

UNIVERSITY OF ENGINEERING & TECHNOLOGY, PESHAWAR



STANDARD BIDDING DOCUMENTS

For

ESTABLISHMENT OF STATE-OF-THE-ART LABORATORIES OF CIVIL, ELECTRICAL, ENGINEERING DEPARTMENTS UNDER THE PROJECT TITLED “STRENGTHING OF ABBOTTABAD CAMPUS UNIVERSITY OF ENGINEERING & TECHNOLOGY, PESHAWAR”

<i>Procurement Ref: No.</i>	:	<i>PD/Abbottabad/2024/04</i>
<i>Opening date of Technical Proposals</i>	:	<i>Aug 20, 2024 at 11:00 AM</i>
<i>Venue</i>	:	<i>Conference Hall, UET Peshawar</i>

(PROJECT DIRECTOR)
ABBOTTABAD CAMPUS, UET, PESHAWAR

Rs.1,500/-

CONTENTS

Section I. Invitation for Bids	3
Section II. Instructions to Bidders	4
Section III. Bid Data Sheet	188
Section IV. General Conditions of Contract	23
Section V. Special Conditions of Contract	33
Section VI. Scope of Work and Schedule of Requirements	38
Section VII. Technical Specifications	39
Section VIII. Forms	90

Section II. Instructions to Bidders

Table of Clauses

A. Introduction	4
1. Source of Funds	4
2. Eligible Bidders.....	4
3. Eligible Goods and Services.....	5
4. Cost of Tender.....	5
B. The Tender Documents	6
5. Content of Tender Documents	6
6. Clarification of Tender Documents	6
7. Amendment of Tender Documents	7
C. Preparation of Bids	7
8. Language of Bid	7
9. Documents Constituting the Bid	7
10. Bid Form.....	8
11. Bid Prices	8
12. Bid Currencies.....	9
13. Documents Establishing Bidder's Eligibility and Qualification	9
14. Documents Establishing Goods' Eligibility and Conformity to Tender Documents.....	10
15. Bid Security	10
16. Period of Validity of Bids	11
17. Format and Signing of Bid.....	12
D. Submission of Bids	12
18. Sealing and Marking of Bids.....	12
19. Deadline for Submission of Bids	12
20. Late Bids	12
21. Modification and Withdrawal of Bids	13
E. Opening and Evaluation of Bids	13
22. Opening of Bids by the Purchaser.....	13
23. Clarification of Bids.....	13
24. Evaluation Criteria.....	14
25. Contacting the Purchaser.....	15
F. Award of Contract	15
26. Post-qualification	15
27. Award Criteria.....	16
28. Purchaser's Right to Vary Quantities at Time of Award	16
29. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids	16
30. Notification of Award	16
31. Signing of Contract.....	17
31. Performance Security	17
32. Corrupt or Fraudulent Practices	17

Instructions to Bidders

A. Introduction

1. Source of Funds	<p>1.1. The Purchaser has received developmental grant from Federal Government through HEC, Islamabad for the project titled “Strengthening Of Abbottabad Campus University Of Engineering & Technology, Peshawar” from the source(s) indicated in the tender data in various currencies towards the cost of the project /schemes specified in the bid data sheet and it is intended that part of the proceeds of this funds will be applied to eligible payments under the contract for which these tender documents are issued.</p> <p>1.2 The funds referred to above in addition shall be “Public Fund” which according to 2 (l) of KPP Rules 2014 means (i) Provincial Consolidated Fund; (ii) foreign assistance; (iii) all moneys standing in the Public Account; and (iv) Funds of enterprises wholly or partly owned or managed or controlled by Government.</p> <p>1.3 Payment by the Fund will be made only at the request of the Purchaser and upon approval by the Government, and in case of a project will be subject in all respect to the terms and conditions of the agreement. The Project Agreement prohibits a withdrawal from the allocated fund account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Federal Government/ Khyber Pakhtunkhwa Government, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Procuring agency shall derive any rights from the Project Agreement or have any claim to the allocated fund proceeds.</p>
2. Eligible Bidders	<p>2.1 This Invitation for Bids is open to all suppliers from eligible source as defined in the KPPRA Act, 2012 and its Tender Documents except as provided hereinafter.</p> <p>2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.</p> <p>2.3 Government-owned enterprises in the Province of Khyber</p>

	<p>Pakhtunkhwa may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Khyber Pakhtunkhwa.</p> <p>2.4 Bidders shall not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by any government organization in accordance with the Section 44(1) KPP Rules 2014.</p>
<p>3. Eligible Goods and Services</p>	<p>3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries of the world with whom the Islamic Republic of Pakistan has commercial relations and its Tender Documents and all expenditures made under the contract will be limited to such goods and services.</p> <p>3.2 For purposes of this clause, “origin” means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</p> <p>3.3 The origin of goods and services is distinct from the nationality of the Bidder.</p>
<p>4. Cost of Tender</p>	<p>4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser named in the Bid Data Sheet, hereinafter referred to as “the Purchaser,” will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tender process.</p>

B. The Tender Documents

<p>5. Content of Tender Documents</p>	<p>5.1 The goods required, tender procedures and contract terms & conditions are prescribed in the tender documents. In addition to the Invitation for Bids, the tender documents include:</p> <ul style="list-style-type: none"> (a) Instructions to Bidders (ITB) (b) Bid Data Sheet (c) General Conditions of Contract (GCC) (d) Special Conditions of Contract (SCC) (e) Schedule of Requirements (f) Technical Specifications (g) Bid Form and Price Schedules (h) Bid Security Form (i) Contract Form (j) Performance Security Form (k) Letter of authority from Original Equipment Manufacturer (l) Original Equipment Manufacturer qualification statement (m) Agent qualification statement (n) Power of Attorney (o) Reference list of similar installations (p) Integrity pact <p>5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the tender documents. Failure to furnish all information required by the tender documents or to submit a bid not substantially responsive to the tender documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.</p>
<p>6. Clarification of Tender Documents</p>	<p>An interested prospective Bidder requiring any clarification of the tender documents may notify the Purchaser in writing at the Purchaser's address indicated in the Bid Data Sheet. The Purchaser will respond in writing to any request for clarification of the tender documents which it receives prior to the deadline for the submission of bids prescribed in ITB Clause 19.1. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that</p>

	have received the tender documents.
7. Amendment of Tender Documents	<p>7.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the tender documents by amendment.</p> <p>7.2 All prospective bidders that have received the tender documents will be notified of the amendment in writing or by cable, and will be binding on them.</p> <p>7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.</p>

C. Preparation of Bids

8. Language of Bid	8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bid Data Sheet , in which case, for purposes of interpretation of the Bid, the translation shall govern.
9.Document Constituting the Bid	<p>The bid prepared and submitted in two separate envelopes by the Bidder shall comprise the following components each:-</p> <p>A1. Technical Bid for Import Items</p> <ul style="list-style-type: none"> (i) Letter of Bid (Bid Form) as per Form-1 (ii) Bill of quantities of items with specifications as per Form-2 (iii) Original Equipment Manufacturer's authorization as per Form-3 (iv) Original Equipment Manufacturer qualification statement as per Form-4 (v) Agent qualification statement as per Form-5 (vi) Power of Attorney as per Form-6 (vii) Reference list of similar installations as per Form-7 (viii) Installation/Commissioning/Training Undertaking by the Original Equipment Manufacturer as per Form-8 (ix) Integrity Pact as per form -9 (x) Proof of being active taxpayer with government of Pakistan (xi) Affidavit on stamp paper to the effect that <i>"the requisite Bid Security has been placed separately in</i>

	<p style="text-align: center;"><i>the sealed envelope of financial bid”.</i></p> <p>A2. Technical Bid for Local Purchase</p> <ul style="list-style-type: none"> (i) Letter of Bid (Bid Form) as per Form-1 (ii) Bill of quantities of items with specifications as per Form-2 (iii) Distributor Certificate (v) Agent qualification statement as per Form-5 (vi) Power of Attorney as per Form-6 (vii) Reference list of similar installations as per Form-7 (viii) Installation/Commissioning/Training Undertaking by the bidder (ix) Integrity Pact as per form -9 (x) Proof of being active taxpayer with government of Pakistan (xi) Affidavit on stamp paper to the effect that <i>“the requisite Bid Security has been placed separately in the sealed envelope of financial bid”.</i> <p>B. Financial Bid</p> <ul style="list-style-type: none"> (i) Letter of Bid (Bid Form) as per Form-11 (ii) Price Break down schedule as per Form-12 (iii) Bid Security as per Form-13
10. Bid Form	The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the tender documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.
11. Bid Prices	<p>11.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract. The quoted price shall include the price of equipment along-with standard accessories and transportation from the warehouse of Original Equipment Manufacturer to the Purchaser; covering all costs of loading of Equipment from the warehouse and at port of shipment, the cost of airfreight/ship warfare/berthing, demurrage charges, stevedoring, handling charges and other port and river dues in respect of shipment companies vessels at the port of shipment and all other expenditure up to the stage of placing the store at rest on board the ship and the freight charges.</p> <p>11.2 In order to facilitate the clearance at the port at the arrival, a Clearing Agent will be engaged by the Bidder in consultation with the University who will get the Stores cleared and all charges of clearance and of the clearing Agents charges/ commission will be borne by the Bidders. Demurrages, if any, shall also be the liability of the Bidder provided that all required clearance documents</p>

	<p>responsibility of the bidder are provided by university within three (3) days of demand by the bidder.</p> <p>11.3 The prices shall be offered in Foreign Exchange CPT, Abbottabad for import items and in PKR local currency for local purchase items. The price must be written without erasures, in figures and also in words for the total price.</p> <p>11.4 Prices can be quoted for all the lots or for any particular lot. However, the price offered for any lot must be for the entire lot and for the entire quantity demanded. Partial lot and partial quantity offers shall straightaway be rejected. Conditional offer will also be considered as non-responsive Bidder.</p> <p>11.5 For the purpose of comparison of bids quoted in different currencies, price shall be converted into PAK Rupees. The rate of exchange shall be the selling rate prevailing seven working days before the date of opening of the bids specified in the tender documents, as notified by the State Bank of Pakistan.</p> <p>11.6 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Tender Documents. A bid submitted with an adjustable price quotation will be treated as nonresponsive and will be rejected.</p> <p>11.7 In case the stores manufactured/available in Pakistan without involving import by the University, the quoted price shall include all charges for packing, marking, handling, installation, putting into operation, training and demonstration of the working of the equipment in the purchaser's premises.</p>
<p>12. Bid Currencies</p>	<p>Prices can be quoted in any foreign currency on CPT, Abbottabad basis for import items. Local Purchase items must only be quoted in PKR local currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly.</p>
<p>13. Documents Establishing Bidder's Eligibility and Qualification</p>	<p>13.1 The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract, if its bid is accepted.</p> <p>13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.</p> <p>13.3 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish</p>

	<p>to the Purchaser's satisfaction:</p> <ul style="list-style-type: none"> (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Original Equipment Manufacturer or producer to supply the goods in the Purchaser's country; (b) that the Bidder has the financial and technical capability necessary to perform the contract; (c) that, in the case of a Bidder not doing business within the Purchaser's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped and able to carry out the Bidder's, repair and maintenance obligations prescribed in the Conditions of Contract and/or Technical Specifications; and (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.
--	---

<p>14. Documents Establishing Goods' Eligibility and Conformity to Tender Documents</p>	<p>14.1 The Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the tender documents of all goods and services which the Bidder proposes to supply under the contract.</p> <p>14.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.</p> <p>14.3 The documentary evidence of conformity of the goods and services to the tender documents may be in the form of literature, drawings, and data, and shall consist of a detailed description of the essential technical and performance characteristics of the goods.</p>
<p>15. Bid Security</p>	<p>15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its financial bid, a Bid Security in the amount specified in the Bid Data Sheet. The Bidder shall submit an affidavit on stamp paper with the technical bid that <i>“the requisite Bid Security of 2% of the total bid has been placed separately in the sealed envelope of financial bid”</i>. In Affidavit the amount of Bid Security must not be disclosed by any mean. In case of failure of submission of an affidavit for bid security with the technical bid, his bid shall be rejected by the Purchaser as non-responsive.</p>

	<p>15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.</p> <p>15.3 The bid security shall be denominated in the currency of the bid or in another freely convertible currency, and shall be in one of the following forms:</p> <ul style="list-style-type: none"> (a) a bid security issued by a reputable financial institution (as defined in KPPRA Procurement Rules, 2014) located in the Purchaser's country, in the form provided in the tender documents or another form acceptable to the Purchaser and valid for one hundred and twenty days (120) days beyond the validity of the bid; or (b) Irrevocable encashable on-demand Bank call-deposit. <p>15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Purchaser as nonresponsive, pursuant to ITB Clause 24.</p> <p>15.5 Unsuccessful bidders' bid securities will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser pursuant to ITB Clause 16.</p> <p>15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 34, and furnishing the performance security, pursuant to ITB Clause 35.</p> <p>15.7 The bid security may be forfeited:</p> <ul style="list-style-type: none"> (a) if a Bidder: <ul style="list-style-type: none"> (i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form, or (ii) does not accept the correction of errors pursuant to ITB Clause 24.2; or (b) in the case of a successful Bidder, if the Bidder fails: <ul style="list-style-type: none"> (i) to sign the contract in accordance with ITB Clause 34; or (ii) to furnish performance security in accordance with ITB Clause 35.
<p>16. Period of Validity of Bids</p>	<p>16.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid submission prescribed by the Purchaser, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.</p> <p>16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity.</p>

	<p>The request and the responses thereto shall be made in writing. The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the tender documents.</p>
<p>17. Format and Signing of Bid</p>	<p>17.1 The Bidder shall prepare a bid which shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.</p> <p>17.2 Any interlineation, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.</p> <p>17.3 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.</p>

D. Submission of Bids

<p>18. Sealing and Marking of Bids</p>	<p>18.1 The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal; the envelopes shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion. The bid so prepared shall be sealed and submitted on 20/08/2024 before 10:30 A.M at Main Conference Hall, University of Engineering & Technology, Peshawar in accordance with instructions given in invitation for bids;</p> <p>18.2 The envelop shall bear the Invitation for Bids Title and Procurement Reference Number, and a statement: “DO NOT OPEN BEFORE 11:00 AM, 20/08/2024”</p>
<p>19. Deadline for Submission of Bids</p>	<p>19.1 Bids must be received by the Purchaser at the address specified under ITB Clause 18.2 (a) no later than the time and date specified in the Bid Data Sheet.</p> <p>19.2 The Purchaser may, at its discretion, extend this deadline for the submission of bids by amending the tender documents in accordance with ITB Clause 7, in which case all rights and obligations of the Purchaser and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.</p>
<p>20. Late Bids</p>	<p>20.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser pursuant</p>

	to ITB Clause 19 will be rejected and returned unopened to the Bidder.
21. Modification and Withdrawal of Bids	<p>21.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Purchaser prior to the deadline prescribed for submission of bids.</p> <p>21.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18. A withdrawal notice may also be sent by cable, but followed by a signed confirmation copy, postmarked not later than the deadline for submission of bids.</p> <p>21.3 No bid may be modified after the deadline for submission of bids.</p> <p>21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to the ITB Clause 15.7.</p>

E. Opening and Evaluation of Bids

22. Opening of Bids by the Purchaser	<p>22.1 The Purchaser will open only the Technical Bids of all the bidders in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register evidencing their attendance.</p> <p>22.2 The bidders' names, bid modifications or withdrawals and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.</p> <p>22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances.</p> <p>22.4 The Purchaser will prepare record of the bid opening.</p>
23. Clarification of Bids	<p>23.1 During evaluation of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.</p>

<p>24. Evaluation Criteria</p>	<p>Evaluation of the bids will be conducted in the following three stages: -</p> <p>Stage-1: <u>Preliminary examination</u> At first stage, the Purchaser will examine the bids to determine: -</p> <ul style="list-style-type: none"> (a) whether required documents, duly signed, have been furnished, (b) whether power of attorney for the authorized person has been submitted, (c) whether integrity pact has been signed (d) whether proof of being an active tax payer with government of Pakistan has been provided; (e) Whether affidavit on stamp paper to the effect that <i>“the requisite Bid Security has been placed separately in the sealed envelope of financial bid”</i> has been provided. (f) whether original equipment manufacturer’s authorization letter (Imported Items)/ Distributor Certificate (local purchase items) has been submitted; and <p>The preliminary examination will be conducted on a responsive and non-responsive basis. Only bids which have been rated "responsive" in the preliminary examination of bids shall be considered for further evaluation.</p> <p>Stage -2 <u>Technical Requirements Compliance</u> At the second stage, the Purchaser will examine the technical bids to determine whether:</p> <ul style="list-style-type: none"> a) They meet the minimum required specifications. b) Whether the bidder has the requisite capabilities to undertake the contract. For the purpose of this clause, the bidder must have: - <ul style="list-style-type: none"> (i) minimum two year experience; (ii) minimum one engineer and one sales representative; (iii) minimum three similar installations by OEM/bidder; (c) The bidders will be required to quote for the entire lot and for the entire quantity demanded. The purchaser will reject the bids with partial lot or partial quantity offers unless otherwise stated in the BoQ. (d) Moreover, the bids shall comply in accordance with the terms & conditions of bid solicitation document. The bid not fulfilling the terms & conditions of bid solicitation document will be rejected/technically disqualified. (e) The Purchaser will examine the bids to determine
---------------------------------------	--

	<p>whether they are complete, and whether the bids are generally in order.</p> <p>(f) Any bid, which does not meet these shall be rejected and will not be considered for subsequent evaluation. The Financial proposals of only those bidders will be opened on a subsequent date, who are declared technically qualified for participation in the financial bid.</p> <p>Stage -3 <u>Financial/Final Evaluation</u></p> <p>(a) In the last stage, the Purchaser will open the financial bids of only those bidders who are declared as technically qualified on a subsequent date.</p> <p>(b) Arithmetical errors will 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 there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.</p> <p>(c) The Purchaser may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation.</p> <p>(d) For the purpose of comparison of bids quoted in different currencies, price shall be converted into PAK Rupees. The rate of exchange shall be the selling rate prevailing seven working days before the date of opening of technical bids specified in the tender documents, as notified by the state bank of Pakistan.</p> <p>(e) The successful bidder shall be determined on the basis of lowest evaluated financial bid.</p>
<p>25. Contacting the Purchaser</p>	<p>25.1 From the time of bid opening to the time of contract award, if any bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.</p> <p>25.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.</p>

F. Award of Contract

<p>26. Post-qualification</p>	<p>26.1 In the absence of prequalification, the Purchaser will determine to its satisfaction whether the Bidder that is</p>
--------------------------------------	---

	<p>selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.</p> <p>26.2 The determination will take into account the Bidder's financial, and technical capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Purchaser deems necessary and appropriate.</p> <p>26.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.</p>
<p>27. Award Criteria</p>	<p>Subject to ITB Clause 31, the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the best evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.</p>
<p>28. Purchaser's Right to Vary Quantities at Time of Award</p>	<p>The Purchaser reserves the right at the time of Contract Award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.</p>
<p>29. Purchaser's Right to Accept Any Bid and to Reject Any or All Bids</p>	<p>The Purchaser reserves the right to accept or reject any bid, and to annul the tender process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders.</p>
<p>30. Notification of Award</p>	<p>30.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful Bidder in writing by registered letter or by email email, to be confirmed in writing by registered letter, that its bid has been accepted.</p> <p>30.2 The notification of award will constitute the formation of the Contract.</p> <p>30.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 34, the Purchaser will promptly notify the name of the winning Bidder to each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.</p> <p>30.4 If, after notification of award, a Bidder wishes to ascertain the</p>

	<p>grounds on which its bid was not selected, it should address its request to the Purchaser. The Purchaser will promptly respond in writing to the unsuccessful Bidder.</p>
31. Signing of Contract	<p>31.1 At the same time as the Purchaser notifies the successful Bidder that its bid has been accepted, the Purchaser will send the Bidder the Contract Form provided in the tender documents, incorporating all agreements between the parties.</p> <p>31.2 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Purchaser.</p>
32. Performance Security	<p>31.1 Within thirty (30) days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the tender documents, or in another form acceptable to the Purchaser.</p> <p>31.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 33.2 or ITB Clause 34.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest evaluated Bidder or call for new bids.</p>
33. Corrupt or Fraudulent Practices	<p>32.1 The University of Engineering & Technology, Peshawar requires that Bidders/ Suppliers/ Contractors under contract, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, University of Engineering & Technology, Peshawar:</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>(i) “corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and</p> <p>(ii) “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;</p> <p>(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the</p>

	<p>contract in question;</p> <p>(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded at University of Engineering & Technology, Peshawar, contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a University of Engineering & Technology, Peshawar contract.</p>
34. Integrity Pact	The Bidder shall sign, stamp and attach with financial bid the Integrity Pact provided at Form-9 to Bid in the Bidding Document for all Provincial Government procurement contracts exceeding Rupees ten million. Failure to such Integrity Pact shall make the bidder non-responsive.

Section III. Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

Introduction	
ITB 1.1	Name of funding Agency: Higher Education Commission, Islamabad
ITB 1.1	Name of Procuring Agency: University of Engineering & Technology, Peshawar
ITB 1.1	Name of Contract. Procurement of brand new equipment titled “ Strengthening of Abbottabad Campus University of Engineering & Technology, Peshawar”
ITB 6	Purchaser’s address, telephone, telex, and facsimile numbers. The Project Director Strengthening of Abbottabad Campus, University of Engineering & Technology, Peshawar Phone#: 091-9222286 E-mail: pd_abbottabad@uetpeshawar.edu.pk
ITB 8.1	Language of the bid. English

Bid Price and Currency	
ITB 11.3	Bid Prices The prices shall be offered in foreign currency CPT, Abbottabad basis for import items. For local purchase items the prices shall be offered in PKR.
ITB 11.4	Prices can be quoted for all the lots or for any particular lot.

	However, the price offered for any lot must be for the entire lot (or unless otherwise stated in BoQ) and for the entire quantity demanded. Partial lot and partial quantity offers shall straightaway be rejected. Conditional offer will also be considered as non-responsive and subsequently be rejected.
ITB 11.6	The prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account.
ITB 12	Bid currencies Prices shall be quoted in foreign currency "Carriage Paid To" (CPT), Peshawar with onward delivery to the final destination-Abbottabad Campus; by the bidder. For local purchase items the prices shall be offered in PKR.

Preparation and Submission of Bids	
ITB 15.1	Amount of bid security. The Bidder shall furnish, as part of its financial bid, a bid security of two percent (2%) of the total price of the quoted bid.
ITB 16.1	Bid validity period. Bids shall remain valid for a period of 120 days after the date of bid's submission prescribed by the Purchaser, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.
ITB 16.2	Extension of the period of validity: In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.
ITB 18.1	Address for bid submission. Main Conference Hall, University of Engineering & Technology, Peshawar.
ITB 18.2	IFB title. Procurement of brand new labs equipment for Civil & Electrical Engineering Departments under the project titled "Strengthening of Abbottabad Campus University of Engineering & Technology, Peshawar" Procurement Reference Number PD/Abbottabad/2024/04
ITB 19.1	Deadline for bid submission. Aug 20, 2024 10:30 AM
ITB 22.1	Time, date, and place for bid opening.

	Aug 20, 2024 10:30 AM, Main Conference Hall of University of Engineering & Technology, Peshawar
Bid Evaluation	
ITB 24	The successful bidder would be determined by the lowest evaluated bid received subject to the bid meeting the specifications and other terms and conditions specified in ITB 24.

Contract Award	
ITB 28	Percentage for quantity increase or decrease. The Purchaser reserves the right at the time of contract award to increase or decrease, up-to 15%, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

Performance Security	
ITB 32	Within thirty (30) days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the tender documents, duly provided by reputable financial institution, recognized by the State Bank of Pakistan.
GCC 7.1 (SCC-3)	The amount of performance security, as a percentage of the Contract Price, shall be 10% of the total contract value which shall be retained by the Purchaser for a period of one year i.e. warranty period.

Delivery	
GCC-10 & SCC-6	Delivery through Letter of Credit (LC), the equipment shall be delivered to the designated location of the Purchaser on the basis of installed and workable condition within 180 days from the establishment of LC. In case of local supply; the supplier shall deliver the equipment within 30-days from issuance of the purchase order. However, further time extension could be granted to the vendors by the purchaser, upon submission of a genuine reason (s).

Training	
GCC 13(e)	The successful bidder shall arrange training for the Purchaser's personnel, through their foreign technical experts, at the designated location or at the concerned lab/department of Abbottabad Campus of UET, Peshawar.

	<p>During the training; assembly, starts-up, operation, maintenance, and/or repair of the supplied equipment/goods shall be undertaken.</p> <p>In case the bidder is unable to provide onsite training by their foreign technical experts, then 02 personnel from the University shall be provided training at the Manufacturer's site for no-less five working days at the cost of the bidder.</p>
--	---

Warranty	
GCC 15.2	Warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered, installed and commissioned at the final destination of the Purchaser.

Liquidated Damages	
GCC 23 (SCC 13)	<p>Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.</p> <p>Maximum deduction upto 10% @ 0.5% per week.</p>

Section IV. General Conditions of Contract

Table of Clauses

1.	Definitions.....	23
2.	Application.....	24
3.	Country of Origin	24
4.	Standards.....	24
5.	Use of Contract Documents and Information; Inspection and Audit.....	24
6.	Patent Rights.....	25
7.	Performance Security.....	25
8.	Inspections and Tests	25
9.	Packing.....	26
10.	Delivery and Documents	26
11.	Insurance.....	26
12.	Transportation	26
13.	Incidental Services	26
14.	Spare Parts	27
15.	Warranty.....	28
16.	Payment	28
17.	Prices	28
18.	Change Orders.....	28
19.	Contract Amendments.....	29
20.	Assignment.....	29
21.	Subcontracts	29
22.	Delays in the Supplier's Performance	29
23.	Liquidated Damages	30
24.	Termination for Default.....	30
25.	Force Majeure	31
26.	Termination for Insolvency	31
27.	Termination for Convenience	31
28.	Settlement of Disputes	32
29.	Governing Language.....	32
30.	Applicable Law	32
31.	Notices	32
32.	Taxes and Duties	32

General Conditions of Contract

1. Definitions	<p>1.1 In this Contract, the following terms shall be interpreted as indicated:</p> <ul style="list-style-type: none">(a) "The Contract" means the agreement entered into between the Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.(b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.(c) "The Goods" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.(d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.(e) "GCC" means the General Conditions of Contract contained in this section.(f) "SCC" means the Special Conditions of Contract.(g) "The Purchaser" means the organization purchasing the Goods, as named in SCC.(h) "The Purchaser's country" is the country named in SCC.(i) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract and named in SCC.(j) "Day" means calendar day.
-----------------------	---

2. Application	2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.
3. Country of Origin	<p>3.1 The proposals for imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries</p> <p>3.2 All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules of the Government of Pakistan.</p> <p>3.3 For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.</p> <p>3.4 The origin of Goods and Services is distinct from the nationality of the Supplier.</p>
4. Standards	4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.
5. Use of Contract Documents and Information; and Inspection	<p>5.1 The Supplier shall not, without the Purchaser’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.</p> <p>5.2 The Supplier shall not, without the Purchaser’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.</p> <p>5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier’s performance under the Contract if so required by the Purchaser.</p> <p>5.4 The Supplier shall permit the Purchaser to inspect the Supplier’s records relating to the performance of the Supplier.</p>

6. Patent Rights	6.1 The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Purchaser's country.
7. Performance Security	<p>7.1 Within thirty (30) days of receipt of the notification of Contract award, the successful supplier shall furnish to the Purchaser the performance security (10%) in the amount specified in SCC.</p> <p>7.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.</p> <p>7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:</p> <ul style="list-style-type: none"> (a) a guarantee issued by a reputable financial institution (as defined by KPPRA Procurement Rules, 2014) located in the Purchaser's country or abroad, acceptable to the Purchaser, in the form provided in the tender documents or another form acceptable to the Purchaser; or (b) a cashier's or certified check. <p>7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise specified in SCC.</p>
8. Inspections and Tests	<p>8.1 The Purchaser shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications.</p> <p>8.2 Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.</p> <p>8.3 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed prior to the Goods' shipment from the country of</p>

	<p>origin.</p> <p>8.4 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.</p>
9. Packing	<p>9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.</p> <p>9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Purchaser.</p>
10. Delivery and Documents	<p>10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.</p> <p>10.2 For purposes of the Contract, "CPT" trade term used to describe the obligations of the parties shall have the meaning assigned to it by <i>Incoterms</i> previously published by the International Chamber of Commerce, Paris.</p> <p>10.3 Documents to be submitted by the Supplier are specified in SCC.</p>
11. Insurance	<p>The Purchaser shall arrange for the insurance of the goods, which shall cover full period of works as defined in the scope of works. The insurance premium shall be paid by the Purchaser.</p>
12. Transportation	<p>The supplier shall be required under the Contract to transport the goods to a specified place of destination within the Purchaser's country, transport to such place of destination in the Purchaser, including storage, as shall be specified in the contract, shall be arranged by the supplier, and related costs shall be included in the contract price.</p>
13. Incidental	<p>13.1 The Supplier may be required to provide any or all of the</p>

<p>Services</p>	<p>following services, including additional services, if any, specified in SCC:</p> <ul style="list-style-type: none"> (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods; (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods; (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods; (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and (e) The successful bidder shall arrange training for the Purchaser's personnel, through their foreign (Import Purchase)/local (Local Purchase) technical experts, at the designated location or at the concerned lab/department of UET, Peshawar. During the training; assembly, starts-up, operation, maintenance, and/or repair of the supplied equipment/goods shall be undertaken. <p>13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.</p>
<p>14. Spare Parts</p>	<p>14.1 As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:</p> <ul style="list-style-type: none"> (a) such spare parts as the Purchaser may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and (b) in the event of termination of production of the spare parts: <ul style="list-style-type: none"> (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and (ii) following such termination, furnishing at no cost to

	the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.
15. Warranty	<p>15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Purchaser's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.</p> <p>15.2 This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered, installed and commissioned at the final destination indicated in the Contract.</p> <p>15.3 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.</p> <p>15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser.</p> <p>15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.</p>
16. Payment	The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC .
17. Prices	17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.
18. Change Orders	<p>18.1 The Purchaser may at any time, by a written order given to the Supplier pursuant to GCC Clause 32, make changes within the general scope of the Contract in any one or more of the following:</p> <ul style="list-style-type: none"> (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser; (b) the method of shipment or packing;

	<p>(c) the place of delivery; and/or</p> <p>(d) the Services to be provided by the Supplier.</p> <p>18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Purchaser's change order.</p>
19. Contract Amendments	Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.
20. Assignment	The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Purchaser's prior written consent.
21. Subcontracts	<p>21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.</p> <p>21.2 Subcontracts must comply with the provisions of GCC Clause 3.</p>
22. Delays in the Supplier's Performance	<p>22.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Purchaser in the Schedule of Requirements.</p> <p>22.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.</p> <p>22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2</p>

	without the application of liquidated damages.
23. Liquidated Damages	Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the preliminary Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC . Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.
24. Termination for Default	<p>24.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:</p> <ul style="list-style-type: none"> (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 22; or (b) if the Supplier fails to perform any other obligation(s) under the Contract. (c) if the Supplier, in the judgment of the Purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. <p>For the purpose of this clause:</p> <p>“corrupt practice” means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.</p> <p>“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.</p> <p>24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However,</p>

	<p>the Supplier shall continue performance of the Contract to the extent not terminated.</p>
<p>25. Force Majeure</p>	<p>25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.</p> <p>25.2 For purposes of this clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.</p> <p>25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.</p>
<p>26. Termination for Insolvency</p>	<p>The Purchaser may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser.</p>
<p>27. Termination for Convenience</p>	<p>27.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser’s convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.</p> <p>27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier’s receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:</p> <ul style="list-style-type: none"> (a) to have any portion completed and delivered at the Contract terms and prices; and/or (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and

	Services and for materials and parts previously procured by the Supplier.
28. Settlement of Disputes	28.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the contract.
	28.2 If, after thirty (30) days from the commencement of such informal negotiation, the Purchaser and supplier have been unable to resolve amicably a contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third part, adjudication in an agreed manner and/or arbitration.
29. Governing Language	The Contract shall be written in the language specified in SCC . Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.
30. Applicable Law	The Contract shall be interpreted in accordance with the laws of the Purchaser's country, unless otherwise specified in SCC .
31. Notices	31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC . 31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
32. Taxes and Duties	The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser. The Purchaser shall cover the Insurance premium and L/C charges only. The Purchaser is exempted from the Custom Duty and all other government taxes/levies. The Purchaser will provide an Exemption letter and related documents to the clearing agent of the bidder for custom clearance.

Section V. Special Conditions of Contract

Table of Clauses

1.	Definitions (GCC Clause 1)	34
2.	Country of Origin (GCC Clause 3)	34
3.	Performance Security (GCC Clause 7)	34
4.	Inspections and Tests (GCC Clause 8)	34
5.	Packing (GCC Clause 9)	34
6.	Delivery and Documents (GCC Clause 10)	35
7.	Insurance (GCC Clause 11)	36
8.	Incidental Services (GCC Clause 13)	36
9.	Spare Parts (GCC Clause 14)	36
10.	Warranty (GCC Clause 15)	36
11.	Payment (GCC Clause 16)	36
12.	Prices (GCC Clause 17)	37
13.	Liquidated Damages (GCC Clause 23)	37
14.	Settlement of Disputes (GCC Clause 28)	37
15.	Governing Language (GCC Clause 30)	37
16.	Applicable Law (GCC Clause 31)	37
17.	Notices (GCC Clause 32)	37

Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

1. Definitions (GCC Clause 1)

GCC 1.1 (g)—The Purchaser is: University of Engineering & Technology, Peshawar- Pakistan

GCC 1.1 (h)—The Purchaser's country is: Islamic Republic of Pakistan

GCC 1.1 (i)—The Supplier is: _____

2. Country of Origin (GCC Clause 3)

All countries and territories declared by Government of Pakistan as eligible for procurement of Goods, Works, and Services in Government-Financed Procurement”.

3. Performance Security (GCC Clause 7)

GCC 7.1—The amount of performance security, as a percentage of the Contract Price, shall be 10% of the total contract value which shall be retained by the Purchaser for a period of one year i.e. warranty period.

4. Inspections and Tests (GCC Clause 8)

GCC 8.1— The Purchaser shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications.

GCC 8.2— Should any inspected or tested Goods fail to conform to the Specifications, the Purchaser may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.

GCC 8.3— The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Purchaser's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed prior to the Goods' shipment from the country of origin.

5. Packing (GCC Clause 9)

GCC 9.3—The following SCC shall supplement GCC Clause 9.2:

All the imported equipment shall be packed suitably for export. The Contractor shall be responsible for the equipment to be free from damage or other untoward effects due to transportation. Each package shall be marked as follows:

- a. Consignee
- b. Contact Number
- c. Port of Destination
- d. Final Destination
- e. Number of Case
- f. Gross Weight, Net Weight (kg)
- g. Measurement (length x width x height in cm or inches)

6. Delivery and Documents (GCC Clause 10)

For Goods supplied from abroad:

GCC 10.3— 6.1 The equipment shall be delivered to the Purchaser on the basis of installed and workable condition within 180 days after opening of letter of credit. The supplier shall be responsible for manufacturing and delivery of the equipment/stores from their workshop to the designated location of the Purchaser in Peshawar/Abbottabad.

6.2 Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company in writing the full details of the shipment, including cover note, description of Goods, quantity, the vessel/flight number, the bill of lading / airway bill number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:

- (i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) shipper original clean, on-board bill of lading / airway bill marked "freight prepaid" and 02 copies of nonnegotiable bill of lading/ airway bill;
- (iii) copies of the packing list identifying contents of each package;
- (iv) Original Equipment Manufacturer's or Supplier's warranty certificate;
- (v) Certificate of origin.

6.3 For Goods from within the Purchaser's country:

GCC 10.3—Upon delivery of the Goods to the transporter, the Supplier shall notify the Purchaser in writing and mail the following documents to the Purchaser:

- (i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) delivery note, railway receipt, or truck receipt;
- (iii) Original Equipment Manufacturer's warranty certificate;
- (iv) Certificate of origin.

The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.

7. Insurance (GCC Clause 11)

GCC 11.1—The Purchaser shall arrange for the insurance of the goods and the insurance premium shall be paid by the Purchaser. The insurance shall cover full period of works as defined in the scope of works.

8. Incidental Services (GCC Clause 13)

GCC 13.1—Incidental services to be provided have been provided in GCC 13.1.

9. Spare Parts (GCC Clause 14)

GCC 14.1—Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods, if required.

10. Warranty (GCC Clause 15)

GCC 15.2— The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract.

11. Payment (GCC Clause 16)

GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:

Payment for Goods supplied from abroad:

- i. The Purchaser shall open an irrevocable **Letter of Credit** of one hundred percent (100%) of the whole CPT price.
- ii. One hundred percent (100%) of the letter of credit amount will be paid against presentation of the shipping documents to the bank through the above letter of credit. The required shipping documents include:
 - Clean on board bill of lading/airway bill;
 - Supplier's detailed invoice showing description of the Stores, specifications, quantity, unit price and total price;
 - Detailed packing list;
 - Certificate of origin of the Stores; and
 - Any other document as and when needed.

Payment for Goods and Services supplied from within the Purchaser's country:

Payment for Goods and Services supplied from within the Purchaser's country shall be made in Pak Rupees if quoted by the bidder in its bid, after completion of work.

12. Prices (GCC Clause 17)

GCC 17— Price shall not be adjusted in any case.

13. Liquidated Damages (GCC Clause 23)

GCC 23—Applicable rate:

Maximum deduction upto 10% @ 0.5% per week.

14. Settlement of Disputes (GCC Clause 28)

GCC 28— In the case of a dispute between the Purchaser and the Supplier, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser's country.

15. Governing Language (GCC Clause 29)

GCC 29—The Governing Language shall be English.

16. Applicable Law (GCC Clause 30)

GCC 30—The Applicable Law shall be interpreted in accordance with the laws of Islamic Republic of Pakistan.

17. Notices (GCC Clause 31)

GCC 31.1—**Purchaser's address for notice purposes:**

— University of Engineering & Technology, Peshawar– Pakistan.

— **Supplier's address for notice purposes:**

Section VI. Scope of Work and Schedule of Requirements

The successful supplier shall set up state-of-the-art labs of brand new equipment with standard accessories as detailed in technical specifications; their safe transportation from warehouse to the Purchaser and install, commission, test operate the equipment and train the Purchaser's personnel on the operation and maintenance of such equipment.

In consideration thereof the supplier will quote his price which will cover the cost of all items/activities to be carried out by the supplier for the installation, commissioning, test operation, demonstration of its functions and working, sending Foreign Engineers to the Purchaser's premises and arranging training for the University's Personnel on equipment at the said laboratories. All civil works, if required, for installation, commissioning and training of purchased goods will be carried out by the Purchaser.

The Purchaser shall cover the Insurance premium and L/C charges only. The Purchaser is exempted from the Custom Duty and other government taxes/levies. The Purchaser will timely provide an Exemption letter and related documents to the clearing agent of the bidder for custom clearance.

The work referred to above shall be completed within 365 days after execution of contract with the Purchaser.

Section VII. Technical Specifications

1. GENERAL CONDITIONS

1.1 These specifications explain the General Conditions, Bill of Quantities (Equipment List) and Technical Specifications. The Bill of Quantities indicates the description of equipment to be provided, their quantity and required works in connection with the supply and installation of equipment. **Technical Specifications define the minimum technical requirements for each item of equipment.** General Conditions describe the requirements common to all the equipment.

1.2 Scope of Work

The general scope of the work is to include the following as specifically defined hereunder for supply of equipment and spare parts, and other works on this Project.

1. Supply and Installation of the Equipment.

All the equipment supplied under the Project shall be installed and brought into workable conditions by the supplier at the locations and places designated by the Purchaser in Peshawar/Abbottabad. It is the sole responsibility of the Supplier to deliver the equipment to the site, including, but not limited to, ocean freight/air freight, unloading at the port, customs clearance, inland transportation, unloading at site, unpacking, assembling and installation.

2. Dispatch of Technical Personnel to the site for installation, instructions and commissioning.

1.3 Location

Abbottabad Campus, University of Engineering & Technology Peshawar

2. GENERAL REQUIREMENTS.

2.1 Specifications

Minimum technical requirements for each equipment are described in the Technical Specifications. All the equipment to be supplied shall be brand new and unused and shall be **equal or superior** in quality, performance and standards prescribed on the Technical Specifications.

2.2 Electrical Ratings and Standards.

The equipment shall conform to the following ratings and standards wherever applicable.

1. All the electrically operated equipment specified herein shall be single-phase, AC 220 V \pm 10%, 50 Hz, and three-phase AC 440V \pm 10%, 50 Hz, unless otherwise specified.

2. Electrical Plugs for the equipment shall conform to local regulation and standard.

2.3 Standards and Dimensions.

All the equipment and work shall conform to the International and source country standards wherever/whichever applicable.

All dimensions of the equipment shall be stated in metric system unless otherwise specified in the Technical Specifications.

2.4 Name Plate

All the equipment shall be provided with name plates/ model numbers on a suitable place of the equipment.

2.5 Packing, Transportation and Storage.

2. Packing and Transportation.

All the imported equipment shall be packed suitably for export. The Supplier shall be responsible for the equipment to be free from damage or other untoward effects due to transportation. Each package shall be marked as follows with indelible paint in conspicuous English print words:

- a. Consignee
- b. Contact Number
- c. Port of Destination
- d. Final Destination
- e. Number of Case
- f. Gross Weight, Net Weight (kg)
- g. Measurement (length x width x height in cm or inches)

3. EQUIPMENT

The items specified in the Bill of Quantities shall be supplied by the Supplier on the basis of installed and workable conditions on the location designated by the Purchaser.

4. ACCESSORIES AND SPARE PARTS

4.1 Accessories

The Supplier shall provide Original Equipment Manufacturer's standard accessories as well as all the accessories stipulated in the Technical Specification as a part of the equipment.

4.2 Consumables during Commissioning.

Supplier shall prepare sufficient quantity of reagents, test piece, etc. consumed during commissioning of the installed equipment including instructions on operation and maintenance, wherever applicable.

4.3 Unloading at the port, customs clearance, inland transportation, unloading and unpacking at site, assembling and installation, testing, commissioning and instructions on site including labor and any equipment to be used during installation, and documentation.

5. INSTALLATION, INSPECTION AND EXPATRIATE INSTRUCTIONS

5.1 Each equipment shall be securely installed at designated locations in accordance with the Purchaser's instructions. Prior to the installation, the Supplier shall check and inspect the connection and request the Purchaser to arrange the utility supply from installed outlet by making proper adjustment wherever necessary. The utilities required for installation shall be provided by the Purchaser. The Supplier shall check all components of the equipment to ensure that their working conditions are good in presence of the Purchaser's representative.

5.2 Expatriate for Instructions.

Supplier shall dispatch his Foreign Engineers/Technicians for instructions to the related personnel of the Purchaser on the equipment stipulated in the Bill of Quantities for operation, maintenance and trouble shooting.

6. POST WARRANTY SERVICE REQUIREMENT

In order to provide sufficient maintenance service after the one year warranty period, the Supplier shall offer through his local maintenance service agent (s), the following services.

- a. The Supplier shall guarantee to supply the spare parts of the equipment, if required, upon request by the Purchaser on the cost basis for ten (10) years, upon mutually agreed financial compensation.
- b. In case of major breakage, the Supplier shall send Original Equipment Manufacturers' engineer(s) to the Purchaser within four (4) weeks after the request by the Purchaser to repair such breakage, upon mutually agreed financial compensation.

7. BILL OF QUANTITIES OF ITEMS AND TECHNICAL SPECIFICATIONS

The lists of required goods is given in the subsequent page under the heading “BILL OF QUANTITIES OF ITEMS AND TECHNICAL SPECIFICATIONS”.

1) CIRCUITS LAB - BASIC ELECTRICAL & ELECTRONIC TECHNOLOGY PART 1 (Lot Wise Only – Import Purchase)

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
	Fundamentals of electrical engineering Training System	
14	Electrical engineering: Magnetism/electromagnetism Training Card	8
15	Electrical engineering: Conducting measurements with the multimeter Training Card	8
16	Electrical engineering: Electrical network analysis Training Card	8
17	Electrical engineering: Measurements using an oscilloscope Training Card	8
18	Installation engineering: Protective measures and power network types Training Card	8
	Fundamentals of electronics engineering Training System	
20	Electronics: Transistor and amplifier technology Training Card	8
21	Electronics: Operational amplifiers Training Card	8
22	Electronics: Circuit design using NI Multisim Training Card	8
23	Electronics: PCB layout with NI Ultiboard Training Card	8
	Fundamentals of Digital Electronics Training System	
24	PC Interface with virtual instruments	8
25	PC Interface Experiment work Area	8
26	PC Interface Unit measurement accessories, shunts and connection cables	8
30	DC technology training kit 2mm/4mm plugin system	8
31	AC and three-phase technology training kit 2mm/4mm plugin system	8
32	Semiconductor Components training kit 2mm/4mm plugin system	8
33	Basic Electronics Circuits training kit 2mm/4mm plugin system	8
34	Opto Electronics Circuits training kit 2mm/4mm plugin system	8
35	Experimenter training kit 2mm/4mm plugin system	8
36	set of connection cables and plugs for 2mm system	8
37	4mm plug / 2mm socket	96
38	Analog multimeter AC 300V/3A, DC 300V/10A	8
39	Multi13S digital multimeter or equivalent	8
40	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz or greater	8
41	Sweep Function generator 40mHz - 20MHz with frequency counter	8
42	Multi Power Supply 4x DC, 2x AC, 3-phase, function generator	8
	Instructor Workstation	
43	table with sliding top, approximate 1800x900mm	1

44	PC holder for table	1
45	Container on rollers, 3 drawers + utensil drawer, central locking	1
47	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	1
Work Station for the Trainee		
50	table with sliding top, approximate 1800x900mm with two (2) special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	8
51	PC holder for table	8
52	Container on rollers, 3 drawers + utensil drawer, central locking	8
54	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	8
Storage Facilities		
57	Side cabinet to accommodate PC Interfaced courses, approx 1120x500x912mm	6
58	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
59	Shelf for storage cabinet, approx 960x540x25mm	10

**2) CIRCUITS LAB - DIGITAL TECHNOLOGY AND EMBEDDED SYSTEM
PART 2 (Lot Wise Only – Import Purchase):**

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
Fundamentals of Digital Electronics Training System		
1	PC Interface with virtual instruments	8
12	Introduction to Digital Technology 2mm/4mm plug-in system	8
13	Sequential Circuits 2mm/4mm plug-in system	8
14	Experimenter connecting to main 2mm/4mm system	8
15	set of connection cables and plugs for 2mm system	8
16	4mm plug / 2mm socket	96
17	Analog multimeter AC 300V/3A, DC 300V/10A	8
18	Multi13S digital multimeter or equivalent	8
19	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz or greater	8
20	Sweep Function generator 40mHz - 20MHz with frequency counter	8
21	Multi Power Supply 4x DC, 2x AC, 3-phase, function generator	8
Instructor Workstation		
23	table with sliding top, approximate 1800x900mm	1
24	PC holder for table	1
25	Container on rollers, 3 drawers + utensil drawer, central locking	1
27	Power supply for tables, 4-way socket strip, dual RJ45 socket, CAT 6	1
Work Station for the Trainee		
31	table with sliding top, approximate 1800x900mm with two (2)	8

	special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	
32	PC holder for table	8
33	Container on rollers, 3 drawers + utensil drawer, central locking	8
35	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	8
	Storage Facilities	
40	Side cabinet to accommodate PC Interfaced courses, approx 1120x500x912mm	2
41	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
42	Shelf for storage cabinet, approx 960x540x25mm	8

3) POWER ENGINEERING AND ALTERNATIVE ENERGY LABORATORY PART-1 (Lot Wise Only- Import Purchase):

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
	Fundamentals of Power Systems Engineering	
1	PC Interface with virtual instruments	8
2	PC Interface Experimenter	8
3	PC Interface measurement accessories, shunts and connection cables	8
4	Three-phase transformers Training Card	8
5	Electric Machines: Synchronous and slip-ring machines Training Card	8
6	Electrical engineering: Electromagnetic compatibility (EMC) Training Card	8
7	Power engineering: Photovoltaics Training Card	8
8	Power engineering: Fuel cell technology Training Card	8
9	Power engineering: Transient processes in AC and DC networks Training Card	8
	SCADA controlled workstations for Power Engineering:	
	Power Generation	
10	Synchronization Unit	1
11	Three-phase synchronous machine with smooth core rotor, 1kW	1
12	Multi-function relay, power controller, cos-phi controller, synchronizing unit	1
13	Pumped-Storage power station control unit	1
14	Multi-function relay, power controller, cos-phi controller, synchronizing unit	1
15	Power switch module	1
16	Variable Ohmic load, three-phase, 1kW	1
17	Inductive load, three-phase, 1kW	1

18	Pumped-Storage power station Training Software	1
19	Servo machine test bench for 1kW machines incl. software	1
20	Rubber coupling sleeve, 1kW	1
21	Coupling guard, 1kW	1
22	Shaft end guard, 1kW	1
23	Servo-machine test stand safety and operating instructions Chart	1
24	Mains Synchronisation and Automatic Generator Control Training Software	1
25	Transformer / Generator differential protection relay	1
26	Rotor-earth fault relay	1
	<u>Media:</u>	
27	Generator protection Training Software	1
	<u>Software:</u>	
28	interface converter cable USB/RS485	1
29	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
30	USB Network Adapter 10/100 BaseTX RJ45	1
31	5-Port Ethernet Switch	1
32	Interface converter cable USB/CAN	1
	<u>Power supply:</u>	
33	Universal power supply for DC and Three-Phase Current	1
34	Exciter voltage controller with de-excitation	1
35	Motor protection switch, 3 pole, 1.6-2.5A	1
36	Multiple socket outlet, 5 fold	1
	<u>Measuring instruments:</u>	
37	Three Phase Power Quality Meter with display and long-term memory	1
38	Analog/digital multimeter, wattmeter + power-factor meter incl. Software	1
	<u>Accessories:</u>	
39	Safety connection plug 19mm/4mm, black, with tapping	8
40	Safety connection plug 19mm/4mm, black	16
41	Safety connection plug 19mm/4mm, blue	2
42	Safety connection plug 19mm/4mm, green/yellow	2
43	Set of safety measurement cables, 4mm (23 leads)	1
	<u>Mobile Work Station</u>	
44	Mobile aluminium experiment stand, 3 levels, 6x earthed sockets, approx 1250x700x1955mm	2
45	PC holder for experiment trolleys, height and width adjustable	2
46	Monitor holder for flat screen monitor	2
47	Keyboard and mouse platform for the aluminium profile system	2
48	Wall or aluminium-profile mounting cable storage for 48 cables or more	2
	<u>Wind Power Plants</u>	
49	Control unit for wind turbine double-fed asynchronous generator	1
50	Three-phase multi-function machine, 1.0kW	1

51	3-phase isolation transformer, 1kW for wind power plants	1
52	Incremental position encoder 1024 pulses	1
53	Dynamic grid fault simulator	1
	<u>Machine test bench equipment set for servo-drive/braking system:</u>	
54	Servo machine test bench for 1kW machines incl. software	1
55	Rubber coupling sleeve, 1kW	2
56	Coupling guard, 1kW	2
57	Servo-machine test stand safety and operating instructions Chart	1
	<u>Power supply:</u>	
58	Universal power supply for DC and Three-Phase Current	1
	<u>Measuring instruments:</u>	
59	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz	8
60	Sweep Function generator 40mHz - 20MHz with frequency counter	8
	<u>Accessories:</u>	
61	Safety connection plug 19mm/4mm, black, with tapping	20
62	Safety connection plug 19mm/4mm, black	20
63	Safety connection plug 19mm/4mm, green/yellow	4
64	Safety connection plug 19mm/4mm, blue	2
65	Set of safety measurement cables, 4mm (23 leads)	1
	<u>Mobile Work Station</u>	
66	Mobile aluminium experiment stand, 3 levels, 6x earthed sockets, approx 1250x700x1955mm	1
67	PC holder for experiment trolleys, height and width adjustable	1
68	Monitor holder for flat screen monitor	1
69	Keyboard and mouse platform for the aluminium profile system	1
70	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
	<u>Photovoltaics</u>	
71	Solar module simulation model, 3-fold, 23V / 2A	1
72	Solar module with solar altitude emulator	1
73	Load unit 1kOhm, 500W	1
74	Solar charge controller 12/24V, 6A	1
75	Solar Accumulator 12V, 7Ah	1
76	Off-grid inverter 230V, 275VA	1
77	Lamp board 12V	1
78	Lamp board 230V	1
79	Industrial photovoltaics inverter	1
80	Energy monitor	1
81	Single-phase mains supply with switch, circuit breaker and earth-contact socket	1
82	Safety connection plug 19mm/4mm, black, with tapping	5
83	Safety connection plug 19mm/4mm, black	20
84	Safety connection plug 19mm/4mm, red	10
85	Safety connection plug 19mm/4mm, blue	5

86	Safety connection plug 19mm/4mm, green/yellow	5
87	Set of safety measurement cables, 4mm (23 leads)	1
88	Safety measurement cable (4mm), 50cm, red	4
89	Mobile aluminium experiment stand, 3 levels, 6x earthed sockets, approx 1250x700x1955mm	1
90	Protection cover for three-level experiment trolleys	1
91	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
92	PC holder for experiment trolleys, height and width adjustable	1
93	Monitor holder for flat screen monitor	1
	<u>Accessories:</u>	
94	Safety connection plug 19mm/4mm, black	6
95	Safety measurement cable (4mm), 50cm, red	3
96	Safety measurement cable (4mm), 50cm, black	3
	<u>Mobile Work Station</u>	
97	Mobile aluminium experiment stand, 3 levels, 6x earthed sockets, approx 1250x700x1955mm	1
98	PC holder for experiment trolleys, height and width adjustable	1
99	Monitor holder for flat screen monitor	1
100	Keyboard and mouse platform for the aluminium profile system	1
101	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
	<u>Transformers</u>	
102	Isolating transformer, Three-phase, 1kW	1
103	Power switch module	1
104	Inductive load, three-phase, 1kW	1
105	Capacitive load, three-phase, 1kW	1
106	Variable Ohmic load, three-phase, 1kW	1
107	Interactive Lab Assistant: Transformers	1
108	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
109	USB Network Adapter 10/100 BaseTX RJ45	1
110	5-Port Ethernet Switch	1
111	Transformer / Generator differential protection relay	1
112	Power switch module	2
113	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
114	Time Overcurrent Relay	1
	<u>Software:</u>	
115	Interface converter USB/RS485	1
116	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
117	USB Network Adapter 10/100 BaseTX RJ45	1
118	5-Port Ethernet Switch	1
	<u>Power supply:</u>	
119	Adjustable 3-phase power supply, 0-450V/2A, 72PU	1
120	Table-top housing for 72PU insert with CEE three-phase connector	1
121	Multiple socket outlet, 5 fold	1

	<u>Measuring instruments:</u>	
122	Three Phase Power Quality Meter with display and long-term memory	2
	<u>Accessories:</u>	
123	Safety connection plug 19mm/4mm, black, with tapping	10
124	Safety connection plug 19mm/4mm, black	30
125	Safety connection plug 19mm/4mm, blue	2
126	Safety connection plug 19mm/4mm, green/yellow	2
127	Set of safety measurement cables, 4mm (23 leads)	1
	<u>Mobile Work Station</u>	
128	Mobile aluminium experiment stand, 3 levels, 6x earthed sockets, approx 1250x700x1955mm	2
129	PC holder for experiment trolleys, height and width adjustable	2
130	Monitor holder for flat screen monitor	2
131	Keyboard and mouse platform for the aluminium profile system	2
132	Wall or aluminium-profile mounting cable storage for 48 cables or more	2
	<u>Power transmission</u>	
133	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
134	Capacitive load, three-phase, 1kW	1
135	Variable Ohmic load, three-phase, 1kW	1
136	Inductive load, three-phase, 1kW	1
137	Power switch module	1
138	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
139	Earth fault compensation unit	1
140	Exciter voltage controller with de-excitation	1
141	Synchronization Unit	1
142	Three-phase synchronous machine with smooth core rotor, 1kW	1
143	Servo machine test bench for 1kW machines incl. software	1
144	Rubber coupling sleeve, 1kW	1
145	Coupling guard, 1kW	1
146	Shaft end guard, 1kW	1
147	Servo-machine test stand safety and operating instructions Chart	1
148	Cable Model 12,5 km / 37,5 km (7.8 miles / 23.3 miles) or greater	1
149	Conversion station 380 V/110 V	1
150	Cable Model 12,5 km / 37,5 km (7.8 miles / 23.3 miles) or greater	1
151	Conversion station 380 V/110 V	1
152	Three Phase Power Quality Meter with display and long-term memory	2
	<u>Protective systems for high-voltage transmission lines</u>	
153	Time Overcurrent Relay	1
154	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1

155	Power switch module	2
156	Variable Ohmic load, three-phase, 1kW	1
157	Time Overcurrent Relay with directional feature	1
158	Time Over / Undervoltage Relay	1
159	Power and Reverse power relay	1
160	Earth fault voltage Relay	1
161	Voltage transformer, 3 phase	1
162	Time Overcurrent Relay	1
163	Time Overcurrent Relay with directional feature	2
164	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
165	Power switch module	1
166	High-speed distance protection relay	1
167	Voltage transformer, 3 phase	1
168	Current transformer, 3 phase	1
169	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
	<u>Software:</u>	
170	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
171	USB Network Adapter 10/100 BaseTX RJ45	1
172	5-Port Ethernet Switch	1
173	Interface converter USB/RS485	1
	<u>Measuring instruments:</u>	
174	Three Phase Power Quality Meter with display and long-term memory	1
175	Multi13S digital multimeter or equivalent	8
176	Relay Test Unit	1
	<u>Power supply:</u>	
177	Adjustable 3-phase power supply, 0-450V/2A, 72PU	1
178	Table-top housing for 72PU insert with CEE three-phase connector	1
179	Multiple socket outlet, 5 fold	2
	<u>Accessories:</u>	
180	Safety connection plug 19mm/4mm, black, with tapping	10
181	Safety connection plug 19mm/4mm, black	20
182	Safety connection plug 19mm/4mm, blue	2
183	Safety connection plug 19mm/4mm, green/yellow	2
184	Set of safety measurement cables, 4mm (23 leads or more)	1
185	Connection plugs for PROFIBUS with PG socket and terminating resistor	5
186	Connection cable for PROFIBUS, per metre	10
187	Wire stripper for PROFIBUS cables	1
	<u>Mobile Work Station</u>	
188	mobile experiment trolley with experiment frame, approx 1200mm, 2 levels	1
189	Wall or aluminium-profile mounting cable storage for 48 cables or more	1

190	PC holder for experiment trolleys, height and width adjustable	1
191	Monitor holder for flat screen monitor	1
	<u>Electric Power Distribution</u>	
192	Double busbar unit, three-phase, incoming / outgoing feeder	1
193	Double busbar unit, three-phase, coupler panel	1
194	Variable Ohmic load, three-phase, 1kW	1
195	Ohmic load 3x 560 Ohm	1
196	Three-phase asynchronous motor, squirrel-cage, 1kW	1
197	Shaft end guard, 1kW	1
198	Transmission line Model 150km/300km (93.2miles/186.4miles) or greater	1
199	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	2
200	USB Network Adapter 10/100 BaseTX RJ45	1
201	5-Port Ethernet Switch	1
202	Interface converter USB/RS485	1
203	Set of Balancing transformer	1
204	Time Overcurrent Relay	1
205	Power switch module	1
	<u>Software:</u>	
206	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
207	USB Network Adapter 10/100 BaseTX RJ45	1
208	5-Port Ethernet Switch	1
209	Interface converter USB/RS485	1
	<u>Power supply:</u>	
210	Adjustable 3-phase power supply, 0-450V/2A, 72PU	1
211	Table-top housing for 72PU insert with CEE three-phase connector	1
212	Multiple socket outlet, 5 fold	1
	<u>Measuring instruments:</u>	
213	Three Phase Power Quality Meter with display and long-term memory	1
	<u>Accessories:</u>	
214	Safety connection plug 19mm/4mm, black, with tapping	10
215	Safety connection plug 19mm/4mm, black	30
216	Safety connection plug 19mm/4mm, blue	5
217	Safety connection plug 19mm/4mm, green/yellow	10
218	Set of safety measurement cables, 4mm (23 leads or more)	1
219	Safety measurement cable (4mm) , 25cm, black	6
220	Connection plugs for PROFIBUS with PG socket and terminating resistor	5
221	Connection cable for PROFIBUS, per metre	10
222	Wire stripper for PROFIBUS cables	1
	<u>Mobile Work Station</u>	
223	mobile experiment trolley with experiment frame, approx 1200mm, 2 levels	2
224	Wall or aluminium-profile mounting cable storage for 48 cables or more	2

225	PC holder for experiment trolleys, height and width adjustable	2
226	Monitor holder for flat screen monitor	2
	<u>Energy management</u>	
227	Variable Ohmic load, three-phase, 1kW	1
228	Capacitive load, three-phase, 1kW	1
229	Inductive load, three-phase, 1kW	1
230	Three-phase asynchronous motor, squirrel-cage, 1kW	1
231	Star-Delta switch	1
232	Servo machine test bench for 1kW machines incl. software	1
233	Rubber coupling sleeve, 1kW	1
234	Coupling guard, 1kW	1
235	Shaft end guard, 1kW	1
236	Servo-machine test stand safety and operating instructions Chart	1
237	Reactive Power controller	1
238	Switchable Capacitor Battery	1
	<u>Power supply:</u>	
239	Universal power supply for DC and Three-Phase Current	1
240	Adjustable 3-phase power supply, 0-450V/2A, 72PU	1
241	Table-top housing for 72PU insert with CEE three-phase connector	1
	<u>Measuring instruments:</u>	
242	Three Phase Power Quality Meter with display and long-term memory	1
	<u>Software:</u>	
243	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	1
244	USB Network Adapter 10/100 BaseTX RJ45	1
245	5-Port Ethernet Switch	1
	<u>Accessories:</u>	
246	Power switch module	1
247	Safety connection plug 19mm/4mm, black, with tapping	10
248	Safety connection plug 19mm/4mm, black	20
249	Safety connection plug 19mm/4mm, blue	2
250	Safety connection plug 19mm/4mm, green/yellow	2
251	Set of safety measurement cables, 4mm (23 leads or more)	1
	<u>Mobile Work Station</u>	
252	mobile experiment trolley with experiment frame, 1200mm, 2 levels	1
253	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
254	PC holder for experiment trolleys, height and width adjustable	1
255	Monitor holder for flat screen monitor	1
	<u>"Smart Grid" - Intelligent power mains</u>	
	<u>Media:</u>	
256	Smart Grid Training software	1
	<u>Software:</u>	
257	software Scada viewer	1

258	Software SCADA for PowerLab, designer software	1
259	Software parameter setting, for power-lab protection relays	1
	<u>Accessories:</u>	
260	Patch cable Cat5E 1x 1m yellow, 2x 2m yellow	2
261	USB Network Adapter 10/100 BaseTX RJ45	1
262	5-Port Ethernet Switch	1
263	Safety connection plug 19mm/4mm, black, with tapping	10
264	Safety connection plug 19mm/4mm, blue	5
265	Safety connection plug 19mm/4mm, green/yellow	10
266	Safety connection plug 19mm/4mm, black	30
267	Set of safety measurement cables, 4mm (23 leads or more)	2
268	Safety measurement cable (4mm) , 25cm, black	6
269	Interface converter USB/RS485	1
270	Connection plugs for PROFIBUS with PG socket and terminating resistor	10
271	Connection cable for PROFIBUS, per metre	20
272	Wire stripper for PROFIBUS cables	1
	<u>Laboratory Facilities</u>	
	Instructor Workstation	
273	table with sliding top, approx 1800x900mm (C-shaped base)	1
274	PC holder for table	1
275	Container on rollers, 3 drawers + utensil drawer, central locking	1
277	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	1
279	Multiple socket outlet, 6 fold, with illuminated switch	1
	Work Station for the Trainee	
280	table with sliding top, approx 1800x900mm (C-shaped base) with two (2) special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	8
281	PC holder for table	8
282	Container on rollers, 3 drawers + utensil drawer, central locking	8
284	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	8
286	Multiple socket outlet, 6 fold, with illuminated switch	10
	Storage Facilities	
288	Side cabinet to accommodate PC Interface courses, approx 1120x500x912mm	2
289	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
290	Shelf with grooved mat on underside, approx 960x540x19mm	2
291	Shelf with grooved mat on both sides, approx 960x540x19mm	6
292	Shelf with grooved mat on upper side, approx 960x540x19mm	2
293	Storage cabinet, 2 hinged doors with glass window, approx 1000x600x2039mm	4
294	Shelf for storage cabinet, approx 960x540x19mm	20

POWER ENGINEERING AND ALTERNATIVE ENERGY LABORATORY**PART-2 (Lot Wise Only- Local Purchase):**

S.No	Equipment Name and Specification	Qty
278	Padded swivel chair with armrests, continuous height adjustment via gas lift	1
287	Standard PC with 22 " flat screen monitor, keyboard and mouse	8
295	Multimedia projector with CONNECTIVITY of HDMI, USB, LAN, Wi-Fi, Brightness greater than 3,800 Lumens with suitable sized electric screen with remote	1

4) ELECTRIC MACHINES, POWER ELECTRONICS & DRIVES LABORATORY (Lot Wise Only – Import Purchase):

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
	Industrial Applications: DC Machine & Drives	
	DC machines	
1	DC multi-circuit, compound wound machine, 0.3kW	4
2	Universal rheostat for 300W machines	4
	Media:	
3	DC machines 0.3 kW Training software	1
4	Line commutated converter circuits	
5	Line-commutated power converters circuits	4
6	Three-phase isolating transformer 300VA	4
7	Power electronics load set, 300 W	4
	Media:	
8	Line-commutated power converter circuits Training software	1
9	Converter drives with DC motors	
10	DC multi-circuit, compound wound machine, 0.3kW	4
11	Exciter for 0-200V regulating transformer	4
12	Tachogenerator 1V/1000 r.p.m., 0.3kW	4
13	Coupling guard, 0.1/0.3kW, transparent	4
14	Rubber coupling sleeve, 0.3kW	4
	Machine test bench equipment set for servo-drive/braking system:	
15	Servo machine test stand for 0.3kW machines incl. software	4
16	Rubber coupling sleeve, 0.3kW	4
17	Coupling guard, 0.1/0.3kW, transparent	4
18	Chart, Servo-machine test stand safety and operating instructions	4
	Power supply:	
19	Universal power supply for electrical machines	4
	Measuring instruments:	

20	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz	4
	<u>Accessories:</u>	
21	Set of safety measurement cables, 4mm (31 leads or more)	4
22	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	16
23	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	16
24	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	16
25	Safety connecting plug 4mm with tap (2x), green/yellow, 1000V/32A CAT II	16
	Mobile Work Station	
26	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	4
27	Wall or aluminium-profile mounting cable storage for 48 cables or more	4
28	PC holder for experiment trolleys, height/width adjustable	4
29	Keyboard and mouse platform for the aluminium profile system	4
30	Monitor holder for flat screen monitor	4
	Industrial Applications: AC Machines	
31	Universal motor, 0.3kW	4
32	Cut-out switch, 4 pole	4
33	AC-motor with bifilar winding, 0.3kW	4
34	AC-motor with starting & operating capacitor, 0.3kW	4
	Self-commutated converter circuits	
35	Self-commutated converter circuits	4
36	Three-phase isolating transformer 300VA	4
37	Power electronics load set, 300 W	4
	Frequency converter drives with three-phase asynchronous motor	
38	Three-phase asynchronous motor, 0.3kW n=1400 (230V/400V)	4
	Converter drives with DC motor	
39	DC multi-circuit, compound wound machine, 0.3kW	4
40	Tachogenerator 1V/1000 r.p.m., 0.3kW	4
41	Coupling guard, 0.1/0.3kW, transparent	4
42	Rubber coupling sleeve, 0.3kW	4
	Field-oriented control of asynchronous machine with Matlab - Simulink 300W	
43	USB adapter with Matlab toolbox for power electronics	4
44	Incremental position encoder 1024 pulses	4
	<u>Media:</u>	
45	Field-oriented control using Matlab-Simulink training software	1
	Regulated permanent magnet servo drive with Matlab - Simulink 300W	

46	Synchronous servo motor 0.3kW	4
47	Servo drives using Matlab-Simulink training software	1
	DC drives with cascade control using Matlab - Simulink 300W	
48	DC multi-circuit, compound wound machine, 0.3kW	4
49	Exciter for 0-200V regulating transformer	4
	<u>Machine test bench equipment set for servo-drive/braking system:</u>	
50	Servo machine test stand for 0.3kW machines incl. software	4
51	Rubber coupling sleeve, 0.3kW	4
52	Coupling guard, 0.1/0.3kW, transparent	4
53	Chart, Servo-machine test stand safety and operating instructions	4
	<u>Power supply:</u>	
54	Universal power supply for electrical machines	4
	<u>Measuring instruments:</u>	
55	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz	4
	<u>Accessories:</u>	
56	Set of safety measurement cables, 4mm (31 leads or more)	4
57	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	16
58	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	16
59	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	16
60	Safety connecting plug 4mm with tap (2x), green/yellow, 1000V/32A CAT II	16
	Mobile Work Station	
61	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	4
62	Wall or aluminium-profile mounting cable storage for 48 cables or more	4
63	PC holder for experiment trolleys, height/width adjustable	4
64	Keyboard and mouse platform for the aluminium profile system	4
65	Monitor holder for flat screen monitor	4
	Industrial Application: Smooth Start and Frequency Converters	
66	Smooth starter industrial type for 3-phase asynchronous machines up to 1kW	1
67	Three-phase asynchronous motor, 0.3kW n=1400 (230V/400V)	1
	<u>Media:</u>	
68	Industrial smooth starter, freq. converter 0.3 kW training software	1
69	Frequency converter drives	
70	Frequency converter 0.75kW (Lenze 8400 or equivalent)	1

71	Brake resistor 0.2kW for frequency converters	1
72	PROFIBUS DP interface module for frequency converter Lenze 8400 or equivalent	1
	<u>Media:</u>	
73	Industrial smooth starter, freq. converter 0.3 kW training software	1
74	Chart, Set frequency converter 8400vector (2 pcs or more)	1
	<u>Machine test bench equipment set for servo-drive/braking system:</u>	
75	Servo machine test stand for 0.3kW machines incl. software	1
76	Rubber coupling sleeve, 0.3kW	1
77	Coupling guard, 0.1/0.3kW, transparent	1
78	Servo-machine test stand safety and operating instructions Chart	1
	<u>Power supply:</u>	
79	Universal power supply for electrical machines	1
	<u>Accessories:</u>	
80	Set of safety measurement cables 4mm (23pcs or more)	1
81	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	15
82	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	5
	Mobile Work Station	
83	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	1
84	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
85	PC holder for experiment trolleys, height/width adjustable	1
86	Keyboard and mouse platform for the aluminium profile system	1
87	Monitor holder for flat screen monitor	1
	Industrial Application: Positioning and Motor Management Positioning with servo drives/braking system	
88	Synchronous servo with motor, resolver & software	1
89	Linear unit 800/12	1
	<u>Media:</u>	
90	Manual, Synchronous servo system	1
	Positioning with linear axis	
	<u>Software:</u>	
91	Software Posi Drive for servo machine test stand V1.0 or equivalent	1
	<u>Media:</u>	
92	Manual, Positioning	1
93	Motor management relays	
94	Motor management relay with parameter setting software	1
95	Three-phase asynchronous motor, squirrel-cage, 0.3 kW	1

	<u>Media:</u>	
96	Manual, Controlling motors with motor management relays	1
97	Motor management relay set Chart (2 charts)	1
	<u>Machine test bench equipment set for servo-drive/braking system:</u>	
98	Servo machine test stand for 0.3kW machines incl. software	1
99	Rubber coupling sleeve, 0.3kW	1
100	Coupling guard, 0.1/0.3kW, transparent	1
101	Servo-machine test stand safety and operating instructions Chart	1
	<u>Power supply:</u>	
102	Universal power supply for electrical machines	1
	<u>Measuring instruments:</u>	
103	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz or greater	1
	<u>Accessories:</u>	
104	Set of safety measurement cables 4mm (23pcs or more)	1
105	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	10
106	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	5
	<u>Mobile Work Station</u>	
107	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	1
108	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
109	PC holder for experiment trolleys, height/width adjustable	1
110	Keyboard and mouse platform for the aluminium profile system	1
111	Monitor holder for flat screen monitor	1
	<u>Fault simulation on electrical machines</u>	
112	Fault simulator for three-phase asynchronous squirrel-cage motor	1
113	Three-phase asynchronous motor, squirrel-cage, 0.3 kW	1
114	Insulation tester "Insu 10" or equivalent	1
	<u>Media:</u>	
115	Manual, Troubleshooting on electrical machines	1
	<u>Protection for electrical machines</u>	
116	Board for motor protection systems 300W	1
117	Three-phase induction motor with various temperature sensors, 0.3kW	1
118	Multi 18 digital multimeter or equivalent	1
	<u>Media:</u>	
119	Manual, Protection for electrical machines with servo-brake	1
	<u>Machine test bench equipment set for servo-drive/braking system:</u>	
120	Servo machine test stand for 0.3kW machines incl. software	1

121	Rubber coupling sleeve, 0.3kW	1
122	Coupling guard, 0.1/0.3kW, transparent	1
123	Servo-machine test stand safety and operating instructions Chart	1
	<u>Power supply:</u>	
124	Universal power supply for electrical machines	1
	<u>Measuring instruments:</u>	
125	Digital/analog multimeter, wattmeter, power-factor incl. software	1
	<u>Accessories:</u>	
126	Set of safety measurement cables 4mm (23pcs or more)	1
127	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	8
128	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	4
	Mobile Work Station	
129	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	1
130	Wall or aluminium-profile mounting cable storage for 48 cables or more	1
131	PC holder for experiment trolleys, height/width adjustable	1
132	Keyboard and mouse platform for the aluminium profile system	1
133	Monitor holder for flat screen monitor	1
	Industrial Application: Transformers	
134	Transformer trainer	4
135	RLC load	4
	<u>Media:</u>	
136	Manual, Single-phase and three-phase transformers	4
	<u>Measuring instruments:</u>	
137	Multi13S digital multimeter or equivalent	4
	<u>Accessories:</u>	
138	Set of safety measurement cables 4mm (23pcs or more)	4
139	Safety connecting plug 4mm with tap (2x), black, 1000V/32A CAT II	16
140	Safety connecting plug 4mm with tap (2x), blue, 1000V/32A CAT II	8
	Mobile Work Station	
141	Mobile aluminium experiment stand, 3 levels, power strip with 6 sockets, approx 1250x700x1995mm	4
142	Wall or aluminium-profile mounting cable storage for 48 cables or more	4
143	PC holder for experiment trolleys, height/width adjustable	4
144	Keyboard and mouse platform for the aluminium profile system	4
145	Monitor holder for flat screen monitor	4

146	Electric Machines: Stepper motors Training Card	4
147	Electric Machines: BLDC/servo motors Training Card	4
148	PC Interface with virtual instruments	4
149	PC Experiment Training Card Holder	4
150	PC Interface measurement accessories, shunts and connection cables	4
151	digital multimeter	4
153	table with sliding top, approximate 1800x900mm with three (3) special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	5
154	PC holder for table	5
155	Container on rollers, 3 drawers + utensil drawer, central locking	5
157	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	5
159	Multiple socket outlet, 6 fold, with illuminated switch	5
	Storage Facilities	
161	Side cabinet to accommodate PC Interfaced courses, approx 1120x500x912mm	4
162	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
163	Shelf with grooved mat on underside, approx 960x540x19mm	2
164	Shelf with grooved mat on both sides, approx 960x540x19mm	6
165	Shelf with grooved mat on upper side, approx 960x540x19mm	2
166	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
167	Shelf for storage cabinet, approx 960x540x25mm	10

5) **PROCESS CONTROL & MEASUREMENT LAB EQUIPMENT PART-1**
(Lot Wise Only – Import Purchase):

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
17	PC Interface with virtual instruments	8
18	PC Interface Experiment Card Holder	8
19	PC Interface measurement accessories, shunts and connection cables	8
	Measurement of Non-Electric Values	
25	Measurement technology: Non-electric values T/P/F Training Card	8
26	Measurement technology: Non-electric values displacement/angle/speed	8
	Measurement of Electric Values	
27	Measurement technology: Electric values V/I/P/cos-phi/f	8
28	Measurement technology: RLC measurement	8
32	Multi13S digital multimeter or equivalent	4
33	Digital dual trace storage oscilloscope w. colour display, incl. probes 30MHz or greater	4
	Servo Technology	
32	Control technology: Servo motor technology	8
	Instructor Workstation	
33	table with sliding top, approximate 1800x900mm	1
34	PC holder for table	1
35	Container on rollers, 3 drawers + utensil drawer, central locking	1
37	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	1
	Work Station for the Trainee	
40	table with sliding top, approximate 1800x900mm with two (2) special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	8
41	PC holder for table	8
42	Container on rollers, 3 drawers + utensil drawer, central locking	8
44	Power supply for multimedia tables, 4-way socket strip, dual RJ45 socket, CAT 6	8
	Storage Facilities	
48	Side cabinet to accommodate PC Interface courses, approx 1120x500x912mm	2
49	Storage cabinet, 2 hinged doors, approx 1000x600x2039mm	2
50	Shelf for storage cabinet, approx 960x540x25mm	8

PROCESS CONTROL & MEASUREMENT LAB EQUIPMENT PART-2 (Lot Wise Only – Local Purchase):

S.No	Equipment Name and Specification	Qty
38	Cushioned swivel chair with armrests, adjustable to any height by means of gas lift pillar	1
39	Multiple socket outlet, 6 fold, with illuminated switch	1
46	Multiple socket outlet, 6 fold, with illuminated switch	8
	LAN and PC's	
47	Standard PC with 22" TFT screen, optical mouse, Windows	8
	Chalk board / white board / projector screen	
51	Multimedia projector with connectivity of HDMI, USB, LAN, Wi-Fi, brightness greater than 3,800 Lumens with suitable sized electric screen with remote	1

6) CENTRAL ELECTRICAL WORKSHOP PART 1 (LOT-WISE ONLY – IMPORT PURCHASE):

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S No.	Item Description	Qty
1	Training system to teach the fundamentals of AC/DC and Three-Phase Electrical Systems	4
2	Training system to teach testing of protective systems in buildings in accordance with standards and regulations	4
3	Tester for equipment conforming to DIN VDE IN VDE 0701-0702,	4
4	Testing adapter set for various VDE tests	4
5	Installation tester for testing protective circuitry according to DIN VDE 0100, RCD type B	4
6	Digital multimeter 3¾-digit multimeter; resolution: ±3,100 digits, Voltage and current measuring ranges: 30 mV-1000 V DC, 3 V-1000 V AC; 3 mA-16 A DC; 30 mA-10 A AC, Resistance ranges: 30 ohm-30 Mohm	8
	Residential & Industrial wiring planning & installation training systems	
7	Building service entry trainer teaching interface, house connection, distribution all with fault simulation	2
8	Wiring installation for lighting and appliance circuits training system teaching interface, lighting & appliance wiring all with fault simulation	2
9	Set of safety measurement cables, 4mm having appropriate number of leads for experiments	2
10	Industrial electricity distribution training system teaching interface for industrial distribution system all with fault simulation	2

11	Voltage, phase + continuity tester with field direction indicator, max. 690V	2
12	Mobile stand for Residential & Industrial wiring planning & installation training system	2
13	Mobile stand mounting storage for 4mm cables	2
	Equipment for practical exercises in wiring installation	
	Building installation	
14	Installation materials Set 1: 1 Automatic fuse, A 1 On-off switch with indicator light 2 Change-over switches 1 Multiple switch 1 Cross-over switch 3 Push-buttons 2 Sockets with earth contacts 2 PVC connectors for switches 3 Junction boxes 3 Oval lamps, LED 1 Remote current pulse switch 1S9; 230 V 1 Stairway light controller 10 Screw connections PG 16 13 Blank plugs PG 16 3x 3m long ISO-S pipe PG11 3 ISO-S bends PG11 with clamp	4
15	Set of installation materials Set 2: 2 Fluorescent lamp sockets 2 Fluorescent lamp sockets with starter sockets 2 Starters 2 Fluorescent lamps, 20 W 2 Ballasts, 20 W 1 Ballast, 40 W 1 Capacitor, 2.7 μ F with fastening clip	4
16	Wiring fastening set: 20 ISO clips 6-16, single-fold 7 ISO clips 6-16, 2-fold	4
17	clamping materials for leads and cables: 15 Sets of screw terminals 30 Clamp terminals, 5-pole 1.5 mm ² 1 Roll of Coroplast	4
18	Electric Cables: 150 m NYM-J cable, 3x 1.5 mm ² 50 m NYM-O cable, 3x 1.5 mm ² 150 m NYM-J cable, 5x 1.5 mm ² 200 m HO7V-U wire, 1.5 mm ² , black 100 m HO7V-U wire, 1.5 mm ² , blue 100 m HO7V-U wire, 1.5 mm ² , yellow/green 200 m HO7V-U wire, 1.5 mm ² , brown	1
19	Exercise Manual for Assembly practice on wiring installation and fluorescent light circuits	1
	Door bell and intercom systems	
20	Set of materials for assembly of doorbell circuit	4

	3 Junction boxes 6 Doorbell buttons 1 Door opener, 4 - 8 V 2 Acoustic signal units with a flat shell, 5 - 8 V 1 Bell transformer, 3-5-8 V/2 A 11 Screw connections, PG16 10 Blank plugs PG16 5 ISO-S pipes, 365mm long, PG11 2 ISO-S pipes, 200mm long, PG11 3 ISO-S bends PG11 with sleeve	
21	Set of wires: 100m YR wire, 0.8 mm ² , black 100m YR wire, 0.8 mm ² , white 100m YR wire, 0.8 mm ² , blue 100m YR wire, 0.8 mm ² , brown	1
22	Set of materials for intercom 1 Entrance intercom station 2 Building intercom stations 1 Power supply unit	4
23	Exercise Manual for Wiring practice with door bell and intercom systems	1
	Building mains feeds and meter cabinets	
24	Meter cabinet set: Meter cabinet Mains feed panel with bus bars Meter panel 6-row distribution panel Selective line circuit breakers, 3-pole Three-phase meter, 40 A RCD, 30mA, 3-pole B16 line circuit breaker, 3-pole 2 x B16 line circuit breakers, 1-pole Phase rail Main supply line junction terminals Small components for meter cabinet Set of labels	4
25	Set of installation circuits: 1 Cross-over switch 2 Two-way switches 1 Touch switch 1 Remote switch 1 Mains socket 1 CEE socket 1 Lighting strip with fluorescent tube 1 Storage case for wiring material	4
26	clamping materials for leads and cables: 15 Sets of screw terminals 30 Clamp terminals, 5-pole 1.5 mm ² 1 Roll of Coroplast	4
27	Electric Cables: 150 m NYM-J cable, 3x 1.5 mm ² 50 m NYM-O cable, 3x 1.5 mm ²	1

	150 m NYM-J cable, 5x 1.5 mm ² 200 m HO7V-U wire, 1.5 mm ² , black 100 m HO7V-U wire, 1.5 mm ² , blue 100 m HO7V-U wire, 1.5 mm ² , yellow/green 200 m HO7V-U wire, 1.5 mm ² , brown	
28	Wiring fastening set: 20 ISO clips 6-16, single-fold 7 ISO clips 6-16, 2-fold	4
29	Exercise Manual for Planning and installation of building mains feed	1
	Switching units	
30	Set of materials: 3 Main contactors 230 V 2 Time-delay relays, delayed response 2 Push-buttons 1 Overcurrent relays 1 Red indicator lamp 1 Green indicator lamp 1 Switch	4
31	Terminal strip set1 for for wiring control circuits: 15 Terminal strips, grey 5 Terminal strips, blue 5 Terminal strips, green/yellow 1 Bridge terminal 2 End terminals Strip labelling band	4
32	Terminal strip set2 for for wiring control circuits: 6 Terminal strips, grey 1 Terminal strip, green/yellow 1 Bridge terminal 2 End terminals Strip labelling band 7 Test plugs 7 Adapter plugs	4
33	Set of NEOZED fuses for circuits protection: 4 Fuse sockets 3 Fuses, 10 A 1 Fuse, 2 A	4
34	Cable duct (channel) wiring support unit	4
35	Wiring fastening set: 20 ISO clips 6-16, single-fold 7 ISO clips 6-16, 2-fold	4
36	Electric Cables: 400 m H07V-K cable, 1 x 1.5 mm ² , black 100 m NYSLY-J cable, 7 x 1.5 mm ² , black 100 m NYM-I cable, 3 X 1.5 mm ² , black 100 m NYM-I cable, 4 X 1.5 mm ² , black 100 m NYM-I cable, 5 X 1.5 mm ² , black 1000 wire sleeves 1.5mm ² , EER2061/1.5-12	1
37	Exercise Manual for Practice on Switchgear Circuits	1
	Measuring Instruments	

38	Voltage, phase + continuity tester with field direction indicator, max. 690V	4
39	TRMS digital multimeter MetraHit 2+, CAT III or equivalent	4
	Accessories	
40	Storage tray for SE boxes, reinforced, (10 boxes)	12
41	Storage tray for installation materials, reinforced base	8
42	Set of plastic dowels for punched hole frame	4
43	Set of screws for punched hole frame 50 screws, 3.5 x 13 mm 20 screws, 3.5 x 25 mm 30 screws, 2.9 x 19 mm	4
44	Safety measurement cable 4mm, 100 cm, black, 600 V CAT III ~ 1000 V, CAT II / 32 A	20
45	Safety measurement cable 4mm, 100cm/40", blue, 600V CAT III ~1000V CAT II / 32A	4
46	Safety measurement cable 4mm, 100cm/40", gr/ye, 600V CAT III ~1000V CAT II / 32A	4
47	Lab table for punched hole frame, 1500x760x900 mm	4
48	Table-top punched hole frame for 1500mm table, (T-shaped base)	4
49	Ergo45° 3 HU power duct, 580 mm, for twin wiring installation cabin, horizontal 114 PU	4
50	Full-width front plate (type 1) for six-sided power supply duct 114PU	4
51	Mains connection box, 3x400V, three-phase	4
52	Lab table with sliding top uncovering a large cable duct capable of accommodating socket strips, small power supplies, IT and electricity supply systems, minimum dimensions 1800x900 mm with PC holder	5
53	Instructor under-table Container on rollers, 3 drawers + utensil drawer, central locking	1
54	Storage cabinet, 2 hinged doors with glass window, approx 1000x600x2039mm	4
55	Shelf for storage cabinet, approx 960x540x25mm	16
56	Special Lab rotating chair with moulded texture, varnished in natural colours, continuous height adjustment by means of a gas lift mechanism with top release, non-tipping aluminium base with epoxy-resin coating	20

CENTRAL ELECTRICAL WORKSHOP PART 2 (Lot Wise Only – Import Purchase):

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S.No	Equipment Name and Specification	Qty
57	<p>PCB prototyping machine + software some important features include: Track width and spaces of 50um/ 30um is achieved with UV Repeatability (precision) <1 u m, Auto tool change, drilling capacity 120strokes/min, System for through-hole plating with conductive paste Consisting of:-</p> <ul style="list-style-type: none"> - 20 Protection film foil - 2 Pressing Metal Sheet (210 x 160 mm) - 10 Filter fleece - 20 Paste packs of 2.5 grams (Shelf life: 6 months at 5°C) - 5 Base material FR4 18/18 um - 5 Base material FR4 35/35 u - 1 screen printing rakel, 1 brush, 1 pinch roller, 1 PCB cleaner - 1 Glove with inner lining - Desktop Vacuum Table - Hot Air Oven, Exhaust Unit, Hand Microscope, Digital slide gauge <p>Easy to use Rivets based through hole plating system Comes with required tools and 1000 each rivets of</p> <ul style="list-style-type: none"> - 0.6 mm inner dia, 0.8 mm outer dia. - 0.8 mm inner dia, 1.0 mm outer dia. - 1.0 mm inner dia, 1.4 mm outer dia. - 1.2 mm inner dia, 1.6 mm outer dia. <p>Tool Tip A & B, Punching tool, Anvil & Assembly tweezers Base Plate FR4, 229 x 305 mm (9" x 12") 35/35um copper Base Plate FR4, 229 x 305 mm (9" x 12") 35/35um copper Laminate thickness: 1.55 mm. Pack of 10 pieces pack Base Plate FR4, 229 x 305 mm (9" x 12") 18/18um copper Laminate thickness: 1.55 mm. Pack of 10 pieces pack Universal Cutter 1/8", 36 mm, 0.2 – 0.5mm (8 – 20 mil) with distance ring Micro Cutter 1/8", 36 mm, 0.1 – 0.15mm (4 – 6 mil) 10 On 18 um copper with distance ring Set of End Mills 4 Consists of one pack each of End Mills with d = 0.8mm, 1.0 mm, Packs 2.0mm & 3.0mm (each pack consists of 10 pcs) Set of Contour Routers 2 Set of Drill Bits Compressor for D104 (#10058366) including Air Dryer & filter Max Pressure 10 bars, output 240 L/Min. 60 L container, Noise level 85 dB (A). 230 Volts 50 Hz.</p>	1

**1) HYDRAULIC LAB, CIVIL ENGINEERING DEPARTMENT (Lot Wise Only
- Import Purchase)**

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S. No	Equipment Name and Specification	Qty
1	<p>HYDRAULIC BENCH Specifications: 1) Capacities 0-6 and 0-40 liters 2) maximum flow of 60 liters per minute 3) flow 1.35 liters per second 4) motor rating: 0.37kW 5) sump tank capacity: 250 liters</p>	2
2	<p>PELTON WHEEL TURBINE (compact portable demonstration turbine with transparent plexiglas front cover) Specifications: 1) Speed ranges between 0 – 3800 rpm Maximum Torque = 0.20 N-m 2) Coupled to brakes with spring balance and counterweights 3) Maximum Power = 23 Watts</p>	2
3	<p>GLASS SIDED TILTING FLUME with experimental accessories Specifications: 1) Width: 0.30 m 2) Depth: 0.45 m 3) Length: 5 m 4) Positive slope: 1:40 max (1.4°) 5) Negative slope: 1:200 max (0.28°) 6) Maximum flow rate 30 Liters per second 7) Bed stability: <1.0mm (typical) at 0.40 m water depth 8) Side wall stability: <0.5mm (typical) at 0.40 m water depth ADDITIONAL EXPERIMENTAL ACCESSORIES REQUIRED 1) Weirs 2) Dam Spillway Models</p>	1
4	<p>WATER CURRENT METER Price type AA with complete analog & digital outfits Specifications: 1) Accuracy 2% 2) Minimum Depth Required Cable suspended 18 inches Rod suspended 6 inches 3) Dimensions Bucket open end diameter 2.0 inches Bucket wheel diameter 5 inches 4) Operating Range Feet per second 0.2 - 25.0</p>	1

	Meters per second 0.06 - 7.6	
5	<p>WATER CURRENT METER Pygmy type with complete analog & digital outfits Specifications: 1) Accuracy 2% 2) Minimum Depth Required Cable suspended Not applicable Rod suspended 3 inches 3) Dimensions Bucket open end diameter 0.78 inches Bucket wheel diameter 2 inches 4) Operating Range Feet per second 0.02 - 15.00 Meters per second 0.02 - 4.57</p>	1
6	<p>WATER CURRENT METER Propeller type with complete outfit Specifications: 1) Max. Size: 130mm x 0.60m 2) Max. Velocity: 10 m/s • 3) Range: $\pm 5^\circ$</p>	1
7	<p>BASIC FLUID PROPERTIES & HYDROSTATICS (complete unit) Specifications: 1) Portable, self-contained dead weight precision pressure gauge calibrator. 2) Calibrates gauges 1-300 bar range to $\pm 0.015\%$ of reading. 3) A carrying case and weights. 4) Minimum standard weight increment = 0.05bar.</p>	1

8	PIPE FRICTION APPARATUS Specifications: 1) 4 smooth-bore pipes of different diameters ranging from 4.5mm I.D. to 17.2mm I.D. 2) Artificially roughened pipe 3) 90° bends (large & small radii) 4) 90° elbow 5) 90° miter 6) 45° elbow, 45° Y, 90° T 7) sudden enlargement • sudden contraction 8) gate valve 9) globe valve 10) ball valve 11) inline strainer 12) Perspex Venturi 13) Perspex orifice meter 14) Perspex pipe section with a Pitot tube & static tapping 15) 38 tapping points	1
9	OSBORN REYNOLDS APPARATUS	2
10	FLOW METER DEMONSTRATION APPARATUS	1
11	FLUID FRICTION APPARATUS Specifications: 1) Clear acrylic test pipes are all 0.7 m long with inside diameters of 1x 6mm, 2x 9mm, 1x 10mm, 1x 14mm	1
12	CAVITATION DEMONSTRATION UNIT Specifications: 1) Upstream pressure gauge: 63mm diameter, Range 0 to 1 Bar 2) Throat vacuum gauge: 100mm diameter, Range -1 to 0 Bar 3) Downstream pressure gauge: 63mm diameter, Range 0 -1 Bar	1
13	LAMINAR FLOW ANALYSIS TABLE Specifications: 1) Width inside moulding: 610mm 2) Length of glass plates: 892mm 3) Distance between glass plates: 3.2mm 4) Sinks/sources: 8 tappings in 7 positions 5) Dye injectors: 19 hypodermic needles	1
14	PORTABLE CENTRIFUGAL PUMP DEMONSTRATION UNIT Specifications: 1) Max flow rate: 1.6 liters per second 2) Typical Max head: 9.0m 3) Max pump speed: 1800rpm 4) Motor power rating: 250W	2
15	Pipe Surge and Water Hammer Apparatus	1
16	Free and Forced Vortex Apparatus	1
17	Bernoulli's Theorem Demonstration Apparatus	2
18	Sediment Transport Apparatus Set	2

19	Basic Hydrology Apparatus	2
20	Orifice And Free Jet Flow	1
21	<p>Miscellaneous Laboratory Tools Specifications: A. Socket Set - 1/2" Drive</p> <ol style="list-style-type: none"> 1) 7/16" - 1 1/8" Standard Depth (6 Point) 2) 7/16" - 1 1/8" Deep (6 Point) 3) 10mm - 25mm Standard Depth (6 Point) 4) 10mm - 25mm Deep (6 Point) • 5) Ratchet 6) Breaker Bar 7) Extension 3",6",12" <p>B. Socket Set - 3/8" Drive</p> <ol style="list-style-type: none"> 1) 5/16" - 3/4" Standard Depth (6 Point) 2) 3/8" - 3/4" Deep (6 Point) 3) 9mm - 19mm Standard Depth (6 Point) 4) 9mm - 19mm Deep (6 Point) 5) Ratchet 6) Extension - 3",6",12",18" 7) Universal Joint 8) Fractional Universal Impact Socket Set 3/8" - 3/4" <p>C. Combination Wrenches</p> <ol style="list-style-type: none"> 1) 1/4" - 1" Standard 2) 7mm - 24mm Metric <p>D. Hex (Allen) Wrenches</p> <ol style="list-style-type: none"> 1) 050" - 3/8" Fractional 2) 2 mm - 7mm Metric <p>E. E. Screw Drivers</p> <ol style="list-style-type: none"> 1) Blade Type 2) Stubby 3) 1/4" x 6" 4) 1/4" x 9" 5) 3/8" x 9" 6) 3/8" x 16" 7) Offset 8) Phillips 9) #2 Stubby 10) #1Tip 11) #2Tip 12) #3Tip 13) Offset <p>F. Four piece Pliers set</p> <ol style="list-style-type: none"> 1) Slip Joint 8" 2) Long Nose 8" 	Lump sum

	3) Diagonal Plier 7" 4) Lineman Plier 8" G. Pipe Wrenches 10" and 14" H. 3-piece Adjustable Wrenches 8" 10" 14" I. Hammers 1) 16 oz. Curved Claw Hammer 2) 16 oz. Ball Pen J. Hack saw	
--	--	--

2) MATERIAL TESTING LAB, CIVIL ENGINEERING DEPARTMENT (Lot Wise Only – Import Purchase)

Imported items must be; of advanced technological countries i.e. UK, USA, Japan and Western European Countries

S. No	Equipment Name and Specification	Qty
1	Servo Hydraulic Universal Testing Machine (UTM) 2000 KN	1

3) CONCRETE LAB, CIVIL ENGINEERING DEPARTMENT Lot Wise Only – Local Purchase)

S. No	Equipment Name and Specification	Qty
1	Briquette Apparatus AASHTO T132	1
7	Heavy Duty Balance 300 Kg Work Range	1
10	Balance 6 Kg (Electronic with 01 gram accuracy)	2
14	Briquette Moulds AASHTO T132	12
15	Cylinder Capping Retainers (couple) 6"×12" (with 60 shore neoprene pads couple)	2
16	12" dia ASTM Sieve Set (Complete)	3
21	Sieve Shaker	1
24	Specific Gravity Test Set	4
25	Graduated Cylinder Set	6
28	Miscellaneous Tools and Glassware/Chemical and Safety Tools etc.	Lump Sum

4) SURVEYING LAB, CIVIL ENGINEERING DEPARTMENT Lot Wise Only – Local Purchase)

S.No	Equipment Name and Specification	Qty
1	Plane Table Complete set with all accessories	8
2	Chains 100 ft	10
3	Tapes (30m & 100ft)	2+6
4	Compass (Prismatic) with Tripod stand	8
16	Trough Compass	5
17	Altimeters in Leather Case	5

5) SOIL MECHANICS & HIGHWAY LAB, CIVIL ENGINEERING
DEPARTMENT Lot Wise Only – Local Purchase)

S. No	Equipment Name and Specification	Qty
1	Casagrande Liquid Limit Device	1
2	Mould 152 mm dia × 127 (h) mm	4
3	Sand Absorption Cone and Tamper	2
4	Proctor Penetrometer ASTM D 1558	1
5	Sedimentation by the Hydrometer Method (with all standard accessories)	5
6	High Speed Stirrer	2
7	Oven: Capacity 100 liters, Shelves 02, Guides 5, Watts 1200	1
8	Hand-Operated Universal Extruder	1
9	Solution Balance (Capacity 20Kg, Accuracy 0.1 gm)	1
10	Digital Balance (Capacity 6 Kg, Accuracy 0.01 gm)	1
11	Digital Balance (Capacity 1 Kg, Accuracy 0.01 gm)	1
12	Los Angeles Abrasion Machine (with abrasive charges, accessories and spare parts)	1
13	Unconfined Compression Machine Hand Operated	1
14	Electronic Apparatus for Direct Shear Testing	1
15	Glass Wares Including Beakers, Cylindrical Measures	1
16	Sieve Shaker	1
17	Standard Moisture Tester (100 g Max. Sample)	1
18	Blaine Fineness Apparatus	2
19	Three Test Bay Machine (with all accessories)	1
20	C.B.R. Testing Machine - 50 kN (Test speed 1.27 mm(0.05")/minute) with all accessories	1
21	Consolidation Cells Sample Dia. 50.47 mm	1
22	Vibrating Hammer Compaction (Electric Hammer Compactor with Accessories and Spare Parts)	1
23	ASTM Sieve Set: Complete Set (set of 10 sieves)	2
24	Planetary Mixer, Capacity 20 liter (Complete with bowl and beater)	1
25	Constant Head Permeability and Variable Head Permeability Apparatus	1
26	Miscellaneous Items Including Glassware and Tools etc.	Lump sum

6) STRUCTURE/APPLIED MECHANICS LAB, CIVIL ENGINEERING DEPARTMENT Lot Wise Only – Local Purchase)

S. No	Equipment name and specifications	Qty
1	Roof Truss Apparatus	1
2	Wall Crane Apparatus	1
3	Apparatus with all accessories to 1. Verify law of parallelogram of forces 2. Verify law of polygon of forces	1
4	Circular Disc Apparatus	1
5	Apparatus to determine reaction of beam.	1
6	Apparatus (with all accessories) for determining coefficients of friction for various materials	1
7	Torsion apparatus 50 Nm with accessories	1
8	Shear Centre and Unsymmetrical Bending Cantilever apparatus with all accessories	1
9	Apparatus to investigate the stresses and strains within structures in relation to bending loads with accessories and data acquisition system	1
10	Euler's Buckling apparatus	1
11	Portal frame app with accessories	1
12	Suspension bridge app with accessories	1
13	Three Hinged arch app with accessories	1
14	Bending Moment and shearing force app with accessories	1
15	Portal frame app with accessories	1

Section VIII. Forms

Notes on the Forms

The Bidder shall complete and submit with its bid the **Bid Form** and **Price Schedules** pursuant to ITB Clause 9 and in accordance with the requirements included in the tender documents.

When requested in the Bid Data Sheet, the Bidder should provide the **Bid Security**, either in the form included hereafter or in another form acceptable to the Purchaser, pursuant to ITB Clause 15.3.

The **Contract Form**, when it is finalized at the time of contract award, should incorporate any corrections or modifications to the accepted bid resulting from price corrections pursuant to ITB Clause 16.3 and GCC Clause 17, acceptable deviations (e.g., payment schedule pursuant to ITB Clause 26.5 (c)), spare parts pursuant to ITB Clause 26.3 (d), or quantity variations pursuant to ITB Clause 31. The Price Schedule and Schedule of Requirements deemed to form part of the contract should be modified accordingly.

The **Performance Security** Form should not be completed by the bidders at the time of their bid preparation. Only the successful Bidder will be required to provide performance security in accordance with one of the forms indicated herein or in another form acceptable to the Purchaser and pursuant to GCC Clause 7.3 and SCC 11, respectively.

The **Original Equipment Manufacturer's Authorization** form should be completed by the original equipment manufacturer, as appropriate pursuant to ITB Clause 13.3(a).

Forms

1.	Letter of Bid for technical bids.....	90
2.	Bill of quantities.....	91
3.	Original Equipment Manufacturer’s Authorization Form.....	92
4.	Original Equipment Manufacturer qualification statement.....	93
5.	Agent qualification statement.....	94
6.	Power of Attorney.....	95
7.	Reference list of similar installations.....	96
8.	Installation/commissioning/training undertaking by the Original Equipment Manufacturer.....	97
9.	Integrity pact.....	98
10.	Letter of Bid for financial bids.....	99
11.	Price Breakdown Schedule.....	100
12.	Form of Bid Security.....	101
13.	Contract Form.....	102
14.	Performance Security Form.....	103

1. LETTER OF BID (BID FORM)

(To be submitted with technical bids)

Procurement Reference No: _____

To:

The Project Director Abbottabad Campus,
University of Engineering & Technology, Peshawar

Gentlemen and/or Ladies:

Having examined the tender, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to establish state-of-the-art laboratories with brand new equipment with standard accessories; and to install, commission, test operate the equipment and train the University personnel on the operation and maintenance of such equipment in conformity with the said tender documents.

We undertake, if our Bid is accepted, to setup state-of-the-art laboratories and to supply and install the equipment with standard accessories in conformity with the said tender documents.

If our bid is accepted, we undertake to provide a performance security in the form, in the amounts, and within the times specified in the Tender Documents.

We agree to abide by this Bid for the Bid Validity Period specified in Clause 16.1 of the Bid Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 20_____.

[signature]

[in the capacity of]

Duly authorized to sign Bid for and on behalf of _____

2. BILL OF QUANTITIES OF ITEMS WITH SPECIFICATIONS

Name of Bidder _____ Procurement Reference Number _____

Lot Number and Name: _____

1	2	3	4	5	6
Item No	Description	Country of origin	Quantity	Original Equipment Manufacturer	Model Number

4. ORIGINAL EQUIPMENT MANUFACTURER QUALIFICATION STATEMENT

1. **Name and Address of Original Equipment Manufacturer**

- A. Name _____
- B. Address of Head Office _____
- C. Number of Employees/Engineers _____
- D. Number of similar installations _____
- E. Annual turnover _____
- D. Date Established and / or Registered _____
- E. Origin / Country _____
- F. Project In-charge _____
- G. Section/Department/Division _____
- H. Telefacsimile Number _____
- I. Email Address _____
- J. Telephone Number _____
- K. Mobile Number _____

We hereby certify to the best of our knowledge that the foregoing statement are true and correct and all available information and data have been supplied and that we agree to show documentary proof thereon upon your request.

Date

Name & Address of the Original Equipment Manufacturer (Signature)

(In the Capacity of)

Note: This should be on the letterhead of the Original Equipment Manufacturer and should be signed by a person duly authorized.

5. AGENT QUALIFICATION STATEMENT

1. Name and Address of Bidder

- A. Name of Bidder _____
- B. Address of Head Office _____

- C. Number of full-time Engineers _____
- D. Number of full time Sales Reps. _____
- E. Date Established and / or Registered _____
- F. Capital cash/revolving fund _____
- G. Origin / Country _____
- H. Project In-charge _____
- I. Section/Department/Division _____
- J. Telefacsimile Number _____
- K. Email Address _____
- L. Telephone Number _____
- M. Mobile Number _____

We hereby certify to the best of our knowledge that the foregoing statement are true and correct and all available information and data have been supplied and that we agree to show documentary proof thereon upon your request.

Date

Name & Address of the Original Equipment Manufacturer (Signature)

(In the Capacity of)

Note: This letter of authority should be on the letterhead of the Bidder.

6. POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that **(Name of Bidder)**, a corporation duly organized and existing under the laws of _____, with its principal place of business at **(Address of Bidder)**, does hereby constitute, designate and appoint **(Name and Designation of Representative of the Bidder)**, whose specimen signature is shown below, as our true and lawful attorney-in-fact, in our name, place and stead, with full powers of substitution and revocation, to sign and submit the tender documents and all documents related to the Bid invited on _____, 2024 by University of Engineering & Technology, Peshawar, and to do any and all acts and deeds as the said attorney-in-fact may deem requisite, necessary or proper to be done in connection therewith, all in our name and on our behalf hereby ratifying and confirming all that the said attorney-in-fact shall do pursuant to the power hereunder granted.

This Power of Attorney has been drawn up in the city of _____, on this _____ the day of _____, 2024 and shall remain in full force and effect until our further notice.

Name of Bidder _____
(Name of duly authorized representative to sign)

Specimen Signature

(Rank or Position)

7. REFERENCE LIST OF SIMILAR INSTALLATIONS

Name of Purchaser/ Institution	Purchase order No. and date	Description of order	Value of order	Year of completion

Note: This should be on the letterhead of the Bidder and should be signed by a duly authorized person.

8. INSTALLATION/COMMISSIONING/TRAINING UNDERTAKING BY ORIGINAL EQUIPMENT MANUFACTURER

We **(Name of Original Equipment Manufacturer)**, a manufacturer duly organized under the law of **(Name of Country)** and having its principal place of business at **(Address of Original Equipment Manufacturer)** hereby undertake that we are exclusively responsible for the successful Installation, Commissioning, and Training for the equipment offered by us/ our local agent for your Invitation for Bids Reference Number _____ dated _____.

If for any reason, such as travel restrictions imposed by our government etc., we are unable to send our engineers/supervisors to perform the installation, commissioning, and training for our equipment at the Purchaser's designated premises, then we are exclusively responsible for all the costs inclusive of all associated expenses for seven (7) days detailed training of at least two (2) technical personnel of the Purchaser at our premises at **(Original Equipment Manufacturer premises Address)** for each lot secured as per the Purchaser tender documents.

Any and all costs associated with successful installation, commissioning, and training has been included in our aforementioned quotation.

Date

Name & Address of the Original Equipment Manufacturer _____ (Signature)

Note: This letter should be on the letterhead of the Original Equipment Manufacturer and should be signed by a duly person.

9. INTEGRITY PACT

Declaration of fees, commission and brokerage etc. payable by the suppliers of goods, services & works in contracts worth Rs. 10.00 million or more

Contract No. _____ Dated _____ Contract Value: *[To be filled in at the time of signing of Contract]* Contract Title: _____

[name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from University of Engineering & Technology, Peshawar through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from University of Engineering & Technology, Peshawar, except that which has been expressly declared pursuant hereto.

[name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with University of Engineering & Technology, Peshawar and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to UET, Peshawar under any law, contract or other instrument, be voidable at the option of University of Engineering & Technology, Peshawar.

Notwithstanding any rights and remedies exercised by University of Engineering & Technology, Peshawar in this regard, [name of Supplier] agrees to indemnify, University of Engineering & Technology, Peshawar for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to University of Engineering & Technology, Peshawar in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from University of Engineering & Technology, Peshawar.

Name of Purchaser:
Signature:[Seal]

Name of Seller/Supplier:
Signature:[Seal]

10. LETTER OF BID (BID FORM)

(To be submitted with financial bid)

Procurement Reference No: _____

To:

The Project Director Abbottabad Campus,
University of Engineering & Technology, Peshawar

Gentlemen and/or Ladies:

Having examined the tender, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to establish state-of-the-art laboratories with brand new equipment with standard accessories; and to install, commission, test operate the equipment and train the University personnel on the operation and maintenance of such equipment in conformity with the said tender documents for the sum of [_____ total bid amount in words and figures] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to setup state-of-the-art laboratories and to supply and install the equipment with standard accessories in conformity with the said tender documents.

If our bid is accepted, we undertake to provide a performance security in the form, in the amounts, and within the times specified in the Tender Documents.

We agree to abide by this Bid for the Bid Validity Period specified in Clause 16.1 of the Bid Data Sheet and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 20_____.

[signature] _____ [in the capacity of]
Duly authorized to sign Bid for and on behalf of _____

11. PRICE BREAKDOWN SCHEDULE

Name of Bidder _____ Procurement Reference Number
_____.

Lot Number and Name: _____

1	2	3	4	5	6
Item No	Description	Country of origin	Quantity	Unit price CPT Peshawar	Total price CPT Peshawar
Grand Total					

Signature of Bidder _____

Note: In case of discrepancy between unit price and total, the unit price shall prevail.

12. FORM OF BID SECURITY

[Name and address of guarantor]

Date: _____

Beneficiary: To:

The Project Director Abbottabad Campus,
University of Engineering & Technology, Peshawar

BID GUARANTEE No.: _____

We have been informed that [name of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for supply, installation and commissioning of labs equipment of Electrical Engg Department at University of Engineering & Technology, Peshawar Campus-Pakistan under Procurement Reference Number_____.

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we [_____name of guarantor] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of [_____amount in figures]([_____amount in words]) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") of the IFB; or
- (c) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful bidder; or (ii) twenty-eight days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

[Signature(s)]

13. CONTRACT FORM

THIS AGREEMENT made the _____ day of _____ 20_____ between University of Engineering & Technology, Peshawar- Pakistan (hereinafter called “the Purchaser”) of the one part and [name of Supplier] of [city and country of Supplier] (hereinafter called “the Supplier”) of the other part:

WHEREAS the Purchaser invited bids for supply, installation, commissioning and its training of certain goods on turn-key basis, its relevant activities & ancillary services, viz. Electrical brand new labs equipment on CPT Peshawar basis and has accepted a bid by the Supplier for the supply of those goods and services in the sum of [_____contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) the Bid Form and the Price Schedule submitted by the Bidder;
 - (b) the Schedule of Requirements;
 - (c) the Technical Specifications;
 - (d) the General Conditions of Contract;
 - (e) the Special Conditions of Contract; and
 - (f) the Purchaser’s Notification of Award.
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____ the _____
(for the Purchaser)

Signed, sealed, delivered by _____ the _____
(for the Supplier)

14. PERFORMANCE SECURITY FORM

_____ [Name, and Address of guarantor]

Beneficiary: To:

The Project Director Abbottabad Campus,
University of Engineering & Technology, Peshawar

Date: _____

PERFORMANCE GUARANTEE No.: _____

We have been informed that [_____ name of guarantor] has entered into Contract No. [_____ reference number of the contract] dated _____ with you, for supply, installation and commissioning of Electrical brand new labs equipment on CPT Peshawar basis (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Guarantor, we [_____] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of [_____ amount in figures] (_____) [amount in words]¹ upon receipt by us of your first demand in writing accompanied by a written statement stating that the Guarantor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than the ____ day of _____, 20____, and any demand for payment under it must be received by us at this office on or before that date.

[Signature(s)]

¹ The Guarantor shall insert an amount representing the percentage of the Contract Price specified in the Contract and denominated either in the currency (i.e.) of the Contract or a freely convertible currency acceptable to the Purchaser.