



**TENDER DOCUMENTS**

**Electrical Lab Consumable Items**

**NUTECH / SCM / EE Lab Cons Items (PSDP) 2020 / TD-127**

**NATIONAL UNIVERSITY OF TECHNOLOGY**

**National University of Technology (NUTECH)**  
**NUTECH / SCM / Mech Lab Cons Items (PSDP) 2020 / TD-126,**  
**NUTECH / SCM / EE Lab Cons Items (PSDP) 2020 / TD-127,**  
**NUTECH / SCM / Comp Lab Cons Items (PSDP) 2020 / TD-128 &**  
**NUTECH / SCM / Civil Lab Cons Items (PSDP) 2020 / TD-129**

1. Separate sealed bids are invited for tenders from Government / FBR Registered firms for the procurement against above mentioned tenders on FOR Basis.
2. Tender documents containing terms, conditions and detailed compliance of items (including draft contract) can be downloaded from NUTECH website "<https://nutech.edu.pk/downloads/procurement/scm-tenders/>" w.e.f **14 April 2020**.
3. Quotations shall be submitted as per requirement of the tender documents.
4. 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).
5. 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.
6. Details for submission & opening of bids for each tender are as under:-

Ser	Description	Submission	Tender Opening	Completion Days
a.	Mech Lab TD-126	1000 hrs on 29 April 20	1030 hrs on 29 April 20	30 Days
b.	EE Lab TD-127	1100 hrs on 29 April 20	1130 hrs on 29 April 20	90 Days
c.	Comp Lab TD-128	1200 hrs on 29 April 20	1230 hrs on 29 April 20	30 Days
d.	Civil Lab TD-129	1200 hrs on 30 April 20	1230 hrs on 30 April 20	15 Days

**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:** 1100 hours, 29 April 2020

1. NUTECH desires to procure the list of item(s) / Store(s) on **FOR 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 Lab Equipment.

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

- a. **Technical Offer**. Technical Offer should contain only Annexure-A, Annexure-A-1 & 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. Only relevant technical details ie literature/brochures) without mentioning the financial aspect of the offer in DUPLICATE should be enclosed in an envelope. In technical proposal, all items must have the brand names, model number, ~~manufacturer's 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 FE/Local Currency (in Local Currency for FOR cases & in FE for FOB cases) in figures as well as in words 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.** Sealed bids with detailed specifications should reach SCM office latest by **1100 hours on 29 April 2020**. Delay occurring in post shall not be accepted. 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 be 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 financial offer.

7. **Documents.** Following information / 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 (in FOB cases).~~ Deleted
- d. Annexes A, A-1, 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 documents.
- b. Any deviation from the General/ Special / Technical Instructions.
- c. Offers are found conditional or incomplete in any respect.
- d. Copy of EM/Bid Bond & Tender processing fee (with tech offer) and original EM/Bid Bond (with fin offer) are NOT attached.
- e. Multiple rates/items 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 lowest evaluated bidder.
  - b. Bid Bond of the successful bidder/bidders will be returned on submission of Bank Guarantee/Bid bond against warranty period OR Bid bond retained for the warranty period as the case may be.
11. **Terms of Payment/ LC Charges**
- a. ~~In FOB cases (all categories) 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.~~
  - b. **In FOR cases** 20% advance payment will be made to the Seller on provision of unconditional Bank Guarantee/ CDR/ DD/ Pay order. 80% payment will made to the Seller after receipt and confirming the correctness of ordered specifications, installation, commissioning OR as the case may be i.e through Inland LC.

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

13. **Taxes/ Duties/ Custom clearance** All taxes /duties /import Licenses Fee as applicable under government laws in Pakistan as well as country of supplier shall be on firm (in FOR Case). NUTECH will provide applicable exemption certificates and documents **(In FOB Cases only)**.

14. **Insurance**:- Insurance will be NUTECH's responsibility through NIGL (in FOB Cases).

15. **Freight charges /Misc charges**: 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. Delivery till NUTECH will be firm's responsibility and all associated costs will be part of quotation as well.

16. **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 BG as depending on the value /criticality of the tender equipment.

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

18. **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.

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

20. **Arbitration**. The dispute shall referred for adjudication to a board comprising of Pro-Rector NUTECH as Chairman and two arbitrators, one to be nominated by each party. 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.

21. **Redress Of Grievance.** In case of dispute, case shall be reviewed by 'NUTECH Redress of grievance committee and decision of NUTECH shall be final and binding on both parties.
22. **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 acquisition of export license to the supplier (format to be provided by the supplier for respective country within 10 day of signing of the contract).
23. **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.
24. **Inspection /Testing of Store:** Inspection testing will be carried out at NUTECH by the concerned inspection team as detailed by the respective department 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.
25. **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.~~
26. **Change In Specification / Mfr / Model.** No alternation marked/brand and quality of store will be entertained after the tender have been opened.
27. **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 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 accordingly 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 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.

28. **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. Any loss occurred /demurrage paid due to wrong marking will be made good by the supplier

29. **Original Performa Invoice:** Original Performa invoice must have following components incorporated:-

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

**Note:** Performa Invoice in the name of NUTECH in case of FOB cases & in the name of local partner in case of FOR cases.

30. **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 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. 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 delayed store value.
- e. 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.
- f. 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 / binding on the Seller.
- g. An appropriate amount may be paid for mobilization against Bank Guarantee/CDR/Demand Draft/Pay Order.
- h. Firms with previous pending/outstanding projects/business with NUTECH may not be considered for award of this tender.

Deputy Director  
Supply Chain Management Office

**Annex-A****Technical Specifications****NUTECH / SCM / EE Lab Cons Items (PSDP) 2020 / TD-127**

Ser	Items	Description	Country of Origin	A/U	Qty Req	Bidder Compliance		Tech Scrutiny to be done by user	
						Yes	No	Accepted	Rejected
						Reason of Rejection			
1	Storage Devices	Micro SD card 16 GB	Imported	No	30				
		64 GB USB (hp / Samsung) OR Equivalent	Imported	No	2				
2	Cables	Arduino Nano Cable	Any	No	50				
		Small Size HDMI Cable (5 meter length)	Any	No	50				
		20 guage Ghazi wire Roll (8kg weight) OR Equivalent	Any	No	5				
3	Boxes	Big Boxes For Arduino mega kit	Any	No	10				
4	Modules	raspberry pi Camera Module V2	Any	No	50				
		Gps module (GPS Neo 6M)	Any	No	20				
		Communication Module NRF24L01	Any	No	20				
5	Rpi Micro usb adapter	raspberry pi Micro usb adapter 5V,2A	Imported	No	50				
6	Batteries with Accessories	Li-polymer battery 3.7 V× 1000 mah	Imported	No	6				
		Li-polymer battery 6.4 V× 3000 mah	Imported	No	15				
		Li-polymer battery 7.4 V× 5000 mah	Imported	No	6				
		Li-polymer battery 11.1V× 5000 mah	Imported	No	15				
		9 V Alkline Battery (Energizer) OR Equivalent	Imported	No	100				
		Rechargeable Battery cell 3.7 V, 3800 mAh 18650	Imported	No	100				
		2 Cell Battery holder	Imported	No	60				
Battery Charger 18650	Imported	No	30						
7	Soldering Package	Soldering Iron 60Watts (gootoriginal) OR Equivalent	Any	No	10				
		Soldering Iron 40Watts (gootoriginal) OR Equivalent	Any	No	14				

		Soldering sucker (Small) (goot original) OR Equivalent	Any	No	10			
		soldering iron stand (gootoriginal) OR Equivalent	Any	No	15			
		Soldering Wire roll (750g weight) a. 60-% tin and 40-% lead b. 70-% tin and 30-% lead	Any	No	15 Each			
		GOOT HB-80 Hot Melt Glue Gun (ψ11mm) OR Equivalent	Imported	No	3			
8	Sensors	Gyro sensor MPU 6050	Imported	No	30			
		(a) IR (TX + RX) (led pair) (b) IR (TX + RX) (Module)	Imported	No	200 Each			
9	Board	PCA 9685 servo board OR Equivalent	Imported	No	20			
		L298D Motor Driver board	Imported	No	20			
10	Robotic car kit	Robotic car kit 2WD Aluminium Chasis with Motors	Imported	No	25			
		Robotic car kit 4WD Aluminium Chasiswith Motors	Imported	No	25			
11	Terminal block	Terminal block (2Pin)	Any	No	400			
12	ICs and Diodes	LM-7805	Any	No	200			
		LM-7812	Any	No	200			
		LM723	Any	No	200			
		IRF 3205	Any	No	200			
		AT-89C51 with base	Any	No	200			
		ULN2003 with base	Any	No	500			
		IC L293D	Any	No	100			
		IR 2110 + base	Any	No	100			
		SCR C106 MG, 600v and 4A	Any	No	200			
		1N4007 diode	Any	No	500			
		Diode 6 AMP	Any	No	100			
		High frequency diode UF5407 (Package:Do-27)	Any	No	200			
		Lighting Rod Wall Light LED(Serien) OR Equivalent	Any	No	5			
13	Crystal Oscillator	11.0592/12MHZ crystal oscillator	Any	No	300			
14	Button	ON/OFF Button (Switch for Breadboard)	Any	No	200			
		Push button (PCB)	Any	No	400			
15	Relay	12V Relay ( 5 Pin) 10 Amp or above	Any	No	300			
		06V Relay ( 5 pin) 10 Amp or above	Any	No	300			

16	Heat Sink	Heat Sink (TO-220)	Any	No	500			
17	Led	LEDs of following colour (2.5V rating) a. Red b. white c. yellow d. Green	Any	No	500 each			
18	Universal IC Programmer	Universal IC Programmer VS4800(Compatible with windows 10) and its installation OR equivalent	Any	No	5			
		Dataman 40Pro IC Programmer (Compatible with windows 10) and its installation OR equivalent	Any	No	4			
		Universal IC Programmer G540 (Compatible with windows 10) and its installation OR equivalent	Any	No	2			
19	Resistors / Variable Resistor	Variable Resistor(3 Leg) of following resistances a. 10K $\Omega$ b. 5K $\Omega$ c. 2K $\Omega$	Any	No	450 Each			
		Variable Resistor(6 Leg) of following resistances a. 10K $\Omega$ b. 5K $\Omega$ c. 2K $\Omega$	Any	No	450 Each			
		Resistors of following resistances (5 Watt): a. 1 $\Omega$ b. 3 $\Omega$ c. 5 $\Omega$ d. 7 $\Omega$ e. 10 $\Omega$	Any	No	200 Each			
		Resistors of following resistances (10 Watt): a. 1 $\Omega$ b. 3 $\Omega$ c. 5 $\Omega$ d. 7 $\Omega$ e. 10 $\Omega$	Any	No	200 Each			
		Resistors of following resistances (20 Watt): a. 1 $\Omega$	Any	No	200 Each			

		b. 3Ω c. 5Ω d. 7Ω e. 10Ω						
		3Amp Fuse with casing	Any	No	100			
		5Amp Fuse with casing	Any	No	100			
20	UPS Discrete Items (all items compatible to each others)	UPS-FET Module (of size 4+4) of following specifications: Power Module (of size 4+4) FET (IRF3808 or 75N75)(TO-247) based on push pull or half bridge topology.	Any	No	25			
		UPS-FET Module (of size 6+6) of following specifications: Power Module 9 (of size 6+6) FET (IRF3808 or 75N75)(TO-247) based on push pull or half bridge topology.	Any	No	25			
		UPS-Connecting Wire 6 AWG (7/064" or 16mm <sup>2</sup> )	Any	Mtr	25 meters			
		UPS on-off switch	Any	No	25			
		UPS Fuse (10 amp) + holder	Any	No	25			
		UPS LED Strip (6-wire strip of standard length)	Any	No	25			
		UPS-Iron Core Transformer with paper winding pure copper (12/220V, 1000w)	Any	No	5			
		UPS Metal Body casing 1000W (desktop) including required Nut,Bols and spacer sets	Any	No	5			
		UPS Main Lead (220 Volts)	Any	No	25			
		Standard UPS Battery Wire (Red & Black)	Any	Mete rs	25 meters each			

		UPS Thimbles 2.5mm U Type Thimble	Any	No	150			
		UPS Nut Bolts: a. for holding the casing b. for holding the module	Any	No	100 each			
		UPS-F72 Board OR equivalent	Any	No	12			
		Gate driver Module of IR2110 with its supporting circuit components.	Any	No	08			
		DC to DC converter based on TL494 or SG3525 of following specifications: Boost converter module based on TL494 or SG3525 input=12V and after boost output=280V with power from 150 Watt to 1000 Watt.	Any	No	15			
		Power FET Module low Voltage 12V and 24V input supported of following specifications: Power module of 4 FET IRF3808 (TO-247) with gate turn off time decreasing circuit based on full bridge topology	Any	No	15			
		Filter Module with following specifications: Inductor capacitor filter module to make inverter pure sine wave (inductor should be ferrite core choke type and capacitor should be box type). Rating is 1KVA to 3KVA	Any	No	15			
		EGS002EG8010 including IR2113 Pure Sine Wave Inverter SPWM Module OR equivalent	Any	No	10			
21	Transformer	IRON- Core Transformer (10 AMP 9V)	Any	No	10			
		Ferrite Core Transformer ( 9V +9V, 10AMP)( ETD59-500Watt) OR equivalent	Any	No	10			
22	Lcd display	lcd display ( 2 rows and 16 columns)	Any	No	10			
		Graphic LCD ( 128 rows and 64 columns)	Any	No	5			
23	Headers	Male Female Headers of following types: a. Single b. double	Any	No	100 each			

24	Magnetic contractor	Magnetic contactor (220 volts, 3-phase, 30Amp)	Any	No	10			
25	Circuit Breakers	Circuit Breaker (3pole, 6KA, 3-Phase)	Any	No	10			
		Circuit Breaker (10 Amp, 16Amp, Single Phase)	Any	No	10 each			
26	UNI-T Measurement Guage	Multimeter UT-58E OR Equivalent	Imported	No	5			
27	IOT Component Package	<p>           Arduino UNO R3            2 channel relay            MRFC522 RFID Module            TL 1838 IR receiver            16x2 LCD display            40 pin ZIF socket            MPU6050            L298 Motor Driver            Bread Board            HC-SR04 Ultrasonic sensor            HC-05 Bluetooth Module              NRF24L01 for wireless communication            Stepper Motor 28BYJ48            ULN2003 driver board            Servo Motor SG90            Jumper wires            DHT 11 Temperature /humidity sensor              MQ 2 Gas sensor            HMC5883L magnetometer            ACS 712-20A Current sensor            AC voltage sensor            DC voltage sensor            Node MCU         </p>	Any	No	2			

		<p>LDR sensor  Motion Sensor  12V 2A adapter  LEDs  Push Buttons  connectors  reverse polarity protection circuit</p>						
28	Robotic Component Package	<p>Arduino UNO R3  IR sensor strip (5 sensor pair )  HC-SR04 Ultrasonic sensor (3 pieces)  Flame sensor</p> <p>L298 motor driver  Free wheel  DC gear motors with clamp assembly  20x20 inch 4 mm plastic square board  box casing</p> <p>Bluetooth Module  TL1838 Module  LDR sensor  LEDs  Push Buttons  Battery 11.1 V  Servo based ball potting mechanism  DC 12V FAN  Screw driver (+, -)  Jumper Cables  DC Jack</p> <p>Battery charger (12V,1.5A)</p>	Any	No	2			

		nose plier Screws  Direction sensor Detailed Manual Sample codes Experiments circuit Schematic						
--	--	------------------------------------------------------------------------------------------------------------------	--	--	--	--	--	--

<b>Firm Name:</b> _____
<b>Signature:</b> _____
<b>Name:</b> _____
<b>Designation:</b> _____

**Annex B****TECHNICAL OFFER**  
**NUTECH / SCM / EE Lab Cons Items (PSDP) 2020 / TD-127****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**

Ser	In FOB Cases	In FOR Cases
a.	80 % through LC on sight.	20% advance payment against BG/CDR/Pay Order/DD
b.	20% after delivery, installation / commissioning, user satisfaction certificate	80% payment 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 C****FINANCIAL OFFER****NUTECH / SCM / EE Lab Cons Items (PSDP) 2020 / TD-127**

<b>Ser</b>	<b>Items</b>	<b>Description</b>	<b>A/U</b>	<b>Qty Req</b>	<b>Unit Price PKR (Including Tax)</b>	<b>Total Price PKR (Including Tax)</b>
1	Storage Devices	Micro SD card 16 GB	No	30		
		64 GB USB (hp / Samsung) OR Equivalent	No	2		
2	Cables	Arduino Nano Cable	No	50		
		Small Size HDMI Cable (5 meter length)	No	50		
		20 guage Ghazi wire Roll (8kg weight) OR Equivalent	No	5		
3	Boxes	Big Boxes For Arduino mega kit	No	10		
4	Modules	raspberry pi Camera Module V2	No	50		
		Gps module (GPS Neo 6M)	No	20		
		Communication Module NRF24L01	No	20		
5	Rpi Micro usb adapter	raspberry pi Micro usb adapter 5V,2A	No	50		
6	Batteries with Accessories	Li-polymer battery 3.7 V× 1000 mah	No	6		
		Li-polymer battery 6.4 V× 3000 mah	No	15		
		Li-polymer battery 7.4 V× 5000 mah	No	6		
		Li-polymer battery 11.1V× 5000 mah	No	15		
		9 V Alkline Battery (Energizer) OR Equivalent	No	100		
		Rechargeable Battery cell 3.7 V, 3800 mAh 18650	No	100		
		2 Cell Battery holder	No	60		
Battery Charger 18650	No	30				
7	Soldering Package	Soldering Iron 60Watts (gootoriginal) OR Equivalent	No	10		
		Soldering Iron 40Watts (gootoriginal) OR Equivalent	No	14		
		Soldering sucker (Small) (goot original) OR Equivalent	No	10		
		soldering iron stand (gootoriginal) OR Equivalent	No	15		
		Soldering Wire roll (750g weight)	No	15 Each		

		a. 60-% tin and 40-% lead b. 70-% tin and 30-% lead				
		GOOT HB-80 Hot Melt Glue Gun ( $\psi$ 11mm) OR Equivalent	No	3		
8	Sensors	Gyro sensor MPU 6050	No	30		
		(a) IR (TX + RX) (led pair)	No	200 Each		
		(b) IR (TX + RX) (Module)				
9	Board	PCA 9685 servo board OR Equivalent	No	20		
		L298D Motor Driver board	No	20		
10	Robotic car kit	Robotic car kit 2WD Aluminium Chasis with Motors	No	25		
		Robotic car kit 4WD Aluminium Chasiswith Motors	No	25		
11	Terminal block	Terminal block (2Pin)	No	400		
12	ICs and Diodes	LM-7805	No	200		
		LM-7812	No	200		
		LM723	No	200		
		IRF 3205	No	200		
		AT-89C51 with base	No	200		
		ULN2003 with base	No	500		
		IC L293D	No	100		
		IR 2110 + base	No	100		
		SCR C106 MG, 600v and 4A	No	200		
		1N4007 diode	No	500		
		Diode 6 AMP	No	100		
		High frequency diode UF5407 (Package:Do-27)	No	200		
		Lighting Rod Wall Light LED(Serien) OR Equivalent	No	5		
13	Crystal Oscillator	11.0592/12MHZ crystal oscillator	No	300		
14	Button	ON/OFF Button (Switch for Breadboard)	No	200		
		Push button (PCB)	No	400		
15	Relay	12V Relay ( 5 Pin) 10 Amp or above	No	300		
		06V Relay ( 5 pin) 10 Amp or above	No	300		
16	Heat Sink	Heat Sink (TO-220)	No	500		
17	Led	LEDs of following colour (2.5V rating) a. Red b. white	No	500 each		

		c. yellow d. Green				
18	Universal IC Programmer	Universal IC Programmer VS4800(Compatible with windows 10) and its installation OR equivalent	No	5		
		Dataman 40Pro IC Programmer (Compatible with windows 10) and its installation OR equivalent	No	4		
		Universal IC Programmer G540 (Compatible with windows 10) and its installation OR equivalent	No	2		
19	Resistors / Variable Resistor	Variable Resistor(3 Leg) of following resistances a. 10K $\Omega$ b. 5K $\Omega$ c. 2K $\Omega$	No	450 Each		
		Variable Resistor(6 Leg) of following resistances a. 10K $\Omega$ b. 5K $\Omega$ c. 2K $\Omega$	No	450 Each		
		Resistors of following resistances (5 Watt): a. 1 $\Omega$ b. 3 $\Omega$ c. 5 $\Omega$ d. 7 $\Omega$ e. 10 $\Omega$	No	200 Each		
		Resistors of following resistances (10 Watt): a. 1 $\Omega$ b. 3 $\Omega$ c. 5 $\Omega$ d. 7 $\Omega$ e. 10 $\Omega$	No	200 Each		
		Resistors of following resistances (20 Watt): a. 1 $\Omega$ b. 3 $\Omega$ c. 5 $\Omega$ d. 7 $\Omega$	No	200 Each		

		e. 10Ω				
		3Amp Fuse with casing	No	100		
		5Amp Fuse with casing	No	100		
20	UPS Discrete Items (all items compatible to each others)	UPS-FET Module (of size 4+4) of following specifications: Power Module (of size 4+4) FET (IRF3808 or 75N75)(TO-247) based on push pull or half bridge topology.	No	25		
		UPS-FET Module (of size 6+6) of following specifications: Power Module 9 (of size 6+6) FET (IRF3808 or 75N75)(TO-247) based on push pull or half bridge topology.	No	25		
		UPS-Connecting Wire 6 AWG (7/064" or 16mm <sup>2</sup> )	Mtr	25 meters		
		UPS on-off switch	No	25		
		UPS Fuse (10 amp) + holder	No	25		
		UPS LED Strip (6-wire strip of standard length)	No	25		
		UPS-Iron Core Transformer with paper winding pure copper (12/220V, 1000w)	No	5		
		UPS Metal Body casing 1000W (desktop) including required Nut,Bols and spacer sets	No	5		
		UPS Main Lead (220 Volts)	No	25		
		Standard UPS Battery Wire (Red & Black)	Meters	25 meters each		
		UPS Thimbles 2.5mm U Type Thimble	No	150		
		UPS Nut Bolts: a. for holding the casing b.for holding the module	No	100 each		
		UPS-F72 Board OR equivalent	No	12		

		Gate driver Module of IR2110 with its supporting circuit components.	No	08		
		DC to DC converter based on TL494 or SG3525 of following specifications: Boost converter module based on TL494 or SG3525 input=12V and after boost output=280V with power from 150 Watt to 1000 Watt.	No	15		
		Power FET Module low Voltage 12V and 24V input supported of following specifications: Power module of 4 FET IRF3808 (TO-247) with gate turn off time decreasing circuit based on full bridge topology	No	15		
		Filter Module with following specifications: Inductor capacitor filter module to make inverter pure sine wave (inductor should be ferrite core choke type and capacitor should be box type). Rating is 1KVA to 3KVA	No	15		
		EGS002EG8010 including IR2113 Pure Sine Wave Inverter SPWM Module OR equivalent	No	10		
21	Transformer	IRON- Core Transformer (10 AMP 9V)	No	10		
		Ferrite Core Transformer ( 9V +9V, 10AMP)( ETD59-500Watt) OR equivalent	No	10		
22	Lcd display	lcd display ( 2 rows and 16 columns)	No	10		
		Graphic LCD ( 128 rows and 64 columns)	No	5		
23	Headers	Male Female Headers of following types: a. Single b. double	No	100 each		
24	Magnetic contractor	Magnetic contactor (220 volts, 3-phase, 30Amp)	No	10		
25	Circuit Breakers	Circuit Breaker (3pole, 6KA, 3-Phase)	No	10		
		Circuit Breaker (10 Amp, 16Amp, Single Phase)	No	10 each		
26	UNI-T Measurement Guage	Multimeter UT-58E OR Equivalent	No	5		
27	IOT Component Package	Arduino UNO R3 2 channel relay	No	2		

		MRFC522 RFID Module TL 1838 IR receiver 16x2 LCD display 40 pin ZIF socket MPU6050 L298 Motor Driver Bread Board HC-SR04 Ultrasonic sensor HC-05 Bluetooth Module  NRF24L01 for wireless communication Stepper Motor 28BYJ48 ULN2003 driver board Servo Motor SG90 Jumper wires DHT 11 Temperature /humidity sensor  MQ 2 Gas sensor HMC5883L magnetometer ACS 712-20A Current sensor AC voltage sensor DC voltage sensor Node MCU LDR sensor Motion Sensor 12V 2A adapter LEDs Push Buttons connectors reverse polarity protection circuit				
--	--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--

28	Robotic Component Package	<p>           Arduino UNO R3            IR sensor strip (5 sensor pair )            HC-SR04 Ultrasonic sensor (3 pieces)            Flame sensor              L298 motor driver            Free wheel            DC gear motors with clamp assembly            20x20 inch 4 mm plastic square board            box casing              Bluetooth Module            TL1838 Module            LDR sensor            LEDs            Push Buttons            Battery 11.1 V            Servo based ball potting mechanism            DC 12V FAN            Screw driver (+, -)            Jumper Cables            DC Jack              Battery charger (12V,1.5A)            nose plier            Screws              Direction sensor            Detailed Manual            Sample codes         </p>	No	2		
----	---------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----	---	--	--

		Experiments circuit Schematic				
<b>Total</b>						

<b>Firm Name:</b> _____
<b>Signature:</b> _____
<b>Name:</b> _____
<b>Designation:</b> _____

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 **Financial 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 Tenderer)

Designation

Date:

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

**BANK GUARANTEE AGAINST**  
**"ADVANCE/PERFORMANCE/WARRANTY GUARANTEE**  
**Which ever is applicable**

Guarantee No \_\_\_\_\_  
Date: \_\_\_\_\_  
Amount: \_\_\_\_\_  
Valid upto: \_\_\_\_\_

In Favour of:

National University of Technology (NUTECH), IJP Road, I-12, Islamabad.

Subject: **In compliance with terms of Advance/Performance/Warranty**  
**Guarantee Bank Guarantee**

Contract No: \_\_\_\_\_  
dated \_\_\_\_\_

Dear Sir,

1. Whereas your good-self have entered into Contract No: \_\_\_\_\_ dated \_\_\_\_\_ with M/s [Firm Name] Located at [Firm Address], Herein after referred to as our customer and that one of the conditions of the Contract is submission of Bank Guarantee by our customer to your good-self for a sum of [Amount].

2. Incompliance with this stipulation of subj contract, we hereby agree and undertake as under:-

- a. To pay to you unconditionally on demand and / or without any reference to our Customer an amount not exceeding the sum of [Amount] as would be mentioned in your written Demand Notice.
- b. To keep this Guarantee in force till [Validity Date].
- c. That the validity of this Bank guarantee shall be kept two clear year ahead of the original / extended delivery period or the warrantee of the stores which so ever is later in duration on receipt of information from your office. Our liability under this Bank Guarantee shall cease on the closing of banking hours on the last date of validity of this Bank Guarantee. Claim received there after shall not been entertained by us whether you suffer a loss or not. On receipt of payment under this Guarantee, this

documents i.e., Bank Guarantee must be clearly cancelled, discharged and returned to us.

- d. That we shall inform your office regarding termination of the validity of this bank Guarantee on clear month before the actual expiry date of this Bank Guarantee.
- e. That with the consent of our customer you may amend / alter any term / cause of the contractor add / delete any term / clause to / from this contract without making any reference to us. We do not reserve any right to receive any such amendment / alternation or addition / deletion provided such like actions do not increase our monetary liability under this Bank Guarantee which shall be limited only [Amount.....].
- f. That the bank guarantee herein before given shall not be affected by any change in the constitution of the Bank or Customer / Supplier or Vendor.
- g. That this is an unconditional Bank guarantee, which shall be cashed on sight on presentation without any reference to our Customer / Supplier or Vendor.

Signature\_\_\_\_\_

Name\_\_\_\_\_

Desig\_\_\_\_\_

Bank Stamp\_\_\_\_\_

**Note: No changes in the above given BG format shall be accepted.**

**"SELLER'S WARRANTY"**

(To be provided on stamp paper)

Contract No: \_\_\_\_\_

Dated: \_\_\_\_\_

Validity year from the date of final acceptance of the Stores.

1. We hereby guarantee that we are the genuine and original Source of provisioning the Stores to our Buyer. We also undertake that nothing in the manufacturing of these Stores has been obtained through unauthorized means.
2. We hereby warrant and undertake that the Stores and all the associated spares/ accessories supplied under the terms and conditions of the above Contract, are:
  - a. brand new, complete in all respects, possessing good quality and standard workmanship; and
  - b. liable for replacement/rectification free of charge, if during the Warranty period the same are found defective before or under normal use or these do not remain within the limits and tolerances stated under the specifications or in any way not in accordance with the terms of this Contract. All expenses incurred in removal, re-provisioning and reinstallation of such defective Stores or their parts shall also be borne by us.
3. The Warranty shall remain valid for a period of \_\_\_\_\_ years from the date of final acceptance of the Stores.

Signature \_\_\_\_\_

Name \_\_\_\_\_

Desig \_\_\_\_\_

Stamp \_\_\_\_\_

Date \_\_\_\_\_

**CHECK LIST****(This checked list must be attached with your technical offer, duly filled and****Signed by authorized signatory)****Tender No \_\_\_\_\_****Date \_\_\_\_\_**

1	Tender Processing Fee	a. Tender processing fee ref no _____ b. Bank _____ c. Amount _____		
2	EM/ Bid Bond	a. EM/ Bid Bond ref no _____ b. Bank _____		
3	Form Annex A, A-1, B and C signed by Authorized Signatory		<b>Yes</b>	<b>No</b>
4	Offering specification of items as per IT		<b>Yes</b>	<b>No</b>
5	Quoted Currency as per IT		<b>Yes</b>	<b>No</b>
6	Accounting unit/Qty as per IT		<b>Yes</b>	<b>No</b>
7	Delivery Schedule as per IT		<b>Yes</b>	<b>No</b>
8	Country of origin of store _____			
9	Name of OEM:- _____			
10	Original Performa invoice (Mandatory)		<b>Yes</b>	<b>No</b>
11	Certified that there is no Deviation from IT conditions/ there is deviation from IT condition as per fol details		<b>Yes</b>	<b>No</b>
12	Blacklisting certificate.		<b>Yes</b>	<b>No</b>
13	<del>Verifiable OEM Certificate</del>		<b>Yes</b>	<b>No</b>
14	<del>Warranty Period as per IT</del>		<b>Yes</b>	<b>No</b>
15	<del>ATPs provided</del>		<b>Yes</b>	<b>No</b>

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

---

 Signature of Firm Auth Signatory