protoboard • All myDAQ signals accessible from breadboards • 3 onboard user LEDs • 1 10K Potentiometer • 2 Audio Jacks • External power connector for breadboard circuits 				
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			<ul style="list-style-type: none"> • Switches on all power supplies • SP connector (+5 VDC and ± 15 VDC) • Eight configurable digital I/O pins • Two analog inputs • Two analog outputs • Uses the Mini System Port (MSP) connector 				
2		FPGA Kit (Type 2)	<p>Student package contains: (x10)</p> <p>c) Student embedded device</p> <p>d) Protoboard</p> <p>c) Student embedded device:</p> <ul style="list-style-type: none"> • Xilinx FPGA and dual-core ARM Cortex-A9 Zynq processor • 10 analog inputs, 6 analog outputs, 40 digital I/O lines • Wireless, LEDs, push button, accelerometer onboard • Programmable with LabVIEW or C; adaptable for different programming levels <p>Accessory contains:</p> <ul style="list-style-type: none"> • Driver and software evaluation DVDs • USB cable • Power supply with international adapters • 1 MXP protoboard accessory • MSP connector • Screwdriver and MSP screw-terminal connector • Audio in/Out Cables <p>d) Protoboard</p> <ul style="list-style-type: none"> • Solderless Protoboard • All myDAQ signals accessible from breadboards • 3 onboard user LEDs • 1 10K Potentiometer • 2 Audio Jacks 	No	10		

			<ul style="list-style-type: none"> • External power connector for breadboard circuits • Switches on all power supplies • SP connector (+5 VDC and ± 15 VDC) • Eight configurable digital I/O pins • Two analog inputs • Two analog outputs • Uses the Mini System Port (MSP) connector 				
3		Portable SDR Device (Adlam Pluto)	<ul style="list-style-type: none"> • Portable self-contained RF learning module • Based on Analog Devices AD9363--Highly Integrated RF Agile Transceiver and Xilinx® Zynq Z-7010 FPGA • RF coverage from 325 MHz to 3.8 GHz • Up to 20 MHz of instantaneous bandwidth • Flexible rate, 12-bit ADC and DAC • One transmitter and one receiver, half or full duplex • MATLAB®, Simulink® support • GNU Radio sink and source blocks • libiio, a C, C++, C#, and Python API • USB 2.0 Powered Interface with Micro-USB 2.0 connector • High quality plastic enclosure 	No	25		
4		Microcomputer Trainer (Type 2,3)	<p>Type 2a: (x1) Early Bird: pi-top [4] + screen + keyboard Package includes:</p> <ul style="list-style-type: none"> • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • 1 x Foundation Plate • 1 x detachable Bluetooth keyboard • 1 x 11.6" Full HD Touchscreen <p>Additional component:</p>	No	3		

		<ul style="list-style-type: none"> • Sensor to monitor local environmental condition <p>Type 2b: (x1) pi-top [4] + pi-top [AVK] Package include:</p> <ul style="list-style-type: none"> • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • Component case • 1 x Expansion Plate • 1 x pi-top [AVK] <p>Type 3: (x1) Pitop3</p> <ul style="list-style-type: none"> • Screen: <ol style="list-style-type: none"> 9. 13.3" HD LCD screen with eDP interface 10. 1366x768 resolution 11. Colour active matrix TFT LCD module with anti-glare finish 12. 3W power consumption 13. PWM screen dim control (available on PCB rail) 14. 60Hz refresh rate 15. 262K colours 16. eDP 1.2 interface • Base Top: <ol style="list-style-type: none"> 12. Keyboard 13. Fully reprogrammable via USB 14. Any character can be put on any key position, to suit user's exact preferences 15. UK and US vinyl layouts available 16. 2.2mm operating distance 17. 28 pin FPC cable 18. Trackpad 				
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			<p>19. PalmCheck feature helps prevents unwanted mouse clicks</p> <p>20. PS/2 interface</p> <p>21. 1N mouse click operating force</p> <p>22. 8 pin FPC cable</p> <ul style="list-style-type: none"> • Base Bottom: <ul style="list-style-type: none"> 8. Smart Battery Pack 9. Two-wire SMBus v2.0 interface 10. JEITA recommended charge profile 11. Over-current, over-voltage, over-temperature and short-circuit protection 12. Charge balancing for extended lifetime 13. 51.8 Watt-hour capacity 14. 10-12 hours run time • Hub board: <ul style="list-style-type: none"> 9. Power management 10. Screen driver (HDMI to eDP conversion) 11. Battery LED indicators 12. 18V. 3A input 13. 5V. 3.5A output 14. 3.3V 500mA output 15. Persistent 3.3V output (available even when powered off) 16. PCB rail specification pinout connects UART, I2C and SPI to Raspberry Pi for use with add-on boards. • Raspberry Pi 3 <ul style="list-style-type: none"> 14. Chipset: Broadcom BCM2837 15. CPU: 1.2GHz quad-core 64-bit ARM cortex A53 16. Ethernet : 10/100 (Max throughput 100Mbps) 17. USB: Four USB 2.0 with 480Mbps data transfer 18. Storage: MicroSD card or via USB-attached storage 				
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			<p>19. Wireless: 802.11n Wireless LAN (Peak transmit/receive throughput of 150Mbps), Bluetooth 4.1</p> <p>20. Graphics: 400MHz VideoCore IV multimedia</p> <p>21. Memory: 1GB LPDDR2-900 SDRAM</p> <p>22. Expandability: 40 general purpose input-output pins</p> <p>23. Video: Full HDMI port</p> <p>24. Audio: Combined 3.5mm audio out jack and composite video</p> <p>25. Camera interface (CSI)</p> <p>26. Display interface (DSI)</p> <p>Also included:</p> <p>6. SD Card (8GB) with pi-topOS</p> <p>7. Cables connecting pi-top pieces</p> <p>8. Wifi Dongle</p> <p>9. Charger</p> <p>10. Instruction Booklet</p>				
5		Robotic Arm Kit	<ul style="list-style-type: none"> ● 6-axis mini industrial Mirobot Arm ● Open Source Firmware ● At least .2mm repeatability ● Up to 110°/s joint speed ● Atleast have 150g payload ● Must have Bluetooth, Wi-Fi, USB connectivity ● Compatible with Programming Languages (Blockly, Python, G-Code, C, C++, Java) <p>Robotic kits in Package 1: (x2)</p> <p>Production line kit:</p> <p>8) Mirobot Robot Arm</p> <p>9) High-speed USB Cable</p> <p>10) Micro Servo Gripper</p>	No	8		

		<p>11)Pen Holder 12)Power Supply 13)Suction Cup & Pneumatic Kit 14)Robot Controller</p> <p>Package 1 also include</p> <ul style="list-style-type: none"> • 1x Universal Ball Gripper & Pneumatic Kit. • 1x Sliding Rail • 1x Conveyor Belt <p>Robotic kits in Package 2 (x6):</p> <ol style="list-style-type: none"> 1) Mirobot Robot Arm 2) High Speed USB Cable 3) Power Supply <p>Attatchments (Package 2):</p> <p>1x Robo cart 1x Suction Cup</p>					
6		Two wheeled robot	<ul style="list-style-type: none"> • MinSeg V3 Board: Arduino Compatible Mega 2560 (compatible with Arduino IDE) • Supports 2 motors and 2 encoders • DRV8833 motor driver • MPU9250 (3-axis accelerometer 3-axis gyro, 3-axis Magnetometer/Compass, temperature sensor) • Potentiometer for user input • Bluetooth Header for plug in Bluetooth module • Header for ultrasonic sensor • I2C header and other headers for additional sensors • User Input button and output LED 	No	5		

			<ul style="list-style-type: none"> • NXT DC Motor with Encoder and wheels OR optional 2 N20 micro gear motors for the ability do drive and steer! • 6AA (9v) battery holder and included battery cover • Retractable USB Cable • Project Box 				
7		The DC Motor Control Trainer	<p>This Package contains 2 control kits:</p> <p>c) Robot motor control kit (x1)</p> <p>d) DC motor control kit (x1)</p> <p>c) (V3 Lab Robots motor Control Kit)</p> <ul style="list-style-type: none"> • 3x MinSeg V3 Board: Arduino Compatible Mega 2560 (compatible with Arduino IDE) • 3x Supports 2 motors and 2 encoders • 3x DRV8833 motor driver • 3x MPU9250 (3-axis accelerometer 3-axis gyro, 3-axis Magnetometer/Compass, temperature sensor) • 3x Potentiometer for user input • 3x Bluetooth Header for plug in Bluetooth module • 3x Header for ultrasonic sensor • 3x I2C header and other headers for additional sensors • 3x User Input button and output LED • 3x NXT DC Motor with Encoder and wheels OR optional 2 N20 micro gear motors for the ability do drive and steer! • 3x 6AA (9v) battery holder and included battery cover • 3x Retractable USB Cable • 3x Project Box <p>d) (DC Motor Control Kit)</p> <ul style="list-style-type: none"> • 3x Arduino Nano Compatible board with a micro usb connector 	No	2		

			<ul style="list-style-type: none"> • 3x DRV8833 Motor Driver • 3x - 2 FPC headers for easy connection to included DC Motor • 3x - 2 JST ZH 1.5mm headers to directly connect micromotors • 3x Male Pinouts for 2 motors with encoders (see pinout diagram, MinSegNano currently posted, this kit has same pinouts only switches are in different locations - will be updated soon) • 3x DC motor with 334 encoder counts (1336 quadrature decoded) • 3x Micro USB Cable • 3x Altoid sized tin box • 3x - 2mm motor shaft • 3x - 2 different sized gears 				
8		Quad Copter	<ul style="list-style-type: none"> • Pi top Drone Kit that includes GPS, accelerometer, magnetometer and barometer • 1 x pi-top [4] • 16GB SD Card • Access to pi-top Further • 14 pi-top component modules • Component case • 1 x Foundation Plate • And other items to build a drone 	No	2		
Total Amount							

If applicable:

Excises Duty @ _____%

Sales Tax@_____ %

Surcharge@ _____%

Any other Tax _____%

Note:

1. Quotation will be submitted on CPT basis..
2. Equipment shall be supplied and installed at the premises of the NUTECH. All charges such as packing, forwarding, local freight, loading and unloading, installation and commissioning, custom clearance, orientations, on job training or any other will be part of quoted price.
3. Required price will be indicated in USD (in case quoted price are in different currencies then for sake of comparison ,these will be converted into Pak Currency at rate prevailing on opening day of commercial offer).

Firm Name: _____
Signature: _____
Name: _____
Designation: _____

Tender No _____

Name of the Firm _____

Firm Address _____

Date _____

Telephone No _____

E-Mail _____

To,

DD SCM Office
NUTECH University
I-12, Main IJP Road,
Islamabad.

Dear Sir

1. I / We hereby offer to supply to the NUTECH University the stores detailed in schedule to the tender inquiry or such portion thereof as you may specify in the acceptance of tender at the price offered against the said schedule and further agree that this offer will remain valid up to 90 days after opening of commercial offer and will not be withdrawn or altered in terms of rates quoted and the conditions already stated therein or on before this date. I / we shall be bound by a communication of acceptance to be dispatched within the prescribed time.

2. I / we have understood the instructions to Tenders and General Conditions Governing Contract available at NUTECH website and have thoroughly examined the specifications / drawing and / or patterns quoted in the schedule here to and am/are fully aware of the nature of the stores required and my/ our offer is to supply stores strictly in accordance with the requirements.

Yours Faithfully.

(Signature of Tender)

(Capacity in which signing)

Address

Date:

Signature of Witness_

Individual signing tender and / or other documents connected with a contract must be signed by principal authorized rep/ OEM rep/ Authorized partner firm rep.

CHECK LIST**(This checked list must be attached with your technical offer, duly filled and****Signed by authorized signatory)**

Tender No _____

Date _____

1	a. Tender processing fee ref no _____ b. Bank _____ c. Amount _____	
2	a. EM/ Bid Bond ref no _____ b. Bank _____	
3	Form Annex A, A-1, B and C signed by Authorized Signatory	Yes/No
4	Offering specification of items as per It	Yes/No
5	Accounting unit/Qty as per IT	Yes/No
6	Delivery Schedule as per IT	Yes/No
7	Country of origin of store _____	
8	Name of OEM:- _____	
9	Original Performa invoice (Mandatory)	Yes/No
10	Certified that there is no Deviation from IT conditions/ there is deviation from IT condition as per fol details	Yes/No
11	Blacklisting certificate on stamp paper. it is certified that our firm is neither default nor black listed by any govt organization directly or indirectly	Yes/No

Note: Fill and/or mark Yes/No where required

Signature of Firm Auth Signatory