

**Tender No. 07 (B)/2024**

# **UNIVERSITY OF CHAKWAL**



## **TENDER DOCUMENT**

**For**

## **PURCHASE OF LAB EQUIPMENT**

**Issued To:** \_\_\_\_\_

**Project Manager (PMU)  
Ph. No.: 0543-553736**

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## Tender Notice

Sealed tenders/ bids are invited from the firms registered with Sales Tax and Income Tax Departments for following Tender on the basis of **Single Stage (Two Envelope Procedure)** in terms of Rule No. **38 2(a)** of the Punjab Procurement Rules 2014 (PPRA Rules 2014).

Tender No.	Tender Name	Budgetary Amount	QTY	Closing Time and Date	Opening Time and Date
07(B)/2024	<b>Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”</b>	34.615 Million	Detail in Tender Document	20-01-2025 till 11:00AM	20-01-2025 at 11:30 AM

- Tender Document will be immediately available after publishing of this Tender Notice under Rule No. 25(1).
- The Tender/Bid Document can be downloaded **free of cost** from PPRA website (<https://ppra.punjab.gov.pk/>), University website ([www.uoc.edu.pk](http://www.uoc.edu.pk)) or [www.eproc.punjab.gov.pk](http://www.eproc.punjab.gov.pk) or E-PADS (e-Pak Acquisition & Disposal System)
- The Bid Security of Rs. **692,300/-** which is equal to **2%** of Budgeted Cost, in the form of “Bank Guarantee / CDR / Bank Draft / Pay Order” in favor of “Treasurer, University of Chakwal shall be provided by the bidders. A scanned copy of the Bid Security must be uploaded in PDF format without which the offer shall be rejected being non –responsive.
- Bids without supporting documents, undertaking, valid documentary evidence, and bids not conforming to terms and conditions given in the Tender Document will be liable for rejection.
- No supporting document will be accepted, at all, after opening of the Technical Bids. Bids received after due date and time or bids without Bid Security in shape of CDR, Bank Draft, Pay Order or less than required amount or Bid Security in shape of Cheque/ Cross Cheque shall be summarily rejected.
- The University reserve the right to modify/withdraw/cancel the bids/tender at any time prior to award of Contract, without assigning any reason or any obligation to inform the Tenderer of the grounds for the Purchaser's action, and without thereby incurring any liability to the Tenderer and the decision of the Purchaser shall be final.
- Bids should be submitted thorough E-PADS (e-Pak Acquisition & Disposal System), and the same should be opened online. Late bid shall not be accepted by the online system.
- For equipment having quantity equal or more than 5 in Nos.their sample will be the part of technical bid.
- For obtaining any further information or clarifications, please contact the officer named below:

**Project Manager (PMU)**  
**University of Chakwal**  
**Ph#0543-553736**

## 1. Invitation To the Bid

- 1.1. Bids/Tenders are invited **Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”** from Sales Tax and Income Tax Registered firms.

## 2. Instructions to the Bidders

- 2.1. Procurement will be made under Punjab Procurement Rules (PPRA), 2014.
- 2.2. It will be clearly understood that the Terms and Conditions mentioned in this document are intended to be strictly enforced.
- 2.3. Bidders must ensure that they submit all the required documents indicated in the Tender / Bidding Documents at the time of opening of Technical Bids and no request for submission of missing documents will be entertained after opening of the Technical Bids.
- 2.4. Bids without supporting documents, undertaking, valid documentary evidence, and bids not conforming to terms and conditions given in the Tender Document will be liable for rejection. Bids received after due date and time, and bids without Bid Security in shape of Demand Draft, Pay Order, CDR or less than required amount or Bid Security in shape of Cheque or Cross Cheque shall be rejected.
- 2.5. No supporting document will be accepted, at all, after opening of the Technical Bids.
- 2.6. The bidder must quote rates of each item in a lot/package, partial bidding in a lot is allowed.
- 2.7. **Mode of Advertisement:**

As per Rule 12(2) of PPRA 2014 amended up to date, the tender has been published on [www.uoc.edu.pk](http://www.uoc.edu.pk), on the website of PPRA Punjab [www.eproc.punjab.gov.pk](http://www.eproc.punjab.gov.pk) and E-PADS (e-Pak Acquisition & Disposal System) <https://punjab.eprocure.gov.pk>.

### 2.8. **Type of Open Competitive Bidding**

As per Rule No. 38(2) a, single stage two envelope procedure shall be followed with details given below:

- 2.8.1. Proposals from interested bidders must be submitted through EPADS in accordance with the current prescribed policy / procedure set by PPRA 2014 (amended till date) fulfilling all codal formalities / terms & conditions as required in the bidding documents
- 2.8.2. The Purchaser shall evaluate the technical proposal under **PPRA Rule # 32** and in a manner prescribed in this document, without reference to the price and reject any proposal which does not conform to the specified requirements as listed in said sections. During the technical evaluation no amendments in the technical proposal shall be permitted;
- 2.8.3. The financial proposals of technically qualified bidders shall be opened publicly online at a time, and venue announced and communicated to the bidders through e-PADS or by other way etc
- 2.8.4. The proposals shall be opened through E-PADS at a time, and venue announced and mentioned in below BID DATA SHEET.
- 2.8.5. Work order will be issued to bidders as per the availability of funds

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**2.9. Bid Data Sheet (Information for the Bidders)**

1	Procuring Agency	University of Chakwal
2	Tender Number	07(B)/2024
3	Name of Tender	<b>Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”</b>
4	Tender Document available place	The Tender/Bid Document can be downloaded free of cost from PPRA website ( <a href="https://ppra.punjab.gov.pk/">https://ppra.punjab.gov.pk/</a> ), University website ( <a href="http://www.uoc.edu.pk">www.uoc.edu.pk</a> ) or <a href="http://www.eproc.punjab.gov.pk">www.eproc.punjab.gov.pk</a> or E-PADS (e-Pak Acquisition & Disposal System
5	Cost of Tender Document	Can be downloaded free of cost from <a href="https://ppra.punjab.gov.pk/">https://ppra.punjab.gov.pk/</a> or <a href="http://www.uoc.edu.pk">www.uoc.edu.pk</a> or <a href="http://www.eproc.punjab.gov.pk">www.eproc.punjab.gov.pk</a>
6	Bid Security	Amount mentioned in Clause No. 9 of the Tender Document in shape of Bank Guarantee, CDR, Pay Order, Bank Draft etc., in favor of “Treasurer, University of Chakwal, Chakwal”
7	Performance Guarantee	10% of Contract Value after issuance of Letter of Acceptance
8	Tender Addressed to	Convener, Purchase Committee, University of Chakwal.
9	Contact Number	Ph. 0543-553736
10	Due date and time for submission of Tender Document (Via E-Pads)	<b>20-01-2025 till 11:00 AM</b>
11	Date, time and place of Technical Bid Opening (Via E-Pads)	<b>20-01-2025 till 11:30 AM</b> at <b>Seminar Hall</b> , Ground Floor, Engineering Building, University of Chakwal (Main Campus), Main Talagang Road, Chakwal. Through E-PADS Through E-PADS (e-Pak Acquisition & Disposal System) <a href="https://punjab.eprocure.gov.pk">https://punjab.eprocure.gov.pk</a> . (e-Pak Acquisition & Disposal System) <a href="https://punjab.eprocure.gov.pk">https://punjab.eprocure.gov.pk</a> .
12	Date, time and place of Financial Bid Opening (Via E-Pads)	Shall be intimated subsequently to Technically Qualified firms through e-PADS or by other way etc.

## **Terms and Conditions of the Tender**

### **3. Definitions**

- 3.1. “Purchaser” means the procuring agency i.e. University of Chakwal.
- 3.2. “UOC” means University of Chakwal.
- 3.3. “Bidder/Tenderer” means the Firm/Company/Supplier/Distributor that may provide or provides the Goods and related services to any of the public sector organization under the contract and have registered for the relevant business thereof.
- 3.4. "Contract" means the agreement entered into between the Purchaser and the Contractor, in form of Supply Order or as recorded in the Contract Form signed by the parties, including all Schedules and Attachments thereto and all documents incorporated by reference therein.
- 3.5. "Contractor/The Successful Bidder" means the person whose Tender has been accepted and awarded letter of Acceptance followed by the Supply Order or Contract by the Purchaser.
- 3.6. "Contract Value" means that portion of the Contract Price adjusted to give effect to such additions or deductions as are provided for in the Contract which is properly apportionable to the Goods or Services in question.
- 3.7. "Goods" means equipment, IT equipment, machinery, and/or other materials which the Contractor is required to supply to the Purchaser under the Contract.
- 3.8. "Services" means installation, configuration, deployment, commissioning, testing, training, support, after sale service, etc. of Goods and other such obligations which the Contractor is required to provide to the Purchaser under the Contract.
- 3.9. “PPRA” means Punjab Procurement Regulatory Authority.
- 3.10. The quantity of items to be procure can increased /decreased depending upon the availability of budget.

### **4. Tender Eligibility**

Eligible Bidder/Tenderer is one who:

- 4.1. has valid registration certificates for Income Tax and Sales Tax;
- 4.2. is an active Income Tax Payer;
- 4.3. has got the experience in supply of relevant items;
- 4.4. Authorization certificate from sole manufacturer
- 4.5. has professional tax certificate for fiscal year 2024-25.
- 4.6. conforms to the clause of “Responsiveness of Bid” given in this tender document;

### **5. Examination of the Tender Document**

The bidder/Tenderer is expected to examine the Tender Document, including all terms and conditions.

### **6. Amendment of the Tender Document**

- 6.1. The Purchase Committee of University of Chakwal at any stage prior to the deadline for submission of the Tender, at its own initiative or in response to a clarification requested by the Bidder(s), amend the Tender Document, on any account, for any reason. All amendment(s) shall be part of the Tender Document and binding on the Bidder(s).

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- 6.2. The Purchaser shall notify the amendment(s) in writing to the prospective Tenderers/Bidders.
- 6.3. The Purchaser may, at its exclusive discretion, amend the Tender Document to extend the deadline for the submission of the Tender, in which case all rights and obligations of the Purchaser and the Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

## 7. Bid Currency

Bidder should quote price in **Pak Rupees only** and payments shall also be made in Pakistan Rupees only.

## 8. Validity Period of the Bid

- 8.1. Validity period of the bids shall be **180 days** after the opening of Financial Proposals.
- 8.2. In exceptional circumstances, the Purchase Committee of University of Chakwal may ask the Bidders for an extension of the period of validity. The request and the responses shall be made in writing. A bidder accepting the request will not be required nor permitted to modify its tender.

## 9. Bid Security

- 9.1. Bidder will submit Bid Security drawn in the name of **Treasurer, University of Chakwal** detail given below:

Item Name	Budgetary Amount	Amount of Bid Security
Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”	Rs.34.615 Million	Rs.692,300/-

- 9.2. Cheque or Cross Cheque shall not be accepted at all.
- 9.3. The amount submitted as Bid Security shall be refunded to the unsuccessful bidders after the decision for the award of the said tender.
- 9.4. The Bid Security of Successful Bidder(s) may be converted as part of the Performance Guarantee for successful execution of the work.
- 9.5. Subject to the award of contract, the Bid Security in form of CDR, Demand Draft, Pay Order shall be returned to successful bidder against submission of Performance Guarantee
- 9.6. If the Bid Security is found less than the required amount, then the bid will be rejected irrespective of the rates and the stage of the bid process.
- 9.7. The Bid Security may be forfeited if a Bidder:
  - a) Refuses to accept Letter of Acceptance of the Bid; or
  - b) Fails to furnish Performance Security.

## 10. Bid Preparation and Submission

An e-bid or proposal shall be submitted on the e-PADS in the manner or method as specified in the advertisement before, closing date for submission, such e-bid or proposal.

The bidder shall be allowed to alter or modify his e-bid or proposal before the closing date 'for submission of the e-bid or proposal.

The bidder shall complete and authenticate his e-bid or, proposal and submit It



within time.

In case e-bid or proposal including entries and record submitted on the e-PADS found corrupt, un-readable or contains virus the e-bid or proposal shall be rejected. The bidder shall submit hard copy of the financial Instrument in addition to the soft copy uploaded on the e PADS as bid security in pdf format. The bid security shall only be released' upon the' hard copy.

- 10.1. The Tender shall be filed in / accompanied by the prescribed Forms, Annexes, Schedules, Drawings, Documents, Brochures, Literature, etc. which shall be completely filled in, stamped and signed by the Tenderer or his Authorized Representative. In case of copies, photocopies may be attested.
- 10.2. The Bids/Tenders should be submitted in two parts (1) Technical Proposal and (2) Financial Proposal. The Technical Proposal and Financial Proposal shall be submitted through e-PADS

## **11. Technical Proposal**

- 11.1. The Technical Proposal will enable the Purchase/Technical Committee to evaluate whether the bidder is technically competent and capable of executing the order and the specifications offered by the bidder meet the ones given in the Tender/Bid Documents. Only those bids which qualify in the technical stage will be eligible for the Financial Proposal opening. The Financial Proposals of bidders who failed in the technical stage will not be opened through automated system of e-PADS The Technical Proposal form as given in the Bid/Tender Document shall be filled, signed and stamped in all pages. The Purchase Committee will not be responsible for the errors committed in the bids by the bidders.
- 11.2. The Technical Proposal should not strictly contain any Price/Cost indications as such otherwise the bids will be summarily rejected.
- 11.3. The Bidder should quote only one brand/model/make of each item.
- 11.4. **Detail and Order of Documents to be furnished with the Technical proposal**  
The documents attached with the Technical Bid must be signed and stamped by the Authorized Representative of the Bidder. The documents attached must be numbered and attached in the following order:
  - 11.4.1. Covering letter (*Annexure-A*) duly signed and stamped by authorized representative along with copy of Bid Security.
  - 11.4.2. Copy of Income Tax Registration Certificate (*Annexure-B*).
  - 11.4.3. Copy of Sales Tax Registration Certificate (*Annexure-C*).
  - 11.4.4. Copy of Professional Tax (*Annexure-D*)
  - 11.4.5. Detailed specification of items (*Annexure-E*).
  - 11.4.6. At least three relevant Supply Orders/Contracts amounting to Rs.15 million of same nature received in the last five years (*Annexure-F*).
  - 11.4.7. Affidavit/Undertaking on Stamp Paper (*Annexure-G*).
  - 11.4.8. **Bid Security of Rs. 692,300/-**

## **12. Financial Proposal**

- 12.1. The Financial Proposal of the bidder shall also include the price break up of taxes/duties. All taxes/duties as applicable shall be responsibility of the bidders.
- 12.2. The cost quoted by the bidder shall be kept firm and unchanged for a period specified in the Bid/Tender Documents from the date of opening of the bids. The bidder shall keep the price firm/unchanged during the period of Contract including during the period of

extension of time if any.

12.3. The quoted price will be inclusive of all taxes, duties, levies, insurance, freight (transportation charges), etc.

12.4. The Bid is liable for rejection if Financial Proposal contains conditional offer.

12.5. **Details to be furnished with Financial proposal**

12.5.1. Financial Proposal Covering Letter (**Annexure G**).

12.5.2. Financial Proposal Form duly filled, signed and stamped by the Bidder (**Annexure H**).

12.6. **Mode of Submission of Bids**

The Technical Proposal and Financial Proposal in each respect as per PRRA 2014 amended up to date shall be completed in step wise as per requirement of the e-PADS system and the procuring agency will not be responsible for the mistake of the bidders if any. The Bids must be submitted through the mode of E-PADS (e-Pak Acquisition & Disposal System) <https://punjab.eprocure.gov.pk>

13. **Modification/Withdrawal of the Tender**

13.1. The Bidder may, by written notice served on the Purchaser, modify or withdraw the Tender after submission of the Tender, prior to the deadline for submission of the Tender.

13.2. The Tender, withdrawn after the deadline for submission of the Tender and prior to the expiration of the period of the Tender validity, shall result in forfeiture of the Bid Security.

14. **Bid Opening**

14.1. **Technical Proposal Opening**

The Technical Proposals will be opened by the Purchase/Evaluation Committee of University of Chakwal on the date and time as specified in the Tender Notice /Bid Data Sheet through online system of e-PADS. The bids will be opened in the presence of the bidders who choose to be present. A maximum of two representatives for each bidder would be allowed to attend the Bid Opening.

14.2. **Suppression of facts and misleading information**

14.2.1. During the bid evaluation, if any suppression or misrepresentation of information is brought to the notice of the Purchase Committee, the Committee shall have the right to reject the Bid and if it happens so after selection of the Bidder, the Purchase Committee may terminate the Contract or award of the Contract or further processing of the Bid as the case may be and that will be without any compensation to the Bidder and the Bid Security/Performance Guarantee, as the case may be, shall be forfeited.

14.2.2. It is the Bidder's responsibility to prove the Bidder's requisite qualification, experience and capacity to undertake the project to the entire satisfaction of the Purchase Committee failing which the Bid may be rejected.

15. **Preliminary Examination**

15.1. The Procuring Agency shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether the required documents have been furnished and properly signed, and whether the bids are generally in order.

15.2. In the financial bids (at the time of opening the financial proposal) the arithmetical errors

shall be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Bidders/Suppliers do not accept the correction of the errors, its bid shall be rejected. If there is a discrepancy between words and figures, the amount in words shall prevail

### **Determination of Responsiveness of the Bid**

- 15.3.** The Purchaser shall determine the substantial responsiveness of the Tender to the Tender Document, prior to the Tender evaluation, on the basis of the contents of the Tender itself without recourse to extrinsic evidence. A substantially responsive Bid is one which:
- 15.3.1.** meets eligibility criteria for the Bidder / the Goods / the Services;
  - 15.3.2.** meets all the mandatory requirements of the evaluation criteria;
  - 15.3.3.** meets the Technical Specifications for the Goods / the Services;
  - 15.3.4.** meets the delivery period / point for the Goods / the Services;
  - 15.3.5.** is accompanied by the required Bid Security;
  - 15.3.6.** is otherwise complete and generally in order;
  - 15.3.7.** Conforms to all terms and conditions of the Tender Document, without material deviation or reservation;
  - 15.3.8.** which offers one Brand/Model/Make for each item (which does not contain any option);
- 15.4.** A material deviation or reservation is one which affects the scope, quality or performance of the Goods or limits the Purchaser's rights or the Bidder’s obligations under the Contract.
- 15.5.** The Tender determined as not substantially responsive shall not subsequently be made responsive by the Tenderer by correction or withdrawal of the material deviation or reservation. However, the Purchaser may waive off any minor non-conformity or inconsistency or informality or irregularity in the Tender.

### **16. Technical Evaluation Criteria**

The Bidders who have duly complied with the Eligibility/Qualification and Evaluation will be eligible for further processing. The Bids which do not conform to the Technical Specifications or Bid conditions or the Bids from the Bidders without adequate capabilities for supply and maintenance / warranty services will be rejected. Under PPRA Rules # 31, Technical Bids will be evaluated on the basis of following criteria and The Eligible/Technically Qualified Bidders will be considered for further evaluation.

Financial Bids of only those bidders will be opened who have fulfilled the following criteria:

<b>Evaluation Criteria</b>	<b>Requirement</b>
Sales Tax Registration	<b>Mandatory</b>
Income Tax Registration	<b>Mandatory</b>
Professional Tax Registration FY (2024-25)	<b>Mandatory</b>
Conformance to the required specification of items given in Schedule of Requirement	<b>Mandatory</b>
Authorization Certificate from Sole Manufacturer	<b>Mandatory</b>
At least three relevant Supply Orders/Contracts (amount Rs.15 million) of same nature received in the last five years	<b>Mandatory</b>
Affidavit /Bidder’s Undertaking on stamp paper	<b>Mandatory</b>

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S. No.	Item Name and Description	Marks	Maximum Marks
<b>1</b>	<b>Past Performance/ Experience of the Bidder (Reg. with GST/NTN)</b>	--	<b>10</b>
1.1	1 - 3 year experience	2	--
1.2	4 - 8 year experience	4	--
1.3	9 - 15 year experience	6	--
1.4	Above 15	10	--
<b>2</b>	<b>Relevant Experience (Purchase orders, supply orders, completion certificates must be attached, otherwise no marks shall be awarded.</b>	--	<b>20</b>
2.1	1 - 5 year experience	5	--
2.2	6 - 10 year experience	10	--
2.3	11 & above year experience	20	--
<b>3</b>	<b>Letter of Satisfaction</b> after sale service by the client who has purchased minimum 15 million worth equipment <b>Please attach satisfaction /appreciation letter. (In case of missing information, no marks may be awarded</b> 02 marks for each satisfaction certificate	10	<b>10</b>
<b>4</b>	<b>Financial Position/ Status</b>	--	<b>10</b>
4.1	Last sales tax paid Form	4	--
4.2	Bank Certificate (satisfactory)	2	--
4.3	Statement Worth (Min 30 M)	4	--
<b>5</b>	<b>Technical Evaluation of quoted items</b>	--	<b>50</b>
5.1	Specifications as per schedule of requirements	40	
5.2	Delivery schedule as per need	2.5	
5.3	List of clients / where such items delivered	2.5	
5.3	Guarantee / Warranty (as the case may be)	05	
<b>TOTAL</b>		--	<b>100</b>

**Note:** - Bidders complying with all mandatory requirements and obtaining **70% marks** shall be declared as technically qualified. Financial bid of only technically qualified bidders shall be considered.

The bidder must provide Verifiable documentary proof against all the mandatory requirement along with the Technical Proposal and no document will be received or considered after opening of the Technical Proposal.

Conformance to the required specification of items given in Schedule of Requirement will be evaluated by the Technical Evaluation Committee.

The Purchase Committee and Technical Evaluation Committee may ask for physical Demonstration of any item given in the Tender Document for confirmation of specifications.

## **17. Financial Proposal Evaluation**

- 17.1. The financial bids of technically qualified/successful bidder(s)/Tenderer(s) will be opened through E-Pads.
- 17.2. Financial Proposal evaluation will be conducted under the Punjab Procurement Rules, 2014. The Price evaluation will include all duties, taxes and expenses etc. In case of any exemption of duties and taxes made by the Government in favor of the Purchaser, the contractor shall be bound to adjust the same in the Financial Proposal.

## **18. Rejection and Acceptance of the Tender/Bid**

- 18.1. The Purchaser shall have the right, at his exclusive discretion, to increase / decrease the quantity of any or all item(s), under PPRA Rules 2014 without any change in unit prices or other terms and conditions, accept a Tender, reject any or all tender(s), cancel / annul the Tendering process at any time prior to award of Contract, without assigning any reason or any obligation to inform the Tenderer of the grounds for the Purchaser's action, and without thereby incurring any liability to the Tenderer and the decision of the Purchaser shall be final.
- 18.2. **The Tender / bid shall be rejected if:**
  - 18.2.1. It is substantially non-responsive; or
  - 18.2.2. The bidder does not meet any of the mandatory criteria mentioned in Clause No. 15; or
  - 18.2.3. It does not contain the documentary proof against any of the mandatory criteria mentioned in Clause No. 15; or
  - 18.2.4. **The bid is incomplete, conditional, alternative, late; or**
  - 18.2.5. the bidder does not attach Bid Security in Shape of Demand Draft, Pay Order, CDR; or
  - 18.2.6. the bid security is not attached or it is less than the required amount; or
  - 18.2.7. the Bidder submits more than one Bids against one Tender; or
  - 18.2.8. the Bidder tries to influence the Purchase Committee / Contract award; or
  - 18.2.9. the Bidder engages in corrupt or fraudulent practices in competing for the Contract award; or
  - 18.2.10. there is any discrepancy between bidding documents and bidder's proposal i.e. any non-conformity or inconsistency or informality or irregularity in the submitted bid; or
  - 18.2.11. the Bidder submits any financial conditions as part of its bid which are not in conformity with tender document.

## **19. Contacting the Procuring Agency**

- 19.1. No Bidder shall contact the Purchase Committee of UOC on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.

- 19.2. Any effort by a Bidder to influence the Procuring Agency in its decisions on bid evaluation, bid comparison, or Contract Award will disqualify the bidder and rejection of the bid. Canvassing by any Bidder at any stage of the Tender evaluation is strictly prohibited.

## **20. Announcement of Evaluation Report**

- 20.1 The Procuring Agency shall announce the results of bid evaluation in the form of a report giving justification for acceptance or rejection of bids at least ten days' prior to the award of Contract. The report shall be made available on PPRA website and EPADS (e-Pak Acquisition & Disposal System) and all the bidders shall be informed of this..

## **21. Award of Contract**

- 21.1. The Tender will be awarded to the Lowest Evaluated Bidder(s) item wise who have been declared Technically Qualified.

## **22. Letter Of Acceptance (LOA)**

After acceptance of the Bids by the CPC, Letter of Acceptance (LOA) will be issued only to the Successful Bidder(s).

## **23. Payment of Performance Guarantee (PG)**

- 23.1. The Successful Bidder(s) will be required to remit the Performance Guarantee equivalent to 10% of the value of the contract price. The PG should be paid by way of Cash Deposit Receipt (CDR), Pay Order, Demand Draft issued from scheduled bank of Pakistan in favor of “Treasurer University of Chakwal, Chakwal” as unconditional Guarantee.
- 23.2. The Performance Guarantee will be forfeited if the Successful Bidder withdraws the Bid during the period of Bid validity specified in the Bid Documents or if the Bidder(s) fails to sign the contract.

## **24. Refund of Bid Security (BS)**

The Bid Security (BS) of the Successful Bidder may be adjusted towards Performance Guarantee payable by the firm. If the successful Bidder(s) submits Performance Guarantee for the stipulated value in full by way of Cash Deposit Receipt (CDR), Bank Draft or Pay Order the BS will be refunded. The BS of the unsuccessful Bidder will be refunded on the written request of the Bidder. The Bid Security of the successful bidder shall be released upon his request provided the bidder submits the Performance Guarantee in the shape of Cash Deposit Receipt (CDR), Bank Draft or Pay Order.

## **25. Issuance of Supply Order or Signing the Contract**

- 25.1. The Purchase Committee shall issue Supply Order or sign a Contract with the Successful bidder who has submitted the Performance Guarantee.
- 25.2. The Successful Bidder will provide the **stamp paper of 0.25% of total order value** for issuance of Supply Order or Signing the Contract.

## **26. Redressal of grievances by the procuring agency**

- 26.1. Any bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances not later than 10 days after the announcement of the bid evaluation report.
- 26.2. The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint.
- 26.3. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.
- 26.4. Any bidder not satisfied with the decision of the committee of the procuring agency may lodge an appeal in the relevant court of jurisdiction.

## **General Conditions of Contract / Supply Order**

### **27. Delivery of Items**

- 27.1. The Supplier will be responsible for **delivery of Items** of Lab Equipment and in case of items which requires installation, the Bidder will be responsible for installation of items at UOC, Main Campus, Talagang Road, and Chakwal.
- 27.2. Delivery Period will be **Ninety (90) days** counted *after issuance of Purchase Order*.
- 27.3. After delivery of items, the Bidder must get the items inspected at UOC, Main Campus, Talagang Road, and Chakwal.
- 27.4. The supplier will bear all costs associated with the preparation, delivery and installation of the Items and the Purchaser will in no case be responsible or liable for those costs. The supplier will make such arrangements to ensure safe delivery of goods. Any damage sustained during transportation / delivery will be rectified by the supplier at his cost.

### **28. Liquidated Damages**

- 28.1. When the supplier fails to deliver or install the goods or both within the time period specified in the contract, the Purchase Committee may, without prejudice to any other remedy it may have under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to **0.25% of the price of the delayed goods per day of delay**, maximum up to 10% of the price of total value of the contract.
- 28.2. The Successful Bidder will be responsible to provide the delivery, Delivery Challan and Bill within the delivery period in order to avoid Late Delivery Charges.

## **29. Inspection and Tests**

- 29.1. The Inspection Committee of UOC shall inspect and test the Goods supplied, the Services provided, under the Contract/Supply Order, to verify their conformity to the Technical Specifications.
- 29.2. Inspection will be done at University of Chakwal.
- 29.3. Inspection Committee may verify the authenticity of items.
- 29.4. After the inspection or test if the Inspection Committee is of the opinion that items do not conform to the specification and the criteria mentioned above, the Inspection Committee may reject them, and the supplier shall either replace the rejected goods or make all alterations necessary to meet the requirements of the specifications free of cost to University of Chakwal.

## **30. Release of Performance Guarantee (PG)**

The Performance Guarantee will be refunded to the Successful Bidder(s) **after one year of completion of delivery and installation of Goods (Inspection).**

## **31. Contract Amendment**

- 31.1. The Purchaser may, at any time, by written notice served on the Contractor, alter, amend, omit, increase, decrease or otherwise change the nature, quality, quantity and scope, of all / any of the Goods / the Services / the Works, in whole or in part.
- 31.2. No variation in or modification in the Contract shall be made, except by written amendment signed by both the Purchaser and the Contractor.

## **32. Termination for Default**

The Purchase Committee of UOC may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the tenderer, terminate this Contract in whole or in part if:

- 32.1. the bidder fails to provide services within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring entity.
- 32.2. the successful bidder fails to deliver goods and services as per its technical specifications offered in the bid
- 32.3. the successful bidder fails to perform any other obligation(s) under the Contract.
- 32.4. the bidder, in the judgment of the Purchase Committee has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

## **33. Blacklisting**

If the Contractor fails / delays in performance of any of the obligations, under the Contract / Letter of Acceptance, violates any of the provisions of the Contract / Letter of Acceptance, commits breach of any of the terms and conditions of the Contract / Letter of Acceptance or found to have engaged in corrupt or fraudulent practices in competing for the award of contract / Letter of Acceptance or during the execution of the contract / Letter of Acceptance, the Purchaser may without prejudice to any other right of action / remedy it may have, blacklist the Contractor, either indefinitely or for a stated period, for future tenders in public sector, as per mechanism provided in Punjab Procurement Rules, 2014.



### **34. Force Majeure**

Majeure means an act of nature or an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence directly or indirectly purporting to mis-planning, mismanagement and /or lack of ore sight to handle the situation. Such events may include but are not restricted to acts of the Procuring Agency in its sovereign capacity, wars or evolutions, fires, floods, earthquakes, strikes, epidemics, quarantine restrictions and freight embargoes. If a Force Majeure situation arises, the Suppliers hall promptly notify the Procuring Agency in writing with sufficient and valid evidence of such condition and the cause there of the Committee constituted for Redressal of grievances, shall examine the pros and cons of the case and all reasonable alternative means for completion of purchase order under the Contract and shall submit its recommendations to the competent authority. However, unless otherwise directed by the Procuring Agency in writing, the Supplier shall continue toper form its obligations under the Contract as far as is reasonably practical and shall seek reasonable alternative means for performance not prevented by the Force Majeure event.

### **35. Termination for Insolvency**

The Procuring Agency may at any time terminate the Contract by giving written notice of 30days’ time to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination shall be without compensation to the Supplier, provided that such termination shall not prejudice or affect any right of action or remedy which has accrued or shall accrue thereafter to the Parties.

### **36. Forfeiture of Performance Security**

- 36.1. If the Contractor fails / delays in performance of any of the obligations, under the Contract / violates any of the provisions of the Contract / commits breach of any of the terms and conditions of the Contract / Letter of Acceptance, the Purchaser may, without prejudice to any other right of action / remedy it may have, forfeit Performance Security of the Contractor.
- 36.2. Failure to supply required items/services within the specified time period will invoke penalty as specified in this document.

### **37. Payment**

- 37.1. 100% payment will be made after withholding applicable taxes by UOC to the Successful Bidder after delivery and installation of goods and on receipt of the following documents:
  - i. Triplicate Original Delivery Challan.
  - ii. Triplicate Original Bill/Invoice.
  - iii. Triplicate General Sales Tax Invoice
  - iv. Inspection/Completion report

### **38. Warranty**

- 38.1.** Warranty of Equipment, shall be one year.
- 38.2.** The Supplier shall confirm that the goods supplied under this contract are new and unused. The Supplier shall further warrant that all goods supplied under this contract shall have no defect arising from design materials or workmanship or from any act or omission of the supplier that may arise under the normal use of the supplied goods in the conditions prevailing in the University.
- 38.3.** The Purchase Committee shall notify the supplier in writing of any claim arising under the warranty. Upon receipt of such notice, the supplier shall repair or replace the defective goods or parts within **15days**, inclusive of, where applicable, the cost of inland delivery of the repaired or replaced goods or parts from the port of entry to the final destination and their installation.

### 39. Specification and Schedule of Requirement

#### Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”

<b>A) Embedded Systems Lab</b>				
<b>Sr#</b>	<b>Items Required</b>	<b>Specification</b>	<b>Qty</b>	<b>Quoted Model</b>
1	<b>PLC Trainer (Siemens S7-1200)</b>	Equivalent to Model IT- 1200S or Better	7	
2	<b>Traffic Light Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
3	<b>Water Level Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
4	<b>Temperature Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
5	<b>Conveyor Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
6	<b>Elevator Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
7	<b>Motor Control By PLC</b>	Equivalent to Model IT- 5100 or Better	7	
8	<b>PIC Training Kit PTK40A</b>	Support PIC16F877A, PIC16F874A, PIC16F917, PIC18F4580, PIC18F4520, PIC18F4550. Come with 20 MHz Crystal, however, is changeable to 4MHz, 8MHz, 10MHz, 12MHz and 16MHz crystal .Two 7 segment display.Come with 20 MHz Crystal, however, is changeable to 4MHz, 8MHz, 10MHz, 12MHz and 16MHz crystal.	6	
9	<b>Rdl PICKIT2 Microcontroller USB Programmer PIC KIT2 Burner</b>	Supported Device Families: PIC10F ,PIC18F PIC12F , PIC24, PIC16F	10	
10	<b>PIC16F874A</b>	128 Bytes EEPROM data memory, ICD, 25mA sink/source per I/O, Self Programming, Parallel Slave Por	30	
11	<b>PIC18F4550</b>	1K byte dual port RAM + 1K byte GP RAM,48MHz performance (12 MIPS)1K byte dual port RAM + 1K byte GP RAM	30	

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
 “Establishment of University of Chakwal”

<b>B) Control Lab</b>				
<b>Sr.#</b>	<b>Items Required</b>	<b>Specification</b>	<b>Quantity</b>	<b>Quoted Model</b>
1	<b>Test and Measurement Instruments</b>	<b>Test and Measurement Instruments</b> • Digital oscilloscope (DS1204B Bandwidth 200 MHz, 4 Analog Channels) • Function Generator (DG1022A 2 channels, max Frequency 25 Mhz sine, 5 MHz square, waveform types are sine, square, ramp, triangle, DC) • Digital Multimeter (DM 3058E Resolution 5 ½ digits, min Voltage 8uV) • DC Power Supply (DP821 2 Channels, 140W, 60V, 10A)	7	
2	<b>DC Motor Control Board for Base Platform</b>	<b>Features</b> • Plug-and-play design for quick and easy lab setup • Removable inertia disk • Durable DC servo motor with no cogging • Built-in PWM amplifier with linear response • High resolution optical encoder to sense position Hardware velocity measurement • Comprehensive digital resources and ABET-aligned courseware included • Fully compatible with LabVIEW™ • Fully documented system models and	7	
3	<b>Base Platform for Controls</b>	<b>Base Platform for Controls</b> Integrated suite of 12 instruments • Oscilloscope (1.25 MS/s (single channel); 500 kS/s (two channels)), DMM (5 1/2 digits), Function Generator [(0.186 Hz to 5 MHz (sine); 0.186 Hz to 1 MHz (square and triangle)], Variable Power Supply, Bode Analyzer, Dynamic Signal Analyzer, Arbitrary Waveform Generator, DIO, Impedance Analyzer, Two Wire Current Voltage Analyzer, Three Wire Current Voltage Analyzer • Includes Basic Breadboard for Circuits and Electronics • Complete integration with NI Multisim for teaching circuits concepts • Area specific power cord is included	7	

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
 “Establishment of University of Chakwal”

4	<b>Rotary Double inverted Pendulum System</b>	<p>Features</p> <ul style="list-style-type: none"> <li>• Double pendulum comprised of a 7-inch aluminum link connected to a 12- inch link</li> <li>DoubleInverted Pendulum module easily attaches to theRotary Servo Base Unit</li> <li>• High resolution encoders sense rotary arm and pendulum link angles</li> <li>• Easy-connect cables and connectors</li> <li>• Fully compatible with LabVIEW™</li> <li>• Fully documented system models and parametersprovided for LabVIEW</li> <li>• Open architecture design, allowing users to design their own controller</li> <li>• Data Acquisition and Control hardware included.</li> </ul>	1	
5	<b>2 DOF Helicopter</b>	<p>The 2 DOF Helicopter system is a simplified helicopter model, ideally suited to introduce intermediate to advanced control concepts and theories relevant to real world applications of flight dynamics and control in the rigid body helicopters, spacecraft or underwater vessels.</p> <p>Students learn how to:</p> <ul style="list-style-type: none"> <li>• develop a state-space model of the system</li> <li>• design a state-feedback controller to regulate the elevation and travel angels of the 2 DOF Helicopter</li> <li>• investigate the closed-loop position control performance of the feed-forward and the LQR PID position controller using a nonlinear model of the system</li> <li>• implement the controller on the 2 DOF Helicopter system and evaluate its performance</li> </ul>	1	

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
 “Establishment of University of Chakwal”

C) ASIC And DSP Lab				
Sr.#	Items Required	Specification	Quantity	Quoted Model
1	<b>HP Computers Core i7</b>	HP Z440, Tower, Intel® Xeon® 3.5 GHz processor. 3.3GHz processor, 128GB RAM, 1TB hard with 21” LCD.	5	
2	<b>Nexys 4 Artix-7 FPGA Trainer Board</b>	Xilinx Artix-7 FPGA <b>XC7A100T- 1CSG324C</b> 15,850 logic slices. Each with four 6-input LUTs and 8 flip-flops. Intrnal clock speeds exceeding 450 MHz. Digilent USB-JTAG port for FPGA. programming and communication 12-bit VGA output.	10	
3	<b>Xilinx Zynq-7000 SoC ZC702 Evaluation Kit</b>	Featuring the ROHS compliant ZC702 kit including the <b>XC7Z020-CLG484-1</b> . Optimized for quickly prototyping embedded applications using Zynq-7000 SoCs. Enabling serial connectivity with USB OTG, UART, IIC, CAN Bus. Supports embedded processing with Dual ARM Cortex-A9 core processors.	7	
4	<b>Xilinx Virtex-7 FPGA VC707 Evaluation Kit</b>	40Gb/s Connectivity platform for high-bandwidth and high- performance. applications using Virtex-7 VX485T FPGAs. Advanced memory interface with 1GB DDR3 SODIM Memory up to 800MHz / 1600Mbps. Supports embedded processing with MicroBlaze, soft 32bit RISC.	7	
5	<b>Digital Storage Oscilloscopes</b>	(DSO-X 2014A) 100MHz, 4 Analog Channels, 2GSa/s. Built-in Digital Channels 20MHz Function Generator, 5-digit Counter. 3-digit DVM.	7	
6	<b>Blackfin Dual Core Embedded Processor ADSP-BF609</b>	Dual-core symmetric high- performance Blackfin processor. Up to 500 MHz per core. Each core contains two 16-bit MACs. Two 40-bit ALUs and a 40-bit barrel shifter.	7	

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
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7	<b>Arbitrary Waveform Generators Model DG5000</b>	Super high speed function generator. Up to 1 GSa/sec Sample Rate. Deep memory 128 Million point	7	
		arbitrary waveforms. Reach your complete frequency range with waveforms up to 350MHz		

Note:

- Only item wise bidding is allowed.

If the delivered items are not match with the samples provided/specifications, the delivery shall be rejected.

Financial Proposal/Technical Proposal will be evaluated on the basis of one person one Bid in terms of Rule 36A (PPRA Rules 2014). No serial # or item name will be changed in the financial proposal.

The bidder will quote per unit rate with GST and Total amount with GST as per given serial number/item name in the bidding documents and final contract will be awarded as per item wise to the lowest bidder after completion of codal formalities through e-PADS. The bidder will follow the bidding documents in true letter and spirit.

**Annexure- A      Technical Proposal Covering Letter**

To

**The Convener,**  
Purchase Committee,  
University of Chakwal,  
Chakwal.

Dear Sir,

We are hereby submitting our Proposal, which includes the Technical Proposal and the Financial Proposal sealed in two separate envelopes. We have attached the **Technical Bid Form, Check List, Detailed Specifications** and the required **supporting documents** along with our Technical Bid.

Yours sincerely,

Authorized Signature

(In full and initials)

Name and Designation of Signatory Name of Firm Address



## **Annexure- B      Check List**

The bidder must attach this list along with the Bid

### **1.1.SUBMISSION AND ARRANGEMENT OF SUPPORTING DOCUMENTS WITH THE TECHNICAL BID THROUGH E-PADS**

The Bidder must upload all the Supporting Documents on E-Pads, number all the pages of supporting documents, provide the page information and arrange the documents in the following order:

<b>Enclosures of Technical Proposal</b>		<b>Attached YES/NO</b>	<b>Page#</b>
1	<b>Covering Letter</b>		
2	<b>Copy of Bid Security</b>		
3	Copy of <b>Income Tax Registration Certificate</b>		
4	Copy of <b>Sales Tax Registration Certificate</b>		
5	Copy of <b>Professional Tax Certificate</b>		
6	<b>Affidavit/Undertaking</b> on the Stamp Paper		
7	Specifications of quoted items on the Letter Head of the bidder		
8	Three Supply Orders for supply of relevant items received in the past		
9	The specified <b>catalogues / brochures</b> of items quoted by the bidder		
<b>Note:</b> All the above documents and any other supporting document must be numbered and page number must be mentioned in the column specified for the purpose.			
<b>Total Number of pages attached with the Technical Bid</b>		<b>_____ Pages</b>	
8	<b>Tender Document</b> duly signed and stamped each page by the bidder must be attached at the end of the Technical Bid but numbering is not required for this document.		

<b>Enclosures of Financial Proposal</b>		<b>Attached YES/No</b>	<b>Page #</b>
1	Financial Proposal Form duly filled, signed and stamped by the bidder		
2	Price Schedule Form duly filled, signed and stamped by the bidder		

**Annexure- C**

**Bid Form**

A) Profile of the Bidder:

<b>S#</b>	<b>Particulars</b>	<b>BIDDER</b>
1	Name of the Company	
<u>2</u>	Year of Incorporation	
<u>3</u>	<b>Registered Office</b>	
	Address	
	Office Telephone Number	
	Fax Number	
<u>4</u>	<b>Contact Person</b>	
	Name of Authorized Representative	
	Personal Telephone Number	
	Email Address	
<u>5</u>	<b>Registration Detail</b>	
	NTN Registration Number	
	GST Registration Number	

B) **Bid Security (Please do not mention amount of CDR)**

<b><u>S#</u></b>	<b>Particulars</b>	<b>Please Furnish Details</b>
1	Name of the Bank	
2	Instrument Number and Date	

**Annexure- D**

**AFFIDAVIT/BIDDER’S UNDERTAKING ON THE STAMP PAPER**

Ref: **Tender No. 07(B)/2024**

1. We have examined the Tender/Bid Document and we undertake to meet the requirements regarding supply of Items, warranty and services as required and are prescribed in the Tender Document.
2. It is certified that the information furnished here in and as per the document submitted is true and correct and nothing has been concealed or tampered with.
3. We have read the provisions of Tender/Bid Document and confirm that these are acceptable to us. We further declare that additional conditions, variations, deviations, if any, found in our response shall not be given effect to.
4. We agree to unconditionally accept all the terms and conditions set out in the Tender/Bid Document
5. We undertake, if our Bid is accepted, to supply the items within the delivery period mentioned in the Tender Document.
6. We understand that no document regarding evaluation criteria will be accepted after opening of the Technical Bids and we are bound to provide all the documentary proofs regarding evaluation criteria or any other supporting document at the time of opening of Technical Bids.
7. We agree that the Purchase Committee of University of Chakwal is not bound to accept the lowest or any of the bids received. We also agree that the Purchase Committee reserves the right in absolute sense to reject all the products/ services specified in the Bid Response without assigning any reason whatsoever under PPRA Rules 2014.
8. We also declare that our Company/Organization is not blacklisted from procuring agency.

*[Name and Signatures of authorized Person along with stamp]*

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
“Establishment of University of Chakwal”

**Annexure- E                      Financial Proposal Form**  
**(to be attached with Financial Proposal)**

To

**The Convener,**  
Purchase Committee,  
University of Chakwal,  
Chakwal.

Dear Sir,

With Reference to your Tender No.07 **(B)/2024 Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled “Establishment of University of Chakwal”**

Please find attached our Financial Proposal for the sum of Rs. (insert amount in words and figures). This amount is inclusive of all taxes.

Yours sincerely,

Authorized Signature

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
“Establishment of University of Chakwal”

**Annexure- F      Price Schedule**

*(Please attach this page along with Financial Bid or quote rates on the Letter Head of the Bidder)*

**ICT EQUIPMENT’S FOR THE PROJECT TITLED “ESTABLISHMENT OF UNIVERSITY OF CHAKWAL”**

A) Embedded Systems Lab						
Sr.#	Items Required	Specification	Qty	Quoted Model	Unit Price Including all Taxes	Total Price (Including all taxes)
1	PLC Trainer (Siemens S7-1200)	Equivalent to Model IT- 1200S or Better	7			
2	Traffic Light Control By PLC	Equivalent to Model IT- 5100 or Better	7			
3	Water Level Control By PLC	Equivalent to Model IT- 5100 or Better	7			
4	Temperature Control By PLC	Equivalent to Model IT- 5100 or Better	7			
5	Conveyor Control By PLC	Equivalent to Model IT- 5100 or Better	7			
6	Elevator Control By PLC	Equivalent to Model IT- 5100 or Better	7			
7	Motor Control By PLC	Equivalent to Model IT- 5100 or Better	7			
8	PIC Training Kit PTK40A	Support PIC16F877A, PIC16F874A, PIC16F917, PIC18F4580, PIC18F4520, PIC18F4550. Come with 20 MHz Crystal, however, is changeable to 4MHz, 8MHz, 10MHz, 12MHz and 16MHz crystal .Two 7 segment display.Come with 20 MHz Crystal, however, is changeable to 4MHz, 8MHz, 10MHz, 12MHz and 16MHz crystal.	6			
9	Rdl PICKIT2 Microcontroller USB Programmer PIC KIT2 Burner	Supported Device Families: PIC10F ,PIC18F PIC12F , PIC24, PIC16F	10			
10	PIC16F874A	128 Bytes EEPROM data memory, ICD, 25mA sink/source per I/O, Self Programming, Parallel Slave Por	30			
11	PIC18F4550	1K byte dual port RAM + 1K byte GP RAM.48MHz performance (12 MIPS)1K byte dual port RAM + 1K byte GP RAM	30			

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
 “Establishment of University of Chakwal”

B) Control Lab						
Sr.#	Items Required	Specification	Quantity	Quoted Model	Unit Price (Including all Taxes)	Total Price (Including all Taxes)
1	<b>Test and Measurement Instruments</b>	<b>Test and Measurement Instruments</b> <ul style="list-style-type: none"> <li>• Digital oscilloscope (DS1204B Bandwidth 200 MHz, 4 Analog Channels)</li> <li>• Function Generator (DG1022A 2 channels, max Frequency 25 Mhz sine, 5 MHz square, waveform types are sine, square, ramp, triangle, DC)</li> <li>• Digital Multimeter (DM 3058E Resolution 5 ½ digits, min Voltage 8uV)</li> <li>• DC Power Supply (DP821 2 Channels, 140W, 60V, 10A)</li> </ul>	7			
2	<b>DC Motor Control Board for Base Platform</b>	<b>Features</b> <ul style="list-style-type: none"> <li>• Plug-and-play design for quick and easy lab setup</li> <li>• Removable inertia disk</li> <li>• Durable DC servo motor with no cogging</li> <li>• Built-in PWM amplifier with linear response</li> <li>• High resolution optical encoder to sense position Hardware velocity measurement</li> <li>• Comprehensive digital resources and ABET-aligned courseware included</li> <li>• Fully compatible with LabVIEW™</li> <li>• Fully documented system models and</li> </ul>	7			
3	<b>Base Platform for Controls</b>	<b>Base Platform for Controls</b> <p>Integrated suite of 12 instruments</p> <ul style="list-style-type: none"> <li>• Oscilloscope (1.25 MS/s (single channel); 500 kS/s (two channels)), DMM (5 1/2 digits), Function Generator [(0.186 Hz to 5 MHz (sine); 0.186 Hz to 1 MHz (square and triangle)], Variable Power Supply, Bode Analyzer, Dynamic Signal Analyzer, Arbitrary Waveform Generator, DIO, Impedance Analyzer, Two Wire Current Voltage Analyzer, Three Wire Current Voltage Analyzer • Includes Basic Breadboard for Circuits and Electronics • Complete integration with NI Multisim for teaching circuits concepts • Area specific power cord is included</li> </ul>	7			

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
 “Establishment of University of Chakwal”

4	<b>Rotary Double inverted Pendulum System</b>	<p>Features</p> <ul style="list-style-type: none"> <li>• Double pendulum comprised of a 7-inch aluminum link connected to a 12- inch link</li> <li>• DoubleInverted Pendulum module easily attaches to theRotary Servo Base Unit</li> <li>• High resolution encoders sense rotary arm and pendulum link angles</li> <li>• Easy-connect cables and connectors</li> <li>• Fully compatible with LabVIEW™</li> <li>• Fully documented system models and parametersprovided for LabVIEW</li> <li>• Open architecture design, allowing users to design their own controller</li> <li>• Data Acquisition and Control hardware included.</li> </ul>	1			
5	<b>2 DOF Helicopter</b>	<p>The 2 DOF Helicopter system is a simplified helicopter model, ideally suited to introduce intermediate to advanced control concepts and theories relevant to real world applications of flight dynamics and control in the rigid body helicopters, spacecraft or underwater vessels.</p> <p>Students learn how to:</p> <ul style="list-style-type: none"> <li>• develop a state-space model of the system</li> <li>• design a state-feedback controller to regulate the elevation and travel angels of the 2 DOF Helicopter</li> <li>• investigate the closed-loop position control performance of the feed-forward and the LQR PID position controller using a nonlinear model of the system</li> <li>• implement the controller on the 2 DOF Helicopter system and evaluate its performance</li> </ul>	1			

Purchase of Lab Equipment for the Department of Electronics Engineering from Project Titled  
“Establishment of University of Chakwal”

C) ASIC And DSP Lab						
Sr.#	Items Required	Specification	Quantity	Quoted Model	Unit Price (Including all Taxes)	Total Price (Including all Taxes)
1	<b>HP Computers Core i7</b>	HP Z440, Tower, Intel® Xeon® 3.5 GHz processor. 3.3GHz processor, 128GB RAM, 1TB hard with 21” LCD.	5			
2	<b>Nexys 4 Artix-7 FPGA Trainer Board</b>	Xilinx Artix-7 FPGA <b>XC7A100T- 1CSG324C</b> 15,850 logic slices. Each with four 6-input LUTs and 8 flip-flops. Intrnal clock speeds exceeding 450 MHz. Digilent USB-JTAG port for FPGA. programming and communication 12-bit VGA output.	10			
3	<b>Xilinx Zynq-7000 SoC ZC702 Evaluation Kit</b>	Featuring the ROHS compliant ZC702 kit including the <b>XC7Z020-CLG484-1</b> . Optimized for quickly prototyping embedded applications using Zynq-7000 SoCs. Enabling serial connectivity with USB OTG, UART, IIC, CAN Bus. Supports embedded processing with Dual ARM Cortex-A9 core processors.	7			
4	<b>Xilinx Virtex-7 FPGA VC707 Evaluation Kit</b>	40Gb/s Connectivity platform for high-bandwidth and high- performance. applications using Virtex-7 VX485T FPGAs. Advanced memory interface with 1GB DDR3 SODIM Memory up to 800MHz / 1600Mbps. Supports embedded processing with MicroBlaze, soft 32bit RISC.	7			
5	<b>Digital Storage Oscilloscopes</b>	(DSO-X 2014A) 100MHz, 4 Analog Channels, 2GSa/s. Built-in Digital Channels 20MHz Function Generator, 5-digit Counter. 3-digit DVM.	7			
6	<b>Blackfin Dual Core Embedded Processor ADSP-BF609</b>	Dual-core symmetric high- performance Blackfin processor. Up to 500 MHz per core. Each core contains two 16-bit MACs. Two 40-bit ALUs and a 40-bit barrel shifter.	7			
7	<b>Arbitrary Waveform Generators Model DG5000</b>	Super high speed function generator. Up to 1 GSa/sec Sample Rate. Deep memory 128 Million point arbitrary waveforms. Reach your complete frequency range with waveforms up to 350MHz	7			



**Annexure- G Contract Agreement Form**

THIS AGREEMENT made the *[day]* day of *[month]* *[year]* between *[University of Chakwal]* (hereinafter called “the University”) of the one part and *[name and address of Supplier]* (hereinafter called “the Supplier”) of the other part:

WHEREAS the University invited Tenders for certain goods and related services, viz, *[brief description of goods and related services]* and has accepted a Tender by the Supplier (Supply of ICT Equipment) for the supply of those goods and related services in the sum of Rs. *[Contract Price in figures and in words]* (hereinafter called “the Contract Price”).

NOW THEREFORE the parties hereby agree as follow:

- 1- The following documents attached shall be deemed to form and integral part of this Contract:
  - i- Tender/Bid Document
  - ii- Letter of Acceptance
  - iii- Performance Guarantee equal to 10% of Contract Price in shape of CDR, Demand Draft or Pay Order.
- 2- The Terms and Conditions of Supply Order/Contract given in the Tender/Bid Document will be applicable.
- 3- The mutual rights and obligations of the University and the Supplier will be preserved in the light of the Terms and Conditions mentioned in the Tender /Bid Document.

IN WITNESS whereof the parties have caused this Contract to be executed in accordance with the laws of Pakistan on the day, month and year written above.

**For University of Chakwal**

**For the Supplier:**

Signature

Signature

Print Name

Title