

### **BID SOLICITATION DOCUMENTS**

#### **FOR**

### PROCUREMENT OF LABS EQUIPMENTS FOR UEAS

Description	Procurement of Lab Equipment's	
,	A. Bioengineering Lab	
	B. Computer System Engineering Lab	
	C. Mining Metallurgy and Material Lab	
	D. Manufacturing Lab	
	Q <sub>2</sub> <sup>y</sup>	
Pre-bid meeting	-	
	<b>,</b> Y	
Closing/Last submission/Opening	April 11, 2022 at 10:00 AM & 10:30 AM	
Bid security	Separate 2% bid securities of the total bid value must be	
	submitted.	
	Separate Proposal (Technical + Financial) must be	
	submitted against each lab Categories	
Tender Procedure	Single Stage Two Envelope	

Procurement Ref: No. : U-EAS/2021-22/260/262/268,269,271-275/277

Venue for submission of bids: University of Engineering and Applied Sciences,

House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal, District Swat.

Phone: 0946-613289

Email: <u>riaz.khan@ueas.edu.pk</u> <u>Shafqat.alam@ueas.edu.pk</u>

#### University of Engineering & Applied Sciences, Swat.



### **INVITATION FOR BIDS**

Procurement Reference No. U-EAS/2021-22/260/262/268,269,271-275/277

#### UNIVERSITY OF ENGINEERING & APPLIED SCIENCES, SWAT

University of Engineering & Applied Sciences, Swat (U-EAS), invites sealed bids along with separate 2% bid securities in favor of Project Director –UEAS of the total quoted "DDP/PKR price" for each lab categories (from Manufacturers / Authorized representatives / reputed. Registered firms, who are on Active Taxpayers List (ATL) of FBR for supply of **Labs equipment's for U-EAS**, on DDP or C&F Swat basis.

Interested firms, local representative, manufacturers etc. may apply after downloading the biding documents (ITB) from official website of U-EAS i-e <a href="www.ueas.edu.pk">www.ueas.edu.pk</a>.

Separate Proposals (Technical + Financial + Separate Bid Securities) should be submitted against each lab Categories.

Sealed Technical and Financial proposals should be submitted in two separate envelopes placed and sealed in one big envelope up to April 11, 2022 till 10:00 A.M in the Tender Box of U-EAS, Swat. Technical proposals will be opened on the same day i.e. April 11, 2022 at 10:30 A.M at Conference room of the U-EAS, SWAT, in the presence of the bidders or their authorized representatives who would like to be present. The Financial proposals of only those firms will be opened on a subsequent date, who are declared technically qualified for participation in the financial bid in the presence of technically qualified bidders or their authorized representatives who would like to be present. The tenders received after due date and time will not be considered.

#### **Procurement Unit**

University of Engineering and Applied Science, Swat.

House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal,
District Swat. Phone: 0946-613289

#### Table of Contents - Part One

PART ONE - SECTION I. INSTRUCTIONS TO BIDDERS	3
Notes on the Instruction to Bidders	4
Table of Clauses	5
Instructions to Bidders	6-21
PART ONE – SECTION II. GENERAL CONDITIONS OF CONTRACT	22
Notes on the General Conditions of Contracts	23
Table of Clauses	24
General Condition Of Contracts	25-34

Part One - Section I.

Instructions to Bidders

#### **Table of Clauses**

A.	Introduction	6
1.	Source of Funds	6
2.	Eligible Bidders	6
3.	Eligible Goods and Service	7
4.	Cost of Bidding	7
B.	The Bidding Document	8
5.	Content of Bidding Documents	8
6.	Clarification of Bidding Documents	8
7.	Amendment of Bidding Documents	8
С.	Preparation of Bids	8
8.	Language of Bid	8
9.	Documents Comprising the Bid	9
10.	Bid Form	9
11.	Bid Prices	9
12.	Bid Currencies	9
13.	Documents Establishing Bidder's Eligibility and Qualification	10
14.	Documents Establishing Goods' Eligibility and Conformity to	10
	Bidding Documents	
15.	Bid Security	11
16.	Period of Validity of bids	12
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	13
20.	. Late bids	
21.	Modification and Withdrawal of Bids	13
Ε.	Opening and Evaluation of Bids	14
22.	Opening of Bids by the Procuring Agency	14
23.	Clarification of Bids	14
24.	. Preliminary Examination	
	. Evaluation and Comparison of Bids	
26.	Contacting the Procuring Agency	18
F.	Award of Contract	19
27.	Post-Qualification	19
28.	Award Criteria	19
29.	Procuring Agency's Right To Vary Quantities At Time Of Award	19
30.	Procuring Agency's Right To Accept Any Bid And To Reject Any Or	19
	All Bids	
31.	Notification of Award	19
32.	Signing of Contract	20
33.	Performance Security	20
34.	Corrupt Or Fraudulent Practices	20
35.	Integrity Pact	21

#### **Instructions to Bidders**

#### A. Introduction

### 1. Source of Funds

- 1.1 The University of Engineering & Applied Sciences (U-EAS) has received provincial government funds from the source(s) indicated in the bidding data in PKR currencies towards the cost of the project APD /schemes specified in the bidding data and it is intended that part of the proceeds of this funds will be applied to eligible payments under the contract for which these bidding documents are issued.
- 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.
- 1.3 Payment by the Fund will be made only at the request of the Procuring agency and upon approval by the Government of Khyber Pakhtunkhwa., 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.

### 2. Eligible Bidders

- 2.1 This Invitation for Bids is open to all suppliers from eligible source as defined in the KPP Rules, 2014 and its Bidding Documents except as provided hereinafter.
- 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.
- 2.3 Government-owned enterprises in the Province of Khyber 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.

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.

### 3. Eligible Goods and Services

- 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 Bidding Documents and all expenditures made under the contract will be limited to such goods and services.
- 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.
- 3.3 The origin of goods and services is distinct from the nationality of the Bidder.

### 4. Cost of Bidding

4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

#### **B.** The Bidding Documents

# 5. Content of Bidding Documents

- 5.1 The bidding documents include:
  - 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) Manufacturer's Authorization Form
- 5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.

### 6. Clarification of Bidding Documents

- 6.1 A interested Bidder requiring any clarification of the bidding documents may notify the Procuring agency in writing. The Bidding Procuring agency will respond in writing to any request for Documents clarification of the bidding documents which it receives no later than three working days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.
- 7. Amendment of Bidding Documents
- At any time prior to the deadline for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by a interested Bidder, may modify the bidding documents by amendment.
- 7.2 All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.
- 7.3 In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

#### 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 Procuring agency 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. Documents Comprising the Bid

- 9.1 The bid prepared by the Bidder shall comprise the following components:
  - a) a Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12
  - b) documentary evidence established in accordance with ITB Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;
  - c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
  - d) bid security furnished in accordance with ITB Clause 15.

#### 10. Bid Form

10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

#### 11. Bid Prices

- 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.
- 11.2 Prices indicated on the Price Schedule shall be delivered duty paid (DDP) prices. The price of other (incidental) services, if any, listed in the Bid Data Sheet will be entered separately.
- 11.3 The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Procuring agency and will not in any way limit the Procuring agency's right to contract on any of the terms offered.
- 11.4 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 Bid Data Sheet. A bid submitted with an adjustable price quotation will be treated as nonresponsive and will be rejected, pursuant to ITB Clause 24. If, however, in accordance with the Bid Data Sheet, prices quoted by the Bidder shall be subject to adjustment during the performance of the contract, a bid submitted with a fixed price quotation will not be rejected, but the price adjustment would be treated as zero.

#### 12. Bid Currencies

12.1 Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet.

### 13. Documents Establishing Bidder's

Pursuant to ITB Clause 9, 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.

### Eligibility and Oualification

- 13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Procuring agency's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 3.
- 13.3 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring agency's satisfaction:
  - 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' Manufacturer or producer to supply the goods in the Procuring agency's country;
  - b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
  - c) that, in the case of a Bidder not doing business within the Procuring agency'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 Supplier's maintenance, repair, and spare parts-stocking 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.

# 14. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

- 14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.
- 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.
- 14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:
  - a) a detailed description of the essential technical and performance characteristics of the goods;
  - b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring agency; and

- c) an item-by-item commentary on the Procuring agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

#### 15. Bid Security

- 15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet. [The bid security shall be submitted from the account of the firm/bidder/contractor who submits the bid]<sup>1</sup>
- 15.2 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.
- 15.3 The bid security shall be in Pak. Rupees and shall be in one of the following forms:
  - a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency and valid for thirty (30) days beyond the validity of the bid; or
  - b) irrevocable encashable on-demand Bank call-deposit.
- 15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Procuring agency as non-responsive, pursuant to ITB Clause 24.
- 15.5 Unsuccessful bidders' bid security 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 Procuring agency pursuant to ITB Clause 16.
- 15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 32, and furnishing the performance security, pursuant to ITB Clause 33.

- 15.7 The bid security may be forfeited:
  - a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - b) in the case of a successful Bidder, if the Bidder fails:
    - i. to sign the contract in accordance with ITB Clause 32:

or

ii. to furnish performance security in accordance with ITB Clause 33.

- 16. Period of Validity of Bids
- 16.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Procuring agency as non-responsive.
- 16.2 In exceptional circumstances, the Procuring agency 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. 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 bidding document.

### 17. Format and Signing of Bid

- 17.1 The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall govern.
- 17.2 The original and the copy or copies of the bid 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.
- 17.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.
- 17.4 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.

#### D. Submission of Bids

#### 18. Sealing and Marking of Bids

- 18.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes shall then be sealed in an outer envelope.
- 18.2 The inner and outer envelopes shall:
  - a. be addressed to the Procuring agency at the address given in the

- Bid Data Sheet; and
- b. bear the Project name indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: "DO NOT OPEN BEFORE," to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.2.
- 18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".
- 18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Procuring agency will assume no responsibility for the bid's misplacement or premature opening.

#### 19. Deadline for Submission of Rids

- 19.1 Bids must be received by the Procuring agency at the address specified under ITB Clause 18.2 no later than the time and date specified in the Bid Data Sheet.
- 9.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

#### 20. Late Bids

20.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribed by the Procuring agency pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.

#### 21. Modification And Withdrawal of Bids

- 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 Procuring agency prior to the deadline prescribed for submission of bids.
- 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. by a signed confirmation copy, postmarked not later than the deadline for submission of bids.
- 21.3 No bid may be modified after the deadline for submission of bids.
- 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.

#### E. Opening and Evaluation of Bids

- 22. Opening of Bids by the Procuring agency
- 22.1 The Procuring agency will open all bids 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.

- 22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency, 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.
- 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. Withdrawn bids will be returned unopened to the bidders.
- 22.4 The Procuring agency will prepare minutes of the bid opening.

### 23. Clarification of Bids

23.1 During evaluation of the bids, the Procuring agency may, at its discretion, ask the Bidder for a clarification of its bid. The Bids 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.

### 24. Preliminary Examination

- 24.1 The Procuring agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 24.2 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 the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 24.3 The Procuring agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 25 the Procuring agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security (ITB Clause 15), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 24.5 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

### 25. Evaluation and Comparison of Bids

- 25.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.
- 25.2 The Procuring agency's evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing duties and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 25.3 The Procuring agency's evaluation of a bid will take into account, in addition to the bid price quoted in accordance with ITB Clause 11.2, one or more of the following factors as specified in the Bid Data Sheet, and quantified in ITB Clause 25.4:
  - a. incidental costs
  - b. delivery schedule offered in the bid;
  - c. deviations in payment schedule from that specified in the Special Conditions of Contract;
  - d. the cost of components, mandatory spare parts, and service;
  - e. the availability Procuring agency of spare parts and after-sales services for the equipment offered in the bid;
  - f. the projected operating and maintenance costs during the life of the equipment; the performance and productivity of the equipment offered; and/or
  - g. other specific criteria indicated in the Bid Data Sheet and/or
  - h. in the Technical Specifications.
- 25.4 For factors retained in the Bid Data Sheet pursuant to ITB 25.3, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:
  - a. Incidental costs provided by the bidder will be added by Procuring agency to the delivered duty paid (DDP) price at the final destination.
  - b. Delivery schedule.
    - i. The Procuring agency requires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements which will be treated as the base, a delivery "adjustment" will be calculated for bids by applying a percentage, specified in the Bid Data Sheet, of the DDP price for each week of delay beyond the base, and this will be added to the bid price for evaluation. No credit shall be given to early delivery.

or

ii. The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as non-responsive. Within this acceptable range, an adjustment

per week, as specified in the Bid Data Sheet, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements.

or

iii. The goods covered under this invitation are required to be delivered in partial shipments, as specified in the Schedule of Requirements. Bids offering deliveries earlier or later than the specified deliveries will be adjusted in the evaluation by adding to the bid price a factor equal to a percentage, specified in the Bid Data Sheet, of DDP price per week of variation from the specified delivery schedule.

#### c. Deviation in payment schedule:

i. Bidders shall state their bid price for the payment schedule outlined in the SCC. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Procuring agency may consider the alternative payment schedule offered by the selected Bidder.

or

ii. The SCC stipulates the payment schedule offered by the Procuring agency. If a bid deviates from the schedule and if such deviation is considered acceptable to the Procuring agency, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in this invitation, at the rate per annum specified in the Bid Data Sheet.

#### d. Cost of spare parts.

i. The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the Bid Data Sheet, is annexed to the Technical Specifications. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

or

ii. The Procuring agency will draw up a list of highusage and high-value items of components and spare parts, along with estimated quantities of usage in the initial period of operation specified in the Bid Data Sheet. The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Bidder and added to the bid price. or

- iii. The Procuring agency will estimate the cost of spare parts usage in the initial period of operation specified in the Bid Data Sheet, based on information furnished by each Bidder, as well as on past experience of the Procuring agency or other procuring agencies in similar situations. Such costs shall be added to the bid price for evaluation.
- e. Spare parts and after sales service facilities in the Procuring agency's country.

The cost to the Procuring agency of establishing the minimum service facilities and parts inventories, as outlined in the Bid Data Sheet or elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.

f. Operating and maintenance costs.

Since the operating and maintenance costs of the goods under procurement form a major part of the life cycle cost of the equipment, these costs will be evaluated in accordance with the criteria specified in the Bid Data Sheet or in the Technical Specifications.

- g. Performance and productivity of the equipment.
  - i. Bidders shall state the guaranteed performance or efficiency in response to the Technical Specification. For each drop in the performance or efficiency below the norm of 100, an adjustment for an amount specified in the Bid Data Sheet will be added to the bid price, representing the capitalized cost of additional operating costs over the life of the plant, using the methodology specified in the Bid Data Sheet or in the Technical Specifications.

or

- ii. Goods offered shall have a minimum productivity specified under the relevant provision in the Technical Specifications to be considered responsive. Evaluation shall be based on the cost per unit of the actual productivity of goods offered in the bid, and adjustment will be added to the bid price using the methodology specified in the Bid Data Sheet or in the Technical Specifications.
- h. Specific additional criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.

The relevant evaluation method shall be detailed in the Bid Data Sheet and/or in the Technical Specifications.

Alternative

25.4 25.4 Merit Point System:

The following merit point system for weighing evaluation factors can be applied if none of the evaluation methods listed in 25.4 above has been retained in the Bid Data Sheet. The number of points allocated to each factor shall be specified in the Bid Data Sheet.

[In the Bid Data Sheet, choose from the range of]

Evaluated price of the goods	60 to 90
Cost of common list spare parts	0 to 20
Technical features, and maintenance and costs	operating 0 to 20
Availability of service and spare parts	0 to 20
Standardization	0 to 20
Total	100

The bid scoring the highest number of points will be deemed to be the lowest evaluated bid.

# 26. Contacting the Procuring agency

- 26.1 Subject to ITB Clause 23, no Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.
- 26.2 Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

#### F. Award of Contract

#### 27. Postqualification

- In the absence of prequalification, the Procuring agency will determine to its satisfaction whether the Bidder that is 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.
- 27.2 The determination will take into account the Bidder's financial, technical, and production 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 Procuring agency deems necessary and appropriate.
- 27.3 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 Procuring agency will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

#### 28. Award Criteria

28.1 Subject to ITB Clause 30, the Procuring agency will award the contract to the successful Bidder whose bid has been determined to be

substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

- 29. Procuring agency's Right to Vary Quantities at Time of Award
- 29.1 The Procuring agency 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.
- 30. Procuring agency's Right to Accept any Bid and to Reject any or All Bids
- 30.1 The Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring agency's action.
- 31. Notification of Award
- 31.1 Prior to the expiration of the period of bid validity, the Procuring agency will notify the successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.

### 32. Signing of Contract

- 32.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.

### 33 Performance Security

- 33.1 Within twenty (20) days of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 33.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

# 34. Corrupt or Fraudulent Practices

34.1 The Government of Khyber Pakhtunkhwa requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and

execution of such contracts. In pursuance of this policy, the KPPRA, in accordance with the KPP Act, 2009 and Rules made thereunder:

- a. defines, for the purposes of this provision, the terms set forth below as follows:
  - 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
  - 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 Procuring agency, 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 Procuring agency of the benefits of free and open competition;
- 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 contract in question;
- c. will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a Government-financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government-financed contract.
- 34.2 Furthermore, Bidders shall be aware of the provision stated in subclause 5.4 and sub-clause 24.1 of the General Conditions of Contract.
- 36. Integrity Pact
  35.1 The Bidder shall sign and stamp the Integrity Pact provided at Form7 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.

Part One - Section II.

General Conditions of Contract

#### **Table of Clauses**

1.	Definitions	25
2.	Application	25
3.	Country of Origin	25
4.	Standards	26
5.	Use of Contract Documents and Information; Inspection and Audit by the Bank	26
6.	Patent Rights	26
7.	Performance Security	26
8.	Inspections and Tests	27
9.	Packing	28
10.	Delivery and Documents	28
11.	Insurance	28
12.	Transportation	28
13.	Incidental Services	28
14.	Spare Parts	29
15.	Warranty	29
16.	Payment	30
17.	Prices	30
18.	Change Orders	30
19.	Contract Amendments	31
20.	Assignment	31
21.	Subcontracts	31
22.	Delays in the Supplier's Performance	31
23.	Liquidated Damages	31
24.	Termination for Default	32
25.	Force Majeure	32
26.	Termination for Insolvency	33
27.	Termination for Convenience	33
28.	Resolution of Disputes	33
29.	Governing Language	34
30.	Applicable Law	34
31.	Notices	34
32.	Taxes and Duties	34

#### **General Conditions of Contract**

#### 1. Definitions

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
  - a. "The Contract" means the agreement entered into between the Procuring agency 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 Procuring agency under the Contract.
  - d. "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, 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 Procuring agency" means the organization purchasing the Goods, as named in SCC.
  - h. "The Procuring agency's country" is the country named in SCC.
  - i. "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
  - j. "The Project Site," where applicable, means the place or places named in SCC.
  - k. "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

3.1 All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules and 'further elaborated in the SCC.

- 3.2 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.
- 3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.

#### 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;
  Inspection and
  Audit by the
  Government
- 5.1 The Supplier shall not, without the Procuring agency'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 Procuring agency 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.
- 5.2 The Supplier shall not, without the Procuring agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
- 5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring agency and shall be returned (all copies) to the Procuring agency on completion of the Supplier's performance under the Contract if so required by the Procuring agency.
- 5.4 The Supplier shall permit the Procuring agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the procuring agency, if so required.

#### 6. Patent Rights

6.1 The Supplier shall indemnify the Procuring agency 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 Procuring agency's country.

### 7. Performance Security

- 7.1 Within twenty (20) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

- 7.3 The performance security shall be denominated in the currency of the Contract acceptable to the Procuring agency and shall be in one of the following forms:
  - a. a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency; or
  - b. a cashier's or certified check.
- 7.4 The performance security will be discharged by the Procuring agency 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 specified otherwise in SCC.

### 8. Inspections and Tests

- 8.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring agency requires and where they are to be conducted. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring agency.
- 8.3 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency 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 Procuring agency.
- 8.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring agency or its representative prior to the Goods' shipment from the country of origin.
- 8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

#### 9. Packing

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.

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 Procuring agency.

### 10. Delivery and Documents

- 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.
- 10.2 Documents to be submitted by the Supplier are specified in SCC.

#### 11. Insurance

11.1 The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been delivered, hence insurance coverage is sellers responsibility.

#### 12. Transportation

12.1 The Supplier is required under the Contact to transport the Goods to a specified place of destination within the Procuring agency's country, transport to such place of destination in the Procuring agency's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.

### 13. Incidental Services

- 13.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
  - 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. training of the Procuring agency's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

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 for other parties by the Supplier for similar services.

#### 14. Spare Parts

- 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:
  - a. such spare parts as the Procuring agency 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:
    - i. advance notification to the Procuring agency of the pending termination, in sufficient time to permit the Procuring agency to procure needed requirements;
    - ii. following such termination, furnishing at no cost to the Procuring agency, the blueprints, drawings, and specifications of the spare parts, if requested.

#### 15. Warranty

- 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 Procuring agency'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.
- 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 to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The Procuring agency shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 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 Procuring agency.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, within a reasonable period, the Procuring agency 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 Procuring agency may have against the Supplier under the Contract.

#### 16. Payment

- 16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 16.2 The Supplier's request(s) for payment shall be made to the Procuring agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Procuring agency, but in no case later than sixty (60) days after submission of an invoice or claim by the Supplier.
- 16.4 The currency of payment is Pak. Rupees.

#### 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, with the exception of any price adjustments authorized in SCC or in the Procuring agency's request for bid validity extension, as the case may be.

#### 18. Change Orders

- 18.1 The Procuring agency may at any time, by a written order given o the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:
  - a. drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring agency;
  - b. the method of shipment or packing;
  - c. the place of delivery; and/or
  - d. the Services to be provided by the Supplier.
- 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 Procuring agency's change order.

#### 19. Contract Amendments

19.1 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

20.1 The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Procuring agency's prior written consent.

#### 21. Subcontracts

- 21.1 The Supplier shall notify the Procuring agency 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.
- 21.2 Subcontracts must comply with the provisions of GCC Clause 3.

# 22. Delays in the Supplier's Performance

- 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 Procuring agency in the Schedule of Requirements.
- 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 Procuring agency 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 Procuring agency 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.
- 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 without the application of liquidated damages.

### 23. Liquidated Damages

2.31 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 Procuring agency 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 Procuring agency may consider termination of the Contract pursuant to GCC Clause 24.

### 24. Termination for Default

- 24.1 The Procuring agency, 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:
  - 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 Procuring agency 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 Procuring agency has engaged in corrupt or fraudulent practices in competing for or in

executing the Contract.

For the purpose of this clause:

"corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

"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.

24.2 In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring agency 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 Procuring agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

#### 25. Force Majeure

- 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.
- 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 Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency 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.

### 26. Termination for Insolvency

26.1 The Procuring agency 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 Procuring agency.

### 27. Termination for

27.1 The Procuring agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its

#### Convenience

convenience. The notice of termination shall specify that termination is for the Procuring agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

- 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 Procuring agency at the Contract terms and prices. For the remaining Goods, the Procuring agency may elect:
  - 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. Resolution of Disputes

- 28.1 The Procuring agency 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 negotiations, the Procuring agency and the 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 party, adjudication in an agreed manner and/or arbitration.

### 29. Governing Language

29.1 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

30.1 The Contract shall be interpreted in accordance with the laws of the Procuring agency'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

32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.

### **Bid Solicitation Documents**

### For

### Procurement of Labs Procurement for U-EAS

#### PART TWO (PROCUREMENT SPECIFIC PROVISIONS)

- Invitation for Bids (IFB)
- Bid Data Sheet (BDS)
- Special Conditions of Contract (SCC)
- Schedule of Requirements
- Technical Specifications
- Sample Forms
- Eligibility

#### Preface

These Bidding Documents have been prepared for use by procuring agencies in the procurement of goods through National Competitive Bidding (NCB).

In order to simplify the preparation of bidding documents for each procurement, the Bidding Documents are grouped in two parts based on provisions which are fixed and that which are specific for each procurement. Provisions which are intended to be used unchanged are in Part one, which includes Section I, Instructions to Bidders, and Section II, General Conditions of Contract. Data and provisions specific to each procurement and contract are included in Part Two which includes Section II, Bid Data Sheet; Section III, Special Conditions of Contract; Section IV, Schedule of Requirements; Section V, Technical Specifications; and the forms to be used in Section I, Invitation for Bids, and Section VI, Sample Forms.

This is Part Two and contains data and provisions specific to each procurement. Care should be taken to check the relevance of the provisions of the Bidding Documents against the requirements of the specific goods to be procured. The following general directions should be observed when using the documents. In addition, each section is prepared with notes intended only as information for the Procuring agency or the person drafting the bidding documents. They shall not be included in the final documents, except for the notes introducing Section VI, Forms, where the information is useful for the Bidder.

- a. Specific details, such as the "name of the Procuring agency" and "address for bid submission," should be furnished in the Invitation for Bids, in the Bid Data Sheet, and in the Special Conditions of Contract. The final documents should contain neither blank spaces nor options.
- b. Amendments, if any, to the Instructions to Bidders and to the General Conditions of Contract should be made through the Bid Data Sheet and the Special Conditions of Contract, respectively.
- c. Footnotes or notes in italics included in the Invitation for Bids, Bid Data Sheet, Special Conditions of Contract, and in the Schedule of Requirements are not part of the text of the document, although they contain instructions that the Procuring agency should strictly follow. The final document should contain no footnotes.

- d. The criteria for bid evaluation and the various methods of evaluation in the Instructions to Bidders (Clauses 25.3 and 25.4, respectively) should be carefully reviewed. Only those that are selected to be used for the procurement in question should be retained and expanded, as required, in the Bid Data Sheet or in the Technical Specifications, as appropriate. The criteria that are not applicable should be deleted from the Bid Data Sheet.
- e. Clauses included in the Special Conditions of Contract are illustrative of the provisions that should be drafted specifically by the Procuring agency for each procurement.
- f. The forms provided in Section VI should be completed by the Bidder or the Supplier; the footnotes in these forms should remain, since they contain instructions which the Bidder or the Supplier should follow.

### Table of Contents - Part Two

Section I. Invitation for Bids	
Section II. Bid Data Sheet	
Section III. Special Conditions of Contract	45
Table of clauses	
Section IV. Schedule of Requirements	52
Section V. Technical Specifications	54
Section VI. Sample Forms	56
Sample Forms	57
1. Bid form and Price Schedules	58
2. Bid Security Form	60
3. Contract Form	61
4. Performance Security Form	62
5. Manufacturer's Authorization Form	63
6. Integrity Pact	64
7. Installation /Commissioning/Training Undertaking by OEM	65

## Part Two Section I. Invitation for Bids

Date:	
IFB No	

- 1. The University of Engineering and Applied Sciences, Swat has received an allocation from the Public Fund from Khyber Pakhtunkhwa Government in Pak rupees towards the cost of "Establishment of University of Engineering and Applied Sciences, Swat".
- 2. The University of Engineering and Applied Sciences, Swat, now invites sealed bids from eligible bidders for the supply of Labs equipment's.
- 3. Interested eligible bidders may obtain further information from the office of University of Engineering and Applied Sciences, Swat and may download Bidding Document from <a href="https://www.ueas.edu.pk">www.ueas.edu.pk</a>.
- 4. Bids must be delivered to the above office on or before 10:00 AM on April 11,2022 and must be accompanied by a security of 2% of total amount of bid in favor of Project Director, University of Engineering and Applied Sciences, swat.
- 5. Bids will be opened in the presence of bidders' representatives who choose to attend at **10:30 AM** on **April 11,2022** at the offices of *University of Engineering and Applied Sciences*, Procurement Unit, House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal, District Swat. Phone: 0946-613289
- 6. The bidders are requested to give their best and final prices as no negotiations are expected.

# Section II. 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) Part One. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

Introduction					
IED 4.4	N CD C C C C C C C C C C C C C C C C C C				
ITB 1.1	Name of Procuring Agency of Government of Khyber Pakhtunkhwa.				
ITB 1.1	University of Engineering & Applied Sciences, Swat (U-EAS, SWAT)  Government of Khyber Pakhtunkhwa/ Public Fund				
ITB 1.1	Name of Project.				
	Establishment of University of Engineering and applied Sciences, Swat.				
ITB 1.1	Name of Contract.				
	Procurement of Labs equipment for UEAS				
ITB 4.1	Name of Procuring agency.				
	University of Engineering & Applied Sciences, Swat.				
ITB 6.1	Procuring agency's address, telephone, telex, and facsimile				
	numbers.				
	Procurement Unit, University of Engineering and Applied Science,				
	Swat. House # 53, Sector-A, Main Township Double Road, Kanju				
	Township, Kanju, Tehsil Kabal, District Swat. Phone: 0946-613289				
	Email: riaz.khan@suet.edu.pk, shafqat.alam@suet.edu.pk				
ITB 8.1	Language of the bid.				
	English				
	Bid Price and Currency C&F or PKR				
ITB 11.2	The bidder Shall quote on C&F or Delivered Duty Paid (DDP)/PKR Price.				
	<ul> <li>DDP/PKR prices shall be inclusive of all Government Applicable Taxes, transportation charges, loading and Offloading at final lab destination, insurance charges, and any other incidental services, such as installation, commissioning, provision of technical assistance, training.</li> <li>For C&amp;F prices the Supplier/local agent/bidder shall cover the Insurance premium. University will provide the exemption documents for the government exempted custom duties &amp; taxes and where not exempted will be paid by the UEAS at the time of shipment clearance.</li> </ul>				

	• In Case of C&F if any taxes paid by the supplier on behalf				
	of the university will be reimbursed the payment to				
	•				
	supplier on provision of satisfactory documents/paid				
	challans in case of C&F at the time of clearance of				
	shipment.				
	<ul> <li>Also in C&amp;F clearing agent will be arranged by the Supplier</li> </ul>				
	and its charges will not be paid by the University.				
ITB 11.5	The Price shall be fixed.				
	Preparation and Submission of Bids				
ITB 13.3 (d)	Qualification requirements.				
	Supplier/Manufacturer/Distributer/Importer				
ITB 14.3 (b)	Availability Spare parts required for 05 years of operation, after expiry of				
	warranty period.				
ITB 15.1	Amount of bid security.				
	Y				
	Bid Security shall be 2% on the quoted value of FOR Price.				
	The bidders are required to submit bid security (in original) in the form of				
	Call Deposit Receipt (CDR) / Demand Draft (DD) / Bank Draft in the name				
	of "Project Director, University of Engineering and Applied Sciences,				
	Swat". An affidavit is mandatory in the technical bid (without indicating the figure) that bid security is placed in the financial bid. In case of non-				
	the figure) that bid security is placed in the financial bid. In case of non-compliance the bid shall treated as non-responsive.				
ITB 16.1	Bid validity period.				
11 D 10.1	Bids shall remain valid for a period of <b>180 days</b> 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.				
ITB 17.1	Number of copies.				
	One (Original Bid)				
	For Each Lab Wise Categories, separate technical and financial bids,				
	accompanied by separate 2% bid securities, should be submitted.				
ITB 18.2 (a)	Address for bid submission.				
()	Procurement Unit, University of Engineering and Applied Science,				
	Swat. House # 53, Sector-A, Main Township Double Road, Kanju				
	Township, Kanju, Tehsil Kabal, District Swat. Phone: 0946-613289				
ITB 18.2 (b)	Procurement of brand new instruments of laboratories Equipment for				
	U-EAS, SWAT.				
	Procurement Reference Number				
	U-EAS/2021-22/260/262/268,269,271-275/277				
L					

ITB 19.1	Deadline for bid submission.			
	April 11, 2022 till 10:00 AM			
ITB 22.1	Time, date, and place for bid opening.			
	10:30 A.M. on April 11, 2022 in Conference Hall, Procurement Unit, University of Engineering and Applied Science, Swat. House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal, District Swat. Phone: 0946-613289.			
	Bid Evaluation			
ITB 25.3	Criteria for bid evaluation.			
11 b 23.3	Evaluation of the bids will be conducted in the following four stages: -			
	Stage-1: Preliminary examination			
	At first stage, the Purchaser will examine the bids to determine: -			
	(a) whether they are complete,			
	(b) whether required documents have been furnished,			
	(c) whether the documents have been properly signed,			
	(d) whether power of attorney for the authorized person has been submitted,			
	(e) whether integrity pact has been signed			
	(f) whether proof of being an active tax payer with government Pakistan has been provided;			
	(g) Whether affidavit on stamp paper to the effect that "the requisite Bid Security has been placed separately in the sealed envelope of financial bid" has been provided.			
	(h) whether original equipment/ manufacturer's authorization letter has been submitted; and			
	(i) whether the bids are generally in order.			
	(j) Whether affidavit on stamp paper to the effect that "the firm is not blacklisted from any government, Semi Government or private organization" has been provided.			
EXE	The preliminary examination will be conducted on a pass or fail basis. Only bids which have been rated "passed" in the preliminary examination of bids shall be considered for further evaluation.			
	Stage-2: Capacity and eligibility responsiveness			
<i>Y</i> .	At the second stage, the Purchaser will inspect the bids to determine: -			
Y	(a) whether the bidder meet eligible requirement to bid as defined			
	in KPPRA Procurement of Goods, Works and Services Rules, 2014;			
	(b) whether the bidder has the requisite capabilities to undertake the			
	contract. For the purpose of this clause, the bidder must have: -			
	1. Minimum one engineer and one sales representative;			
	2. Bank certificate of good financial standing			
	3. Audited financial statements for the previous three years			
	<ul><li>4. OEM Training, Installation and Commissioning Certificate</li><li>5. Whether Integrity Pact for 10 million or above submitted</li></ul>			

6. Proof of supply of Lab Equipment's (03 POs/ Completion certificate in last 03 years)

The capacity and eligibility requirements will be undertaken on a responsive and non-responsive basis. The bids, which are non-responsive with respect to capacity and eligibility will be rejected and shall not be considered for further evaluation

#### **Stage -3** Technical Requirements Compliance

At the third stage, the Purchaser will examine the technical bids to determine whether they meet the minimum required specifications.

(Each item shall be considered as separate lot).

- (a) The bidders will be required to quote for each lot separately. However, the item should be complete in all respect with all required accessories required for being ready to use after delivery. Incomplete bids will be rejected.
- (b) The bidders can quote for all lots or for any particular lot. The purchase will evaluate all the bids on individual lot/Line item basis.

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 compliant for participation in the financial bid.

#### **Stage -4** Financial/Final Evaluation

- (a) In the last stage, the Purchaser will open the financial bids of only those bidders who are declared as technically compliant on a subsequently date. The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- (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.
- (c) The Purchaser may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a instruments deviation.
- (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 bidding documents, as notified by the state bank of Pakistan.
	(e) 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.
ITB 25.4 (a)	One option only. Not Applicable
ITB 25.4 (b)	Delivery schedule. Relevant parameters in accordance with option selected: <b>Not Applicable</b>
	<ul> <li>Delivery of Lab Equipment's should be started from month of December, 2022.</li> </ul>
	• Delivery of IT and Electrical items in Category 5 and desktop Systems and All laptops in different Categories should be completed within 30 days after issuance of Purchase Order.
Option (i)	adjustment expressed as a percentage, Not Applicable
Option (ii)	or adjustment expressed in an amount in the currency of bid evaluation, <b>Not Applicable</b>
Option (iii)	or adjustment expressed in an amount in the currency of bid evaluation, <b>Not Applicable</b>
ITB 25.4 (c) (ii)	Deviation in payment schedule. Not Applicable
ITB 25.4 (d)	Annual interest rate. Not Applicable  Cost of spare parts.
ITB 25.4 (e)	Not Applicable  Spare parts and after sales service facilities in the Procuring agency's country.  Applicable
ITB 25.4 (f)	Operating and maintenance costs.
ITB 25.4 (g)	Not Applicable Performance and productivity of equipment.
	Not Applicable
ITB 25.4 (h)	Details on the evaluation method or reference to the Technical Specifications.  As mentioned above in Bid Evaluation of bid data sheet.
ITB 25.4 Alternative	Specify the evaluation factors.
	Not Applicable
	Contract Award
ITB 29.1	Percentage for quantity increase or decrease.

	Number of items can be increased and Decreased as per requirement of the PE within permissible limits under the rules.	
ITB 33 Performance Security/ Guarantee	The successful bidder will deposit 10% performance security / guarantee in the shape of CDR/DD or Bank Guarantee which shall be released after warranty period.	
Sequence & Page numbering	All the bidders are required to provide annexure wise complete requisite documents with page marking for their Technical Evaluation / Qualification as prescribed under the rules.	
Preparation of bids	<ul> <li>i. All the bidders are strictly directed that NOT to copy and paste the specifications mentioned in these documents nor use words "As per specifications" or "specification compliance".</li> <li>ii. The bidders are required to quote their bids on F.O.R or C&amp;F of basis both separately for (Equipment Only). UEAS, Swat will decide / evaluate later, before awarding the contract.</li> <li>iii. Any bid not received as per terms and conditions laid down in this document are liable to be ignored. No offer shall be considered if:</li> <li>a. Received without Affidavit / bid security;</li> <li>b. It is received after the date and time fixed for its receipt;</li> <li>c. The offer is ambiguous;</li> <li>e. The offer is conditional;</li> <li>f. The offer is from blacklisted firm in any Federal / Provincial Govt. Dept.:</li> </ul>	

# Section III. Special Conditions of Contract

# Notes on the Special Conditions of Contract

Similar to the Bid Data Sheet in Section II, the clauses in this Section are intended to assist the Procuring agency in providing contract-specific information in relation to corresponding clauses in the General Conditions of Contract.

The provisions of Section III complement the General Conditions of Contract included in Part one, Section II, specifying contractual requirements linked to the special circumstances of the Procuring agency, the Procuring agency's country, the sector, and the Goods purchased. In preparing Section III, the following aspects should be checked:

a. Information that complements provisions of Part one Section II must be incorporated.

b. Amendments and/or supplements to provisions of Part one Section II, as necessitated by the circumstances of the specific purchase, must also be incorporated.



### **Table of Clauses**

	1.	DEFINITIONS (GCC CLAUSE 1)	47
	2.	COUNTRY OF ORIGIN (GCC CLAUSE 3)	47
	3.	PERFORMANCE SECURITY (GCC CLAUSE 7)	47
	4.	INSPECTIONS AND TESTS (GCC CLAUSE 8)	47
	5.	PACKING (GCC CLAUSE 9)	48
	6.	DELIVERY AND DOCUMENTS (GCC CLAUSE 10)	48
	7.	INSURANCE (GCC CLAUSE 11)	48
	8.	INCIDENTAL SERVICES (GCC CLAUSE 13)	48
	9.	SPARE PARTS (GCC CLAUSE 14)	49
	10.	WARRANTY (GCC CLAUSE 15)	49
	11.	PAYMENT (GCC CLAUSE 16)	49
	12.	PRICES (GCC CLAUSE 17)	50
	13.	LIQUIDATED DAMAGES (GCC CLAUSE 23)	50
	14.	RESOLUTION OF DISPUTES (GCC CLAUSE 28)	50
	15.	GOVERNING LANGUAGE (GCC CLAUSE 29)	51
	16.	APPLICABLE LAW (GCC CLAUSE 30)	51
	17.	NOTICES (GCC CLAUSE 31)	51
1	1		

#### **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 Procuring agency is University of Engineering & Applied Sciences, Swat Pakistan

GCC 1.1 (h)—The Procuring agency's country is Islamic Republic of Pakistan

GCC 1.1 (i)—The Supplier is Manufacturer, Authorized Distributor, Importer

#### Sample Provision

GCC 1.1 (j)—The Project Site is any campus in Swat.

#### 2. Country of Origin (GCC Clause 3)

All countries and territories as indicated in Part Two Section VI of the bidding documents, "Eligibility for the Provisions 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)

#### Sample provision

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)

#### Sample provision (DDP terms)

GCC 12.1— In case of F.O.R/DDP the successful bidder shall provide the ordered goods as per Purchase order terms and conditions while on C&F after establishment of Letter of Credit. In case of Import or as required otherwise, upon shipment, the Supplier shall notify the Purchaser the full details of the shipment, including Contract number, description of Goods, quantity and usual transport document. The Supplier shall mail the following documents to the Purchaser/Procuring Entity:

- (i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount; **Applicable**
- (ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;; **Applicable**
- (iii) copies of the packing list identifying contents of each package; Applicable
- (iv) insurance certificate;
- (v) manufacturer's or Supplier's warranty certificate;

- (vi) inspection certificate, issued by the nominated inspection Entity, and the Supplier's factory inspection report; **Applicable** and
- (vii) certificate of origin.

#### 7. Insurance (GCC Clause 11)

GCC 11.1— The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been delivered, hence insurance coverage is sellers responsibility. Since the Insurance is seller's responsibility they may arrange appropriate coverage.

#### 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—In partial modification of the provisions, the warranty period shall be 12 months from date of acceptance of the Goods or 18 months from the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, OR as requested in technical specification against any line items.

#### 11. Payment (GCC Clause 16)

#### Sample provision

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:

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:

• 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:

- i. Clean on board bill of lading/airway bill;
- ii. Supplier's detailed invoice showing description of the Stores, specifications, quantity, unit price and total price;
- iii. Detailed packing list;
- iv. Certificate of origin of the Stores; and
- v. Any other document as and when needed.
- ii. In case of FOR the payment will be made after successful supply, installation/inspection and test run of all requisite items along with training to the End User(s)

#### 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 23.1—Applicable rate:

In case of delay in supply maximum deduction up to 10% @ 0.5% per week, after issuance of PO/opening of LC.

#### 14. Resolution of Disputes (GCC Clause 28)

GCC 28.3—The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:

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

#### 15. Governing Language (GCC Clause 29)

GCC 29.1—The Governing Language shall be English.

#### 16. Applicable Law (GCC Clause 30)

GCC 30.1-The Contract shall be interpreted in accordance with the laws of Islamic

Republic of Pakistan which includes the following legislation:

The Employment of Children (ECA) Act 1991 The Bonded Labour System (Abolition) Act of 1992 The Factories Act 1934

#### 17. Notices (GCC Clause 31)

GCC 31.1—Procuring agency's address for notice purposes:

University of Engineering and Applied Science, Swat.

House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal, District Swat. Phone: 0946-613289.

### Section IV. Schedule of Requirements

The successful supplier shall set up state-of-the-art labs of brand new equipment solar laboratories Equipment and 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 Supplier shall cover the Insurance premium. The Purchaser is exempted from the Custom Duty and other government levies. The Purchaser will timely provide an Exemption letter and related documents to the clearing agent of the bidder for custom clearance.

### Section V. Technical Specifications

#### **GENERAL CONDITIONS**

1.1 These specifications explain the General Conditions, Bill of Quantities (Equipment) 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 Swat. 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, insurance, 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

The University of Engineering and Applied Sciences, Swat, House # 53, Sector-A, Main Township Double Road, Kanju Township, Kanju, Tehsil Kabal, District Swat, Khyber Pakhtunkhwa Province of the Islamic Republic of Pakistan.

#### 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±10%, 50 Hz, and three-phase AC 440V±10%, 50 Hz, unless otherwise specified.
- 2. Adequate built-in AVRs shall be arranged by the Supplier for the equipment whose electricity voltage change exerts a serious influence upon its function. Suitable electrical wiring system shall be arranged to cover the whole equipment in the room by one unit of AVR of suitable capacity in case such necessity exists.
- 3. 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/tools 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 shall be borne by the supplier/authorized representative in Pakistan.

#### 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 five (05) 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.
- c. The supplier will be responsible for removing any bug found in operation of the for 1 year and preferably for 5 years period.

#### 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".

#### **Technical Specifications**

# BILL OF QUANTITIES OF ITEMS AND TECHNICAL SPECIFICATIONS

#### **Please Note:**

- For Each Lab Wise Categories, separate technical and financial bids, accompanied by separate 2% bid securities, should be submitted.
- UEAS have right to award the contracts on item wise to the winning vendors from each quoted categories.
- Validity of Prices should be 180 days, from the date of opening of bids.
- Delivery of lab Equipment's should be started from month of December, 2022.
- Delivery of IT and Electrical items in Category 5 and desktop Systems and All laptops in different Categories should be completed within 30 days after issuance of Purchase Order.
- The bidder may quote with at least equivalent specifications, against the below items in different categories.

## Category 01

## **Bioengineering Lab**

Head	Specifications	Qty	Currency/ Incoterm
Vortex	Speed Range 200 to 3000 rpm	5	C&F Basis
	Electrical Requirements 100/240 V		
	Voltage 230 V		
	Hertz 50/60 Hz		
	Platform Material Rubber, Plastic		
	Certifications/Compliance cCSAus, CE, Certificate of Analysis		
	(COA), Certificate of Analysis (COA)		
	For Use With (Equipment) Rocker, Rotator, mixer		
	Operating Modes Touch, Continuous		
	Timer Range 1 to 99 min., Continuous		
	Bidder may quote the item with at least equivalent specification.		

Microspin	Rotor capacity: 12 × 1.5/2.0 mL vessels, 2 × 8-tube PCR strips  Max. speed: 12,100 × g (13,400 rpm)  Extremely compact footprint  User-friendly digital display for time and speed  Metal rotor bowl	5	C&F Basis
	Max. speed: 12,100 × g (13,400 rpm)  Extremely compact footprint  User-friendly digital display for time and speed  Metal rotor bowl		
	Extremely compact footprint User-friendly digital display for time and speed Metal rotor bowl		
	User-friendly digital display for time and speed Metal rotor bowl		
	Metal rotor bowl		
	Separate short-spin key for fast and comfortable centrifugation		
	Optimal ventilation flow reduces heating and protects temperature-		
	sensitive samples		
	Soft-touch lid closure for ergonomic lid locking		
	Automatic lid opening at the end of the run to prevent sample		
	warming and to allow easy access to samples		
	Bidder may quote the item with at least equivalent specification.		
Refrigerated	Max. RCF 21,300 × g	14	C&F Basis
Centrifuge	Display large, brightly lit LCD		
	Speed 100 – 15,060 rpm		
	Max. capacity $10 \times 5.0 \text{ mL}$		
	Rotors available 6		
	Acceleration time1 15 s		
	Deceleration time 115 s		
	Timer 10 s to 9:59 h, with continuous run function		
	SOFT brake function yes		
	Noise level $\leq 54 \text{ dB(A)}$		
	Temperature control range -10 °C to +40 °C		
	Bidder may quote the item with at least equivalent specification.		
Micropipettors	Mechanical air-cushion pipette for accurate, easy & ergonomic	50	C&F Basis
	pipetting of aqueous solutions.		
	pipette market, neiping to reduce nand and arm strain.		
	T		
	annudes. Return to factory adjustment without canbration.		
	Autoalaya the entire ninette or only the layer part according to needs		
	Premium material ensures a high UV and chemical resistance		
	Ranges: $0.1 - 2.5 \mu L$		
		ı l	
	$0.5-10~\mu L$		
	$0.5-10~\mu L$ $2-20~\mu L$		
	$0.5 - 10 \ \mu L$ $2 - 20 \ \mu L$ $10 - 100 \ \mu L$		
	$0.5 - 10 \ \mu L$ $2 - 20 \ \mu L$ $10 - 100 \ \mu L$ $30 - 300 \ \mu L$		
	$0.5 - 10 \ \mu L$ $2 - 20 \ \mu L$ $10 - 100 \ \mu L$		
	$\begin{array}{c} 0.5 - 10 \; \mu L \\ 2 - 20 \; \mu L \\ 10 - 100 \; \mu L \\ 30 - 300 \; \mu L \\ 100 - 1,000 \; \mu L \end{array}$		
Automatic	$0.5-10~\mu L$ $2-20~\mu L$ $10-100~\mu L$ $30-300~\mu L$ $100-1,000~\mu L$ Bidder may quote the item with at least equivalent specification.	2	C&F Basis
Automatic pipettor for	$\begin{array}{c} 0.5-10~\mu L\\ 2-20~\mu L\\ 10-100~\mu L\\ 30-300~\mu L\\ 100-1,\!000~\mu L\\ \\ \hline \textbf{Bidder may quote the item with at least equivalent specification.} \\ \\ \textbf{Amperage } 0.2A \end{array}$	2	C&F Basis
Automatic pipettor for serological	$0.5-10~\mu L$ $2-20~\mu L$ $10-100~\mu L$ $30-300~\mu L$ $100-1,000~\mu L$ Bidder may quote the item with at least equivalent specification.	2	<mark>C&amp;F Basis</mark>
	Benefit from one of the lowest operating and tip ejection forces on the pipette market, helping to reduce hand and arm strain.  Temporarily adjust pipette in seconds for better accuracy when pipetting challenging liquids like ethanol or when pipetting at high altitudes. Return to factory adjustment without calibration.  Autoclave the entire pipette or only the lower part according to needs and applications to ensure a proper decontamination.		

	For Use With (Equipment) All major brands of glass or plastic serological pipets, 1 to 100mL Frequency 50/60 Hz universal charger, table stand, wall-mounted holder, 1mL pipet support, instruction manual and warranty card Recharge Time 3 hours Voltage 100 to 240 V Warranty. Dispensing Speed 8 For Use With Graduated and Volumetric Glass Serological Pipette, Graduated and Volumetric Plastic Serological Pipette. Volume (Metric) 1 to 100 mL Bidder may quote the item with at least equivalent specification.		
Waterbath	Capacity (English) 5.0 gal. Controller Type Digital Description 19L Circulating Water Bath Display Monochrome LCD Heating Capacity 1200 w Material 304 Stainless Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity±0.05°C Capacity (Metric) 19 L Communications Digital Electrical Requirements Global Voltage 100/115 V 200/230 Temperature Range Ambient ±5° to 100°C  Bidder may quote the item with at least equivalent specification.	9	C&F Basis
Fridge (small room size)	Cooling method: Direct Cool Color: White Metal Temperature 4° C Gross capacity Ltr: 126 Ref Capacity Ltr.: 104 Freezer Capacity Ltr.: 22 Type: Single Door Voltage Range: 180-240V/50Hz Compressor: Regular Bidder may quote the item with at least equivalent specification.	5	DDP/ PKR
Nanodrop	Accuracy (Photometric) 3% (at 0.97 A) Compatibility, DYMO LabelWriter 450 printer, Bluetooth keyboard, mouse and barcode reader Connections, Three USB-A ports and Ethernet enabled Detector Type, 2048-element CMOS linear image sensor Display, 7-inch, 1280 x 800 high-definition color display Operating System, Android <sup>TM</sup> Photometric Accuracy Instrument 3% at 0.97 A, 302 nm (Absorbance expressed at Abs/mm at 25°C) System Requirements Windows <sup>TM</sup> 8.1 and 10, 64 bit Wavelength Accuracy ±1 nm Wavelength Range 190–850 nm Applications Nucleic Acid A260, A260/A280, A260/A230 and Labeled Nucleic Acids; Protein A280 and A205,	3	C&F Basis

	Protein Pierce 660, Protein Bradford, Protein BCA, Protein Lowry,		
	Labeled Proteins, OD600, Kinetics, UV-Vis, and Custom Methods		
	Maximum		
	Concentration, dsDNA: Pedestal: 27,500 ng/µL		
	BSA (IgG): Pedestal: 820 (400) mg/mL		
	Detection Range, dsDNA: Pedestal: 2.0 ng/μL; Cuvette: 0.2 ng/μL		
	BSA (IgG): Pedestal: 0.06 (0.03) mg/mL; Cuvette: 0.006 (0.003)		
	mg/mL		
	Keypad, Built-in touchscreen, multipoint capacitive touch		,
	Lamp, Xenon flash lamp		
	Measurement Time Measurement and Data Processing Time 8		
	seconds		
	Pathlength (Metric) 0.030 to 1.0 mm auto-ranging		
	Photometric Range 10 mm equivalent: Pedestal: 0–550 A;		
	Cuvette: 0–1.5 A		
	Power Consumption Operating: 12–18 W		
	Standby: 5 W		
	Repeatability Measurement repeatability: Typical: 0.002 A (1.0 mm		
	path) or 1%CV, whichever is greater		
	(SD of 10 individual measurements at 0.97 A)		
	Sample Temperature Temperature Control (cuvette only) 37 °C		
	Sample Volume (Metric) Minimum 1µL		
	Spectral Bandwidth ≤1.8 nm (FWHM at Hg 254 nm)		
	Voltage 12 V (DC)		
	Wide spectral range (190-850 nm) for measuring a variety of samples		
	types:		
	Peptides (205 nm)		
	DNA and RNA (260 nm)		
	Purified protein (280 nm)		
	Toxicology assays and industrial dyes (490 nm)		
	Gold nanoparticles (520 nm)		
	Colorimetric protein assays (BCA 562 nm, Bradford 595 nm,		
	Modified Lowry 650 nm, Pierce 660 660 nm)		
	Optical Density measurements (600 nm)		
	Combining the patented sample-retention system with cuvette		
	capability accommodates low and high concentrations (2.0 - 27,500		
	ng/μL dsDNA and 0.06 - 820 mg/mL BSA) Pedestal measurements that require only 1 – 2 μL of your sample and		
	do not require sample dilution, even for highly concentrated samples		
	Calculates sample purity ratios (A260/A280 nm and A260/A230 nm)		
	Pre-configured methods for DNA, Protein A280, Microarray, Protein		
	and Labels, Pierce 660, Bradford, BCA, and Lowry		
	User-friendly software includes custom methods and data export		
	capabilities.		
	Bidder may quote the item with at least equivalent specification.		
Qubit	Sample throughput 1 sample in 3 seconds	4	C&F Basis
Quoti	User interface 5.7 in. color touchscreen	7	CCI Dasis
	Onboard calculators Reagent calculator		
	System check Qubit 4 System Verification Assay Kit		
	Fluorometer mode Yes		
	1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Į

	Programmable open format Yes—
	Sample data storage 1,000 samples
	Data export Wi-Fi
	USB drive
	Direct to computer via USB or Ethernet cable
	Light sources Blue LED (peak ~470 nm),
	Red LED (peak ~635 nm)
	Excitation filters Blue LED (430–495 nm),
	Red LED (600–645 nm)
	Emission filters Green (510–580 nm),
	Red (665–720 nm)
	Bidder may quote the item with at least equivalent specification.
Real time - PCR	Sample capacity (wells) 96  2 C&F Basis
Real time 1 CR	Reaction volume 0.2mL block: 10–100 μL
	96-well:0.2 mL block: 10–100 μL
	Excitation source Bright white LED
	Optical detection 96 wells: 6 decoupled filters
	Optical detection 96 wells: 6 decoupled litters
	Excitation/detection range 96 wells: 450–680 nm/500–730 nm
	Multiplexing 96-well: up to 6 targets
	2D barcode reading Optional
	Heating/cooling method Peltier Peltier
	Temperature zone function 96 wells: 6 VeriFlex zones
	Max block ramp rate 6.5°C/sec
	Average sample ramp rate 3.66°C/sec
	Temperature uniformity 0.4°C
	Temperature accuracy 0.25°C
	Run time <30-minute runs
	Dye compatibility (name) FAM/SYBR Green, VIC/JOE/HEX/TET,
	ABY/
	NED/TAMRA/Cy3, JUN, ROX/Texas Red, MUSTANG PURPLE,
	Cy® 5/LIZ <sup>TM</sup> , Cy®5.5
	Chemistry capabilities Fast/standard
	Features to assist with
	21 CFR Part 11 compliance Yes,
	Number of copies 1 copy
	Sensitivity Detect differences as small as 1.5-fold intarget quantities in
	singleplex reaction
	Bidder may quote the item with at least equivalent specification.
Thermocycler	Block format 96-well, 0.2 mL 4 C&F Basis
basic	Features
	Enabled to run Fast chemistry
	Controllable ramp rate
	Program overwrite protection
	• Auto restart (after power outages)
	Edit program during experiment
	One-touch incubation
	Max block ramp rate 4°C/sec
	Max sample ramp rate 3°C/sec
	Temperature accuracy ±0.25°C (35–99.9°C)
	1011permine accuracy +0.25 C (55 77.7 C)

	I =		
	Temperature range 0–100.0°C		
	Temperature uniformity <0.5°C (30 sec after reaching 95°C)		
	PCR volume range 10–100 μL		
	Instrument memory USB and 2,000 MB onboard memory; onboard		
	capacity >1,000 protocols		
	Display interface 8-inch color TFT LCD		
	Blocks 3 temperature zones, 20°C range (10°C zone-to-zone)		
	Data connectivity Cloud or mobile via Ethernet or WiFi		
DNIA C	Bidder may quote the item with at least equivalent specification.	1	COEDania
DNA Sequencer	Read length	1	C&F Basis
	Nanopores read the length of DNA or RNA presented to them — from		
	short to ultra-long (longest >4 Mb)		
	Short to dida-long (longest >4 Mb)		
	Dimensions		
	Difficusions		
	Compact benchtop device with integrated compute suitable for any lab		
	compact senence device with integrated compact suitable for any lab		
	Size: W 370 mm, H 220 mm, D 365 mm		
	Weight: 11 kg		
	250 Gb yield*		
	250 Go yield		
	Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*		
	-r r r r		
	* Theoretical max output when system is run for 72 hours (or 16 hours		
	for Flongle) at 420 bases / second. Outputs may vary according to		
	library type, run conditions, etc.		
	Suitable applications		
	Larger genomes or projects		
	Whole transcriptomes (direct RNA or cDNA)		
	Large numbers of samples		
	DNA Sequencer		
	*With accessories and reagents.		
	Bidder may quote the item with at least equivalent specification.		
DNA Sequencer	Read length	2	C&F Basis
(Mini)	7		
	Nanopores read the length of DNA or RNA presented to them — from		
	short to ultra-long (longest >4 Mb)		
	Dimensions		
	Size: W 105 mm, H 23 mm, D 33 mm		
	Weight: 87 g		
	Suitable applications include		
	William and a second		
	Whole genomes/exomes		
	Metagenomics		
	Targeted sequencing		

Whole transcriptomes (cDNA) Smaller transcriptomes (direct RNA) Multiplexing for smaller samples High yields  Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*  * Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Fpoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity #0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Uniformity #0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Uniformity #0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Onlogomy #0.05°C Capacity Metrie 27 L Electrical Requirements				
Multiplexing for smaller samples High yields Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*  * Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed. USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Stability +0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 39 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Whole transcriptome (cDNA)		
High yields  Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*  * Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel  Controller Type Digital  Description 27L Shaking Water Bath Display Monochrome LCD  Heating Capacity 1500 w  Material Epoxy Powder-coated Cold Rolled Steel  Temperature Stability =0.15°C  Temperature Uniformity ±0.05°C  Capacity (Metric) 27 L  Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60  Hz  Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Frequency 50/60 Hz  Max. Current 2000 mA  Max. Voltage 200 V  Timer 0 to 99 hr. 59 min.  Current High Current Display Voltage or current No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*  * Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Prequecy 50/60 Hz Amx. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 em Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Multiplexing for smaller samples		
* Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity +0.05°C Capacity (Metric) 27 L Flectrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		High yields		
* Theoretical max output when system is run for 72 hours (or 16 hours for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity +0.05°C Capacity (Metric) 27 L Flectrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity ±0.0°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Up to 50 Gb per MinION Flow Cell / 2.8 Gb per Flongle Flow Cell*		
for Flongle) at 420 bases / second. Outputs may vary according to library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity ±0.0°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
library type, run conditions, etc.  Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital  Description 27L Shaking Water Bath  Display Monochrome LCD  Heating Capacity 1500 w  Material Epoxy Powder-coated Cold Rolled Steel  Temperature Presents 4  Temperature Stability #0.19°C  Temperature Stability #0.19°C  Temperature Uniformity #0.05°C  Capacity (Metric) 27 L  Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60  H7  Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Power supply  Power supply  Power supply  Power supply  Timer 0 to 99 hr. 59 min.  Current High Current  Display Voltage or current  No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus  (mini)  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Connectivity  Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Power supply  Power supply Trimer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		library type, run conditions, etc.		P
Weighs under 100 g and plugs into a PC or laptop using a high-speed USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Connectivity	07	
USB 3.0 cable  Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Presets 4 Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Will 1 100 111 in PG 1 in 111		
Compatible with Flongle Flow Cells for smaller tests and analyses Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital  Description 27L Shaking Water Bath  Display Monochrome LCD  Heating Capacity 1500 w  Material Epoxy Powder-coated Cold Rolled Steel  Temperature Presets 4  Temperature Uniformity ±0.05°C  Capacity (Metric) 27 L  Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60  Hz  Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz  Max. Current 2000 mA  Max. Voltage 200 V  Timer 0 to 99 hr. 59 min.  Current High Current  Display Voltage or current  No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus  (mini)  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		USB 3.0 cable		
Multiplexing kits for higher sample throughput  *With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
*With accessories and reagents.  Bidder may quote the item with at least equivalent specification.  Shaking Water bath  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Shaking Water bath  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		Multiplexing kits for higher sample throughput		
Shaking Water bath  Chamber Material 304 Stainless Steel Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (min)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and		*With accessories and reagents.		
Shaking Water bath  Chamber Material 304 Stainless Steel  Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (min)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Controller Type Digital Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and	Cl 1: XX		1	GOED :
Description 27L Shaking Water Bath Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and	_		1	C&F Basis
Display Monochrome LCD Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metrie) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and	bath			
Heating Capacity 1500 w Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Material Epoxy Powder-coated Cold Rolled Steel Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Temperature Presets 4 Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Temperature Stability ±0.1°C Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Temperature Uniformity ±0.05°C Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C Bidder may quote the item with at least equivalent specification.  Power supply Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Gel apparatus (mini)  Capacity (Metric) 27 L Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60  C&F Basis  C&F Basis				
Electrical Requirements Global Voltage 100/115 V 200/230 V 50/60 Hz Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Hz Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Frequency 50/60 Hz Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Hz Temperature Range Ambient +5° to 100°C  Basis  6 C&F Basis  C&F Basis				
Temperature Range Ambient +5° to 100°C  Bidder may quote the item with at least equivalent specification.  Frequency 50/60 Hz  Max. Current 2000 mA  Max. Voltage 200 V  Timer 0 to 99 hr. 59 min.  Current High Current  Display Voltage or current  No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus  (mini)  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Bidder may quote the item with at least equivalent specification.  Power supply  Frequency 50/60 Hz  Max. Current 2000 mA  Max. Voltage 200 V  Timer 0 to 99 hr. 59 min.  Current High Current  Display Voltage or current  No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus  (mini)  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Power supply  Frequency 50/60 Hz  Max. Current 2000 mA  Max. Voltage 200 V  Timer 0 to 99 hr. 59 min.  Current High Current  Display Voltage or current  No. of Jacks 4  Voltage 230 V  Width (English) 10.75 in.  Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus  (mini)  Frequency 50/60 Hz  6  C&F Basis  6  C&F Basis  10  C&F Basis				
Max. Current 2000 mA Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Max. Voltage 200 V Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and	Power supply		6	C&F Basis
Timer 0 to 99 hr. 59 min. Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Current High Current Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Display Voltage or current No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
No. of Jacks 4 Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Voltage 230 V Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Width (English) 10.75 in. Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Width (Metric) 27 cm  Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation  Leak-proof casting that allows a gel to be cast and				
Bidder may quote the item with at least equivalent specification.  Gel apparatus (mini)  Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
Gel apparatus (mini) Economical enough for every researcher to have one at their workstation Leak-proof casting that allows a gel to be cast and				
(mini) their workstation Leak-proof casting that allows a gel to be cast and				
Leak-proof casting that allows a gel to be cast and			10	C&F Basis
	(mini)			
run in the same chamber with no tape or additional parts				
		run in the same chamber with no tape or additional parts		

	Las areins 1		
	required		
	Offers a wide range of combs		
	Two comb slots on gel tray double sample capacity by		
	doubling number of sample wells		
	UVT gel trays are silk screened with a fluorescent ruler for		
	easy measurement of bands		
	Sample Range: 5-34		
	Bidder may quote the item with at least equivalent specification.		
Gel apparatus	Leak-proof casting allows a gel to be cast and run in the	4	C&F Basis
(midi)	same chamber with no tape or additional parts required.		
	Longer gel length and the 2 comb slots provide the		
	flexibility of running 8 to 48 samples on 1 gel		
	Optional rapid load tray can increase the maximum		
	number of samples to 108 in an 8 or 12 multichannel	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	
	pipette format.	, ,	
	2 comb slots on the U.V. Transmissible (UVT) gel tray		
	double sample capacity by doubling the number of		
	sample wells		
	UVT gel trays are silk screened with a fluorescent ruler for		
	· ·		
	easy measurement of bands		
	C 1 D 0.40		
	Sample Range: 8-48		
2D2 D 4 2T	Bidder may quote the item with at least equivalent specification.		GOED :
SDS-PAGE	Quickly and easily casts and runs 1 or 2 gels in the same device	6	C&F Basis
(minigel)	Perfect tool for second dimension protocols of 2-D electrophoresis,		
	SDS and agarose gels, and native PAGE electrophoresis		
	Unique agarose plug method makes casting gel simple and quick. Gel		
	assemblies do not have to be moved once set-up. Two individual steps		
	of casting and running in different devices are now combined. Simply		
	secure the glass cassettes, pour the agarose plug in the specially		
	designed trough, cast polyacrylamide solution in the cassettes, load		
	samples, and run the gel. Manufactured using a time-tested acrylic		
	fabrication technology, providing a durable, long-lasting system		
	Central cooling core provides even cooling across the gel surface for		
	outstanding resolution and clear banding		
	Cooling is achieved by circulating fluid through the core with external		
	circulator or cool tap water		
	Very simple clamping mechanism makes loading glass cassettes and		
	most manufacturers' precast gels trouble free		
	Gel size: 8-10 x 10cm		
	Low Buffer: 150ml		
	High Buffer: 150ml		
	Bidder may quote the item with at least equivalent specification.		
	Didder may quote the item with at least equivalent specification.		l .

SDS-PAGE (midigel)	Quickly and easily casts and runs 1 or 2 gels in the same device Perfect tool for second dimension protocols of 2-D electrophoresis, SDS and agarose gels, and native PAGE electrophoresis  Unique agarose plug method makes casting gel simple and quick. Gel assemblies do not have to be moved once set-up. Two individual steps of casting and running in different devices are now combined. Simply secure the glass cassettes, pour the agarose plug in the specially designed trough, cast polyacrylamide solution in the cassettes, load samples, and run the gel. Manufactured using a time-tested acrylic fabrication technology, providing a durable, long-lasting system Central cooling core provides even cooling across the gel surface for outstanding resolution and clear banding Cooling is achieved by circulating fluid through the core with external circulator or cool tap water Very simple clamping mechanism makes loading glass cassettes and most manufacturers' precast gels trouble free  Gel size: 14-16 x 16cm Low Buffer: 350ml High Buffer: 200ml  Bidder may quote the item with at least equivalent specification.	4	C&F Basis
Electroblotting	Efficient—high transfer efficiency with a broad range of protein sizes compared to conventional semi-dry or wet (tank) transfer methods  • Fast—5 to 12 minute transfer when used with Blotter Select Transfer Stacks or Power Blotter 1-Step Transfer Buffer  • Integrated power supply—seamless operation between control unit and cassette; no need for external power supply  • Easy-touch programming—convenient pre-programmed transfer methods or create, save, and run customized transfer methods  • Flexible—simultaneous transfer of 1 to 2 mini-size or 1 midi-size gel using the Blotter Cassette  • Versatile—compatible with blotter Select Transfer Stacks and Pierce 1-Step Transfer Buffer for rapid blotting programs or Towbin transfer buffer for conventional semi-dry transfer methods  Bidder may quote the item with at least equivalent specification.	6	C&F Basis
UV- transilluminator + spare tubes	Dual LED Blue/White Light Transilluminator features include:  • White and blue light sources that allow for visualization of common nucleic acid stains, colorimetric protein and membrane stains, and SYPRO protein stains  • Magnetic filter screen with hinge-free design for simplicity and safety, allowing observation and gel-cutting without protective goggles  • Five-minute automatic power-off and long-lasting LEDs that are safer for the eyes and skin compared with UV bulb illumination  • Three-level adjustable light intensity to achieve the best observational or imaging quality  • Compact design for ease of mobility and storage  Bidder may quote the item with at least equivalent specification.	4	C&F Basis

Gel doc +	Camera	2	C&F Basis
thermal printer	Detector Cooled 16-bit CCD;		CAT Dasis
mermai printer	Resolution 9.1 megapixels		
	Lens Fixed, 25 mm, f/0.95		
	Field of view 22.5 x 18.0 cm (W x D) (image up to 4 mini blots or		
	gels		
	System interface		
	Touchscreen 12.1-inch capacitive LCD display; 1,024 x 768 pixels		
	System hardware		
	Sample drawer and stage: Automatic open/close drawer with		
	automatic rotating sample stage		
	Filter sets: • 12 filters (6 excitation, 6 emission)		
	Illumination sources: • Green LED (490-520 nm)		
	transilluminator • Epi white LED • Epi near-IR LED		
	Sustain as francis		
	System software Automated features • Automatic zoom • Automatic focus • Automatic		
	exposure (Smart Exposure) • Automatic on-board image analysis		
	Stand-alone analysis applications		
	Software: desktop version (macOS <sup>TM</sup> or Windows <sup>TM</sup> operating		
	systems), Connect Platform (cloud-based), and Software—Secure		
	(desktop version supporting 21 CFR Part 11 compliance)		
	Main supported imaging applications		
	Colorimetric-stained protein gels		
	Fluorescent-stained protein gels		
	Fluorescent-stained nucleic acid gels		
	Colorimetric-stained membranes		
	Chemiluminescent western blots		
	Colorimetric western blots		
	Fluorescent western blots		
	Qualitative visible imaging applications		
	Translucent objects (e.g., colony plates)		
	Opaque objects (e.g., 2D strips, TLC plates, leaf sections)		
	GFP expression in multiwell plates (e.g., 6-well plate)		
	Chemiluminescent Western Blot Imaging, DNA Gel Imaging,		
	Fluorescent Western Blot Imaging, Protein Gel Imaging		
	Bidder may quote the item with at least equivalent specification.		
Precision	Precision Balance with no shield, latest LED screen, 1200g capacity,	5	C&F Basis
Balance with	10mg intervals. Sartorius or equivalent.		
10mg intervals	Diddon may quote the item with at least activation of the st		
Desktop pH	Bidder may quote the item with at least equivalent specification.  Record accurate and reliable pH, mV, ORP and temperature	8	C&F Basis
meter	measurements with the Benchtop pH Meter. This meter is ideal for a	O	CXI Dasis
Hictor	wide range of applications and advanced pH analysis in the lab.		
	Perform up to a 5-point pH calibration, log up to 2000 data point sets		
	, 6		1

with time/date stamp and easily transfer calibration and data logs via USB to a printer or computer with free downloadable software. Use the included electrode stand to easily place sensors in samples and simplify storage to minimize breakage.

AC Adapter Universal 50-60 Hz, 100-240 VAC power adapter Accuracy (Temperature) ±0.1°C

Accuracy (mV)  $\pm 0.2$  mV or  $\pm 0.05\%$  of reading whichever is greater Accuracy (pH)  $\pm 0.002$  pH

Backlight Option Yes, selectable

Calibration pH with calibration editing option, relative mV (RmV), ORP and temperature

Calibration Points 1 to 5

Data Management Details Transfer single, range or all data points to printer or computer

Data Points 2000 with Date and Time Stamp

Display Type LCD (Graphic with Backlight)

Log Function Type Automatic data logging with Auto-Read and Timed measure modes; manual data logging with Continuous m Measurement Modes pH, mV, relative mV (RmV) or ORP with temperature

Outputs USB,

Temperature Range (Metric) -5°C to +105°C

Alarm Output High/low limit alarm, calibration due alarm

Battery Life 800 hr.

Battery Type 4 x AA (sold separately)

Channels 1

Description pH benchtop meter standard kit with general purpose pH/ATC electrode

computer cable

Inputs BNC (pH or ORP electrode), pin-tip (reference electrode), 8 pin MiniDIN (ATC temperature probe), stirrer input (stirrer probe) IP Rating IP-54

Isopotential Point 7.000pH

Keypad Comprehensive with menu-specific function keys and dual purpose scroll/shortcut keys

Languages English, Spanish, French, Italian, German and Chinese;

Portuguese and Korean with Software Update

Memory Non-volatile memory preserves data log, calibration log and meter settings

Methods 10 per channel with password protection

Model Orion Star A211 pH/mV/RmV/ORP/Temperature Benchtop Meter

Power Supply Universal AC adapter (included) or 4 AA batteries (sold separately)

Probe Type pH electrode, ORP electrode, reference half-cell electrode, ATC temperature probe, stirrer probe

Range (mV)  $\pm 2000$  mV

Range (ORP)  $\pm 2000.0$ mV

Range (pH) -2 to 20

Range (Relative mV)  $\pm 2000.0$ mV

	Relative Humidity Range 5 to 85%, non-condensing Resolution (pH) 0.1, 0.01, 0.001 Resolution (mV) 0.1mV Resolution (Temperature) 0.1°C, 0.1°F Stability Selectable fast, medium, slow or Smart Stability setting; Selectable off or Automatic Smart averaging setting Temperature (English) Operating 41°F to 113°F (ambient) Temperature (Metric) Operating 5°C to 45°C (ambient) Temperature Probe Calibration 1 point temperature offset calibration Temperature Range (English) 22.0°F to 221.0°F Temperature Selection Manual or automatic with ATC temperature probe Warranty 3 Year Meter Warranty Weight (English) 2 lb. Weight (Metric) 0.9 kg Unit Size Each Bidder may quote the item with at least equivalent specification.		
Hot plate/Magnet	Temperature control range: From approx. 4°C above room temperature to 99°C, lowest setting volume +1°C	6	C&F Basis
Stirrer	Digital Timer: 1 second to 160 hours Speed Range: 60 to 1400 rpm Speed Stability		
	Bidder may quote the item with at least equivalent specification.		
Dry Shaker/Incubator	Capacity large Programming steps / storable programs 15/4 Temperature range Ambient +5 °C to 80 °C External height (with lid/door open) 113.9 cm (47 in) excluding base Timer 0.1 – 99.9 h, continuous Power supply 230 V, 50 Hz Temperature range Ambient +5 °C to 80 °C Audible and visual alarmsyes Temperature uniformity±0.25 °C at 37 °C Available program modes > Constant speed and temperature > Programmable multi-steps > RS-232 communication port Drive mechanism triple-eccentric counterbalanced drive Gassing manifold yes Platform size (cm/in) 76 × 46 cm (30 × 18 in) Slide-out platform yes Speed range 25 – 400 rpm with 2.5 cm orbit; 25 – 300 rpm with 5.1 cm orbit or 2 stacked units; 25 – 250 rpm with 3 stacked units Multi-step programming yes cETLus and CE marked yes	7	C&F Basis
Sonicator with standard probes, a four horn one and a cup horn for 1.5, 15 and 50 ml tubes.	Bidder may quote the item with at least equivalent specification.  Powerful ultrasonic processor featuring programmable operation and a digital display of operating parameters. Popular applications include nanoparticle dispersion, creating emulsions, cell lysis and homogenization; Power Rating:  500 watts ; Frequency: 20kHz ; Timer:	5	C&F Basis

	10 hours		
	; Adjustable Pulse On/Off: 1 second to 1 minute		
	1 second to 1 minute		
	Programmable Set time and amplitude for hands free operation		
	Pulse mode		
	Prevent heat buildup in temperature sensitive samples		
	Digital amplitude / intensity control		
	Output intensity can be set from 20-100%		
	Elapsed time indicator		
	Displays duration of sonication		
	Display of wattage and joules		
	Real-time energy monitoring		
	Overload protection  Provents demage to circuitary if a fault occurs		
	Prevents damage to circuitry if a fault occurs		
	RoHS compliant		
	Uses lead free components		
Contribuca	Bidder may quote the item with at least equivalent specification.  Max. rotor capacity: 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP	5	C&F Basis
Centrifuge		3	C&F Basis
(Preparative) +	Max. speed: 30,130 × g (17,500 rpm)		
rotors	Temperature control range -11 °C to 40 °C		
	Remarkable versatility with 12 different rotors		
	Soft-touch one-finger lid closure for ergonomic operation		
	Menu-driven, multi lingual operation menu (English, German, French,		
	Spanish) with large backlit display		
	5 program keys for easy access to routine programs		
	Saves up to 50 user-defined programs		
	Automatic rotor recognition and imbalance detection for maximized		
	operational safety		
	QuickLock System for quickly opening and closing the rotor lid		
Cantrifaca	Bidder may quote the item with at least equivalent specification.	1	CQ-E Dazia
Centrifuge	Max. RCF 20,913 × g	1	C&F Basis
(swing bucket)	Max. RCF with fixed-angle rotor 20913 × g		
	Max. RCF with swing-bucket rotor 4500 × g		
	Max. RCF with plate rotor 2250 × g		
	Display large, brightly lit LCD Speed 200 – 14,000 rpm (10 rpm steps)		
	Max. capacity $4 \times 250$ mL/ $2 \times 5$ MTP		
	Rotors available 12(optional)		
	Volume range 1,000 mL		
	Noise level < 62 dB(A)		
	Refrigerated: -11 – 40C		
	Bidder may quote the item with at least equivalent specification.		
Orbital shakers	Capacity large	1	C&F Basis
Official Shakers	Programming steps / storable programs 15/4	1	C&T Dasis
	Temperature range Ambient +5 °C to 80 °C		
	External height (with lid/door open) 113.9 cm (47 in) excluding base		
	Timer 0.1 – 99.9 h, continuous		
	Power supply 230 V, 50 Hz		
	Temperature range Ambient +5 °C to 80 °C		
	Audible and visual alarmsyes		
	Audioic and visual alarmsycs		

			T .
	Temperature uniformity±0.25 °C at 37 °C		
	Available program modes > Constant speed and temperature		
	> Programmable multi-steps		
	Drive mechanism triple-eccentric counterbalanced drive		
	Gassing manifold yes		
	Platform size (cm/in) $76 \times 46$ cm ( $30 \times 18$ in)		
	Slide-out platform yes		
	Speed range $25-400$ rpm with 2.5 cm orbit; $25-300$ rpm with 5.1 cm		
	orbit or 2 stacked units; 25 – 250 rpm with 3 stacked units		
	Multi-step programming yes		,
	cETLus and CE marked yes		
	Bidder may quote the item with at least equivalent specification.		
Orbital	Rocking Angle 1° to 15°	1	C&F Basis
Shaker/Rocker	Speed Control Accuracy $\pm 1 \text{ rpm } (\leq 50 \text{ rpm}), \pm 2 \text{ rpm } (>50 \text{ rpm})$		
	Speed Range 1 to 70 rpm	<b>Y</b>	
	Electrical Requirements 100/240 V		
	Voltage 230 V		
	Hertz 50/60 Hz		
	Amperage 0.1 A		
	Load Bearing Capacity (English) 9.92 lb.		
	Load Bearing Capacity (Metric) 4.5 kg		
	Temperature Control Digital		
	Platform Material Stainless Steel		
	Controller Type LED		
	Model Digital Rocker		
	Plug Type EU, UK, CN Plug		
	Type Digital Rocker		
	Display LED		
	Humidity Range 20 to 85%		
	Includes Dimpled Rubber Mat tray x 1, Rubber strip x 6, User Manual		
	x 1, EU plug x 1, UK plug x 1, CHN plug x 1		
	Platform Style Tray		
	Timer Range 1 sec. to 9999 min., Continuous		
	Bidder may quote the item with at least equivalent specification.		
Microwave	Operates just as a domestic microwave oven using time and power	1	C&F Basis
Oven	level of 1000W power. Outer dimensions = 20 ½" W x 12 1/8" H x	1	CCT Dasis
Oven	16" D. Cavity dimensions = 13 7/8" W x 8 1/8" H x 14 5/8" D		
	Bidder may quote the item with at least equivalent specification.		
Refrigerator (4C	Pharmacy Refrigerator, Glass door, with lock and key, Upright,	2	DDP/ PKR
only; pharma)	Climate Class: N, Cooling Type: Forced air cooling, Defrost Mode:		DDI/TKK
omy, pharma)	Auto, Refrigerant: CFC-Free, Noise Lever (dB): 43 or better,		
	Temperature Range (°C): 2~8, Capacity(L/Cu.Ft)390/12.7; Controller:		
	Microprocessor, Display: LED, Power Supply(V/Hz): 220-		
	240/50,208-230/60		
	Bidder may quote the item with at least equivalent specification.		
Light	Description Infinity-corrected optical system; RMS-threaded	15	C&F Basis
microscope	objectives with 45 mm parfocal distance	13	Coch Dasis
meroscope	Illumination Adjustable-intensity LED (>50,000-hour life per light		
	cube)		
	Contrast methods Transmitted light (bright field and phase contrast)		
	Contrast methods Transmitted right (origin field and phase contrast)		

	Objectives As 10s 20s A0s also LWD infinites Outlined 2.		
	Objectives 4x, 10x, 20x, 40x, plan LWD, infinity; Optional 2x (no		
	phase)		
	Objective turret 4-position, manual control		
	Condenser 3-position turret for bright field and phase contrast		
	Condenser working distance 60 mm		
	Stages Fixed stage (AMEX1000);		
	Optional mechanical stage (AMEX4712)		
	• X-Y axis controls and vessel holder framework		
	• 120 mm x 78 mm range of motion		
	• Both knobs 56 mm/rev		
	Focus mechanism Coaxial focus knobs with tension control:		
	• Coarse focus: 38 mm/rev		
	• Fine focus: 0.2 mm/rev, precision 0.002 mm	Y .	
	LCD Display 12.1" high-resolution (1,024 x 768 pixels) color monitor		
	with adjustable tilt		
	Camera Color: 1/2" 2,048 x 1, 536, 3.1 megapixels		
	Physical characteristics		
	Power supply AC adapter; input 100-240 V, 47-63 Hz; output 12 V		
	DC/2.0 A 24 W max		
	10.0 kg (22.1 lb) with mechanical stage		
	1010 lig (22/110) with internation onige		
	Output ports		
	2 USB 2.0 ports		
	Hardware/Software Image acquisition Embedded operating system		
	with imaging software for image capture and save via mouse or front-		
	mounted manual buttons		
	Captured images Color camera: 24-bit full-color TIFF or PNG; JPEG,		
	BMP (2,048 x 1,536 pixels)		
	Bidder may quote the item with at least equivalent specification.		
Computers	M1 Pro with 10-core CPU, 14-core GPU, 16-core Neural Engine	01	DDP/ PKR
5 0 111 p 4 0 1 5	16GB unified memory 512GB SSD storage 96W USB-C Power		LLI TIEN
	Adapter 14-inch Liquid Retina XDR display Three Thunderbolt 4		
	ports, HDMI port, SDXC card slot, MagSafe 3 port Backlit Magic		
	Keyboard with Touch ID – US		
	Processors: 11th Generation Intel Core i7 Processor Speed: Upto 3.8	09	DDP/ PKR
	GHz, Core count 4, Thread count 8, Cache 8 MB (15W), Operating	09	DDI/FKK
	System: Microsoft Genuine Windows 10 0r higher, Internet Security:		
	Kaspersky Internet Security, Graphics: Intel Iris Plus Graphics,		
	Display: 13.3" FHD (1920 x 1080) Slots: Two SODIMM slots,		
	Memory: 8 GB DDR4, Storage: 512 GB SSD, Warranty: One Year.		
LIDI G 1:1	LINO LINIVILL OPPORTUTION TO CONTROLL		
HPLC with	(No OEM Certificate required)		COED:
1	Auto sampler	1	C&F Basis
columns, resins,	Auto sampler Injection range $0.1-100~\mu L$ in $0.1~\mu L$ increments with $100~\mu L$ up to	1	C&F Basis
perstaltic pump	Auto sampler Injection range $0.1-100~\mu L$ in $0.1~\mu L$ increments with $100~\mu L$ up to $60/80~Mpa$	1	C&F Basis
	Auto sampler Injection range $0.1-100~\mu L$ in $0.1~\mu L$ increments with $100~\mu L$ up to	1	C&F Basis

Sample viscosity range 0.2 - 5.0 cP

Carryover <0.004 % (40 ppm) with needle wash

Injection cycle time 18 s for draw speed 200 µL/min,Ejection speed:

200 μL/min,Injection volume: 1 μL

Sample Thermostat 4 − 40 °C

Sample Capacity 96/132 vials 2 ml

#### Pump

Hydraulic system Dual pistons in series pump with servo-controlled variable stroke design and smooth motion control for active damping Pump resolution step size 300 pL

Flow range Settable: 0.001 - 5 mL/min

Flow precision  $\leq 0.07$  % RSD or 0.01 min SD

Flow accuracy  $\pm$  1 % or  $\pm$ 10  $\mu$ L/min,

Pressure operating range Up to 75 MPa or better up to 5 mL/min

Pressure pulsation < 1 % amplitude or < 0.5 MPa (5 bar),

Compressibility compensation Automatic

Recommended pH-range 1.0 – 12.5

Gradient formation Low pressure quaternary

Delay volume  $\leq 350 \mu L$ 

Composition precision < 0.15 % RSD or 0.02 min SD

Composition accuracy  $\pm$  0.4 % absolute

Number of solvents 4

Integrated Degassing Number of channels: 4,Internal volume per channel: 1.5 mL

Automatic purge valve Enables automatic, software-embedded functionalities

#### Column Thermostat

Specification: up to eight columns with 10 cm length and a temperature range from 20°C below ambient to 110°C all 8 columns with column tag

Column identification module: Must offer an automatic columnidentification module as standard for GLP documentation of column type, and major column parameters

Independent temperature zones: At least two independent temperature zones require.

Temperature accuracy must be  $\pm$  0.8 °C or  $\pm$  0.5 °C with calibration Stackable must be a stackable, self-contained module with solvent resistant material used in all areas which may have contact with the mobile phase.

Pre column heating and post column cooling the module must enable pre column heating and post column cooling

Temperature range from 20°C below ambient to 110°C

Temperature Precision +/- 0.05 ° C

Diode Array Detector

slit width Programmable: 1, 2, 4, 8, 16 nm

RFID tags Radio Frequency Identification Tags for flow

cells and UV lamp

Number of signals Simultaneous acquisition of up to 8 compound specific wavelength

Linearity > 2 AU (upper limit)

Noise  $\leq \pm 0.7$  x 10-5 AU at 254 nm and at 750 nm (cell path length 10 mm, response time 2 s, flow 1 ml/min LC-grade

Wavelength range Wavelength range must be at least 190-950 nm, settable in 1 nm increments

Light source Dual lamp design (tungsten and deuterium)

Operating temperature The temperature operating range of instrument must be from 4°C to 55°C.

Maximum sampling rate 120 Hz

Drift Signal drift must be equal or smaller 0.9 x 10-3 AU/h after adequate warm up.

Detector type 1024-element diode array

#### Fluorescent Detector

Detection type Multi-signal fluorescence detector with rapid on-line scanning capabilities and spectral data analysis

Performance specifications Single wavelength operation: RAMAN (H2O) >

500 (noise reference measured at signal) Ex=350 nm, Em=397 nm, dark

value 450 nm, standard flow cell

Dual wavelength operation: RAMAN (H2O) > 300 Ex 350 nm,

Em397 nm and

Ex 350 nm, Em 450 nm,

Light source Xenon Flash Lamp or equivalent

Maximum data rate 148 Hz

#### Columns

8 Different columns with guard column

Software

Hplc compatible software with Hardware and software qualification.

21 CFR Complient

UPS 10 KVA (3 hours backup)

Sample Preparation

QuEChERS extraction kit EN 15662 method, buffered, 50/pk. Kit Contents,4 g MgSO4, 1 g NaCl, 1 g NaCitrate, 0.5 g disodium citrate sesquihydrate with 50 mL tubes with ceramic homogenizers Volume 50 ml, Unit 50 pack

QuEChERS Dispersive Kit General Fruits and Vegetables, EN method, 15 mL, 50/pk, Contains: 150 mg PSA, 900 mg MgSO4.Removes polar organic acids, some sugars and lipids.

Volume 15 ml , Unit 50 pack

#### System Warranty & Technical Support

Warranty one year after commissioning of the instrument.

On-site installation, commissioning and training by factory trained Engineers

Local dedicated team of engineers, sales and application engineers Must have a comprehensive inventory for all parts

	Comprehensive support for equipment for 10 years.  Preventive maintenance 2 times a years along with consumables for 5		
	years.		
	Bidder may quote the item with at least equivalent specification.		
Autoclave	*Volume Liters: min 20	3	C&F Basis
	*Max. press. : 3 bar, 0.18mPa		
	*Max. Temp.° C:140		
	*Chamber :Steel enameled		
	*Cover :Stainless steel		
	*Outer dim.T x B x H mm : 360 x 390 x 530		0
	*Inner dim. D x H mm : 260x 400		
	One touch Lid Lock, Interlock system.		
	Bidder may quote the item with at least equivalent specification.		

# Category 02

# **Computer System Engineering**

S.No	<b>Equipment Specifications</b>	Qty	Currency/ Incoterm
1	Desktop Computers with 22" monitor, Genuine Windows Windows 10 or higher; 10th Gen or higher, Intel Core i7 with 2.30GHz or faster Processor, 16GB DDR4 RAM, 512 GB Solid State Drive, optical mouse; keyboard. (No OEM	70	DDP/ PKR
	Certificate required) Bidder may quote the item with at least equivalent specification.		

### Category 03

# Department of Mining, Metallurgy and Materials Engineering

S.No	Equipment Specifications	Qty	Curren cy/ Incoter m
1.	Induction Melting Furnace Furnace capacity: 20-50kg Maximum temperature: 1700 oC Melting rate: 100kg/h	,0	DDP/ PKR
	Duty cycle: 100% 24H Continuous Work Cooling way: water cooling Melting way: crucible melting	1	
	Pouring way: reducer or hydraulic  Bidder may quote the item with at least equivalent specification.		
2.	Permeability meter Inner diameter of cylinder 100mm Height of permeating cylinder 400mm Space between isometric pipes 100mm Water supply bottle 5000ML Bidder may quote the item with at least equivalent specification.	1	DDP/ PKR
3.	Sieve Shaker Screen Mesh Size: 10-100 mesh Speed: 1400r/min Power Supply: 220V±10%, 50/60Hz Working Layer: 1~8 layers Diameter: 200mm  • Timing Range: 0~99min 59 sec  Bidder may quote the item with at least equivalent specification.	1	DDP/ PKR
4.	Sand washer Capacity(t/h): 50-100  • Feed size> 10mm  Bidder may quote the item with at least equivalent specification.	1	C&F Basis
5.	Sand Muller  • Mixing capacity: 2-50t/hr  Bidder may quote the item with at least equivalent specification.	1	C&F Basis
6.	Hand moulding machine Capacity = 50 Clamping way = Hydraulic	3	DDP/ PKR
	Materials Processed = PP, HDPE, PC, ABS, PVC, Polystyrene, PE, EVA, PA  Bidder may quote the item with at least equivalent specification.		
7.	Sand moisture tester Pan size: Circle 100 mm Display: solid %, moisture %, g, time, °C	1	DDP/ PKR

	Heating way: Halogen	
	• Heating temperature: 50 °C - 180 °C (stepping is 1 °C)	
8.	Bidder may quote the item with at least equivalent specification.  Oven Power: 30kW	C&F Basis
	Working temperature upto 1000°C	Dasis
	Max. loading capacity: 500kg	
	Heating method: electric No-load heating up time: ≤2.5h	
	Bidder may quote the item with at least equivalent specification.	
9.	Scanning Electron Microscope SEM (Shottkey Field Emission)	C&F
	High-vacuum imaging resolution – 0.8 nm or better	Basis
	Probe current- from picoamperes to 200 nanoamperes without compromising the resolution.	
	Accelerating voltage range: 0.1 kV to 30 kV.	
	Magnification: 600,000 X or higher	
	Inside chamber size: at least 300 x 300 mm, preferably larger.	
	Motorized, computer controlled specimen stage with 5-axis movements:	
	X, Y = 100  mm or better; $Z = at least  50  mm$ or better	
	Rotation : continuous 360°	
	Should have multiple stub holders (labelled) in specimen chamber allowing simultaneous loading and analysis.	
	Analytical working distance: 1 mm to up to 30 mm.	
	CCD camera for viewing sample in chamber.	
	In-chamber color optical camera for sample navigation.	
	ETD (Everhart Thornley) and through-the-lens SE detector.	
	High resolution BSE Detector with latest electron optics.	
	Concentric Back Scattered (CBD) or Directional Back Scattered (DBS) detector for better contrast	
	Low vacuum detector	
	STEM detector with 0.5 nm or better resolution	
	Microscope must be fitted with auto column functions. It should have mechanical stop with at least 3-stage aperture.	
	Easy to use, intuitive software with user guidance and undo function.	

Enabled with a remote diagnostic support and online help mechanism.

Integrated safety feature to prevent the touching of sample with any part of sample chamber.

Calibration standards/specimens must be supplied for high resolution imaging and chemical analysis.

Clean (oil free), fast and low noise vacuum/pumping system without risk of contamination to the instrument.

Standard air compressor for provision of clean air to operate the pneumatic systems.

Must be supplied with compatible chiller and attachment.

Include the latest Intel core-i7 based PC (latest windows-based operating system, 64-bit) or better, with solid state drive and with at least two 24 inches FHD LED monitors and a color laser printer.

SEM should be supplied with vibration free working table.

Include installation by company engineer and training on SEM operation, maintenance and troubleshooting for three persons at manufacturer site.

Include standard operating manual of the instrument, installation and service manual.

Include standard tool-kit for maintenance of SEM.

Supplied with a compatible UPS to backup (60 minutes or more) the microscope and connected tools (i.e., air compressor and vacuum pumping system, chiller and chamber power supply) in case of electricity failure.

Service and maintenance contract for at least four (04) years, after sale service should be easily available by well-trained service engineers.

The software upgradation should be available free of cost up to 5 years at least.

A minimum warranty (parts and service) of 03 or more years is required.

#### **EDS Specification:**

A compatible EDS, non-dispersive X-ray microanalysis system for elemental analysis, in point, line scan, and area modes. Also, should be able to perform ultrahigh resolution EDS multi-element mapping fully controlled through the software.

The EDS system to operate without need of liquid nitrogen, and to generate noise-free spectrum with maximum resolution and minimum overlapping of

the elemental peaks. Should be equipped with liquid nitrogen (LN) free large area silicon drift detector for detection of elements from Be4 to U92. Energy resolution of EDS should be in the range: 129 eV to 6 keV or better and the detector area > 30 mm2.Capable of providing EDS spectra quickly. It should be able to automatically scan for maximum elements in the periodic table and provide quick qualitative and quantitative analysis report through software. The software upgradation should be available free of cost. High resolution to analyze multiple elements simultaneously without significant peak overlapping. Standard-based and standard-less quantitative analysis support with latest analytical model. Spectral imaging up to 1024 pixels or better with spectral extractions of user defined shapes and line scans. Highly accurate elemental mapping with background subtraction, peak deconvolution and quantitative analysis in real time and in post-processing. Highly accurate elemental line scan acquisition and display with background subtraction, peak deconvolution and quantitative analysis at each point. Automatic drift compensation for high accuracy. Spectral match capability with spectral library.

#### Category 04

Bidder may quote the item with at least equivalent specification.

Use latest Microsoft Office ® for report generation.

#### **Department of Manufacturing**

S.No	Equipment Specifications	Qty	Curren cy/ Incoter m
01	Universal Lathe Max swing over bed 850 mm, center distance 750 - 1000 mm, spindle speed 14-750, cross slide travel 400mm, main drive motor 11KW, coolant pump motor 0.9 Kw.  Bidder may quote the item with at least equivalent specification.	1	C&F Basis

02	Universal Milling Machine Table size 300X1300 mm, table longitudinal travel 845 mm, knee rapid	1	C&F Basis
	speed 900 mm/min, table longitudnal feed rate 0-3500 mm/min, Head rotating (R/L) 90 degree,	1	
	Bidder may quote the item with at least equivalent specification.		
03	CNC Lathe Machine		C&F
	Max swing over bed 320 mm, max swing over carriage 160mm, spindle		<b>Basis</b>
	speed 100-3000, max truning length 400 mm, rapid traverse of X axis 3000	1	
	mm/min, rapid traverse of Z axis 3000 mm/min overall size	-	
	1500X1000X1200 mm.		
04	Bidder may quote the item with at least equivalent specification.  CNC Vertical Machining Center		C&F
04	3 axis high speed & high accuracy machining center (min 10000 rpm),		Basis
	Table size (approx.) 700 mm x 800 mm, X/Y/Z Travel (approx.) 500 mm		Dasis
	x 600 mm x 800 mm, table loading capacity up to 1500 kg, Tool storage	1	
	capacity: 10 to 20 along with automatic tool changer, automatic		
	lubrication system		
	4 Bidder may quote the item with at least equivalent specification.		
05	CNC Wire Cut		C&F
	X,Y, Z dimensions: 400 mmx 400mmx200 mm, Feed rate in X, Y axis: 2000		<b>Basis</b>
	mm/min, Wire dia.: 0.1 to 0.3 in steps of 0.05mm, Power Supply: 3Phase	1	
	400 V &5Hz		
0.5	Bidder may quote the item with at least equivalent specification.		DDD/
06	Drilling Machine:	1	DDP/
	Max drilling capacity: 25mm dia, Spinder travel: 140 mm, spindle speed: 230-1910	1	<b>PKR</b>
	Bidder may quote the item with at least equivalent specification.		
07	CNC Gear hobbing Machine:-		C&F
,	Range of Hob Speed25-450 rpm Max. Helix Angle of teeth/ 45 deg. Main		Basis
	Motor output12-28 KW High Speed feeds5000 mm/min	1	
	Bidder may quote the item with at least equivalent specification.		
08	Gear Deburring Machine:-		C&F
	No of Deburring Head:Two ( One Horizontal & One Vertical), No of Job		<mark>Basis</mark>
	Head: One, Job Size (Dia x H): 300 x 100 mm max., Abrasive Wheel Size:100	1	
	Dia x 5 width mm max. Job Head Motor: 0.25 hp. Each		
	Bidder may quote the item with at least equivalent specification.		
09	Micro CNC Lathe:-		C&F
	swing over bed 210mm, machine bed length 400 mm, machine bed width		<b>Basis</b>
- 77	100mm, spindal speed 200- 3000r/min, taper of spindle hole MT3, travel of z	1	
Y	axis 2000 mm/min Travel of X axis, 1000mm/min, tool changer 4 tools,	•	
- /	angle of tailstock 360 degree		
1.0	Bidder may quote the item with at least equivalent specification.		DDD/
10	Cut-off Machine: -		DDP/
	motor power 2200W, voltage 230v cutting capacity 50 L 135 100X10mm,	1	PKR
	cutting disc 400 mm dia, speed 50/60 HZ, base size 520X290 mm  Bidder may quote the item with at least equivalent specification.		
11	· ·		
11	-Deleted-		

Category 5

IT & Electrical Equipment

No OEM Certificate required for this lot, except 45 KVA Generator (No Sub-Authorization is acceptable)

S.No	Equipment Specifications	Qty	Curren cy/ Incoter m
01	RIFID Card Printer:  Print Method: Dye Sublimation / Resin thermal transfer, Resolution: 300 dpi (11.8 dots/mm) continuous tone, Colors: Up to 16.7 million / 256 shades per pixel, Print Speed: 6 seconds per card (K); 16 seconds per card (YMCKO); 24 seconds per card (YMCKOK), Accepted Standard Card Sizes: CR-80 (3.375?L x 2.125?W / 85.6 mm L x 54 mm W); CR-79 (3.313" L x 2.063" W / 84.1 mm L x 52.4 mm W), Print Area: CR-80 edge-to-edge (3.36?L x 2.11?W / 85.3 mm L x 53.7 mm W); CR-79 (3.3" L x 2.04" W / 83.8 mm L x 51.8 mm W), Accepted Card Thickness: .009?040? / 9 mil - 40 mil / .229 mm - 1.016 mm, Accepted Card Types: PVC or polyester cards with polished PVC finish; monochrome resin required for 100% polyester cards; optical memory cards with PVC finish; rewrite, Input Hopper Card Capacity: 100 cards (.030? / .762 mm), Output Hopper Card Capacity: Up to 100 cards. (.030" / .762 mm),	1	DDP/ PKR
	Card Cleaning: Card cleaning roller integrated into ribbon cartridge; cleaning roller is automatically replaced with each ribbon change, Memory: 32 MB RAM, Color Ribbon for 500 prints  Bidder may quote the item with at least equivalent specification.		
02	RFID Cards: Chipset/IC: EM/TK, Frequency: 125KHz, Memory 64bits, Can be printable by card printer, Surface: Matte/Glossy, read range: 2~10cm, Size: 86x54x0.84  Bidder may quote the item with at least equivalent specification.	300	DDP/ PKR
03	RFID reader: RFID Card Reader, Operating Frequency: 865-867 MHz, Inbuilt Antenna, Interface: USB, Compatible with ISO 18000-6C/EPC C1 G2, RFID UHF Tag Registrations.	2	DDP/ PKR
04	Adobe Photoshop: Adobe Photoshop lifetime license  Bidder may quote the item with at least equivalent specification.  Adobe Photoshop (Latest) lifetime license  Bidder may quote the item with at least equivalent specification	1	DDP/ PKR
05	Bidder may quote the item with at least equivalent specification.  Digital Writing Pad: Pen's levels of pressure sensitivity: 4,096, EMR (Electro-Magnetic Resonance) technology, 100 lines per mm recognition, Wireless connectivity Bluetooth 4.2, 10-inch active area, 4,096 pen pressure sensitivity, +/- 0.25 mm digital tolerance in accuracy, 7 mm reading height.  Bidder may quote the item with at least equivalent specification.	5	DDP/ PKR
06	External Hard Drive 1 TB	8	DDP/ PKR
	64 GB USB-3.1 drives	15	DDP/ PKR
07	LED Monitor: Display Size23.8", Panel Type IPS-Type Resolution1920 x 1080 Aspect Ratio16:9, Pixels Per Inch (ppi) 92 ppi Hardness Rating 3H Maximum Brightness 250 cd/m2,	6	DDP/ PKR

	Contrast Ratio1000:1,	1	
	Contrast Ratio1000:1, Refresh Rate 60 Hz,		
	Bit Depth / Color Support: 6-Bit+FRC (16.7 Million Colors),		
	HDR Compatibility None,		
	Color Gamut 72% CIE1931,		
	Response Time 8 ms,		
	Viewing Angle Horizontal: 178° Vertical: 178°,		
	Dot Pitch 0.2745 x 0.2745 mm.		
	Bidder may quote the item with at least equivalent specification.		
08	logitech Wireless Powerpoint Presenter with laser pointer.	2	DDP/
	Bidder may quote the item with at least equivalent specification.	3	<b>PKR</b>
09	Laserjet Printer		DDP/
	Print speed:: Letter: Up to 45 ppm Black,	4	PKR
	Print resolution:Black (best) Black (best) Up to 1200 x 1200 dpi; Black (normal) Black (normal) Up to		rkk
	600 x 600 dpi; Black (fine lines) Black (fine lines) Up to 1200 x 1200 dpi		
	Duplex Printing : Automatic,		
	Processor speed: 1200 MHz,	6	
	Memory: Standard: Standard: 512 MB,		
	Standard connectivity: Hi-Speed USB 2.0 port; built-in Fast Ethernet 10Base-T/100Base-Tx, Gigabit		
	Ethernet 1000Base-T, Power + USB Cable		
	Warranty 1 Year.		
	Bidder may quote the item with at least equivalent specification.		
10	Laserjet Color Printer:		DDP/
10	Print speed:: Letter: Up to 27 ppm Black,		
	Print resolution: 600 x 600 dpi, Up to 38,400 x 600 enhanced dpi		<b>PKR</b>
	Duplex Printing: Automatic,		
	Processor speed: 1200 MHz,		
	Memory: Standard: 512 MB NAND Flash, 512 MB DRAM	3	
	Standard connectivity: 1 Hi-Speed USB 2.0; 1 host USB at rear side; Gigabit Ethernet 10/100/1000BASE-T	<mark>)</mark>	
	network; 802.3az(EEE); 802.11b/g/n/2.4/5 GHZ Wi-Fi radio		
	Power + USB Cable		
	One set extra toners(all 4) Original		
	Warranty 1 Year.  Bidder may quote the item with at least equivalent specification.		
1.1			DDD/
11	Multimedia Projector:		DDP/
	Brightness 3600 ANSI Lumens, Wireless, and android, Bluetooth, ROM/RAM, 16GB/2GB, Built-In		<b>PKR</b>
	smart system, BenQ Launcher, Hidden Wireless dongle, Bluetooth Audio out, Digital zoom(2x), Digital		
	Shrink and Shift, Native Resolution: XGA (1024x768), Resolution Supported WUXGA (1920X1200),		
	Contrast Ratio, 20000:1, Aspect Ratio: 4:3, 16:9, Lamp Life 15000 HRS, Security Bar, Kensington Lock,	3	
	Keystone Correction, Auto and 40+-, 2W Speaker HDMI X2, VGA in and Out, S Video, Video, USB A,		
	USB B ,with ceiling stand, wall mount screen(6x10).		
	Bidder may quote the item with at least equivalent specification.		
	CKO		
12	UPS for Desktops:		DDP/
	1 Kva ups		<b>PKR</b>
	Input: 166~276V AC, Output: 220V AC, Frequency 50~60 Hz, Waveform: Simulated Sine Wave,	24	
\	Capacity: 1000VA, Crest Factor: 3:1, Battery: 12V DC Lead acid VRLA Type, Backup: 15 min (approx.),	-	
N N	Warranty: 1 Year Repair/Replace.		
10	Bidder may quote the item with at least equivalent specification.		DDD
13	1.5 Ton DC Split Inverter Air Conditioners	10	DDP/
	1	-	<b>PKR</b>

		TECHNICAL SPECIFICATIONS	
	BROA	D SPECIFICATIONS:	
Dies	sel Generator 45 K	(VA imported DG – Set with Complete Canopy	
Sr.#	Description	Specification	
1	with local Canopy	n, testing & commissioning of 45KVA Diesel Generator of international approved make design and specification technical requirement of UK/USA or equivalent	90
2	goodbrand with fo Generator Prime Power	45-KVA	
3	Speed	Approximately 1500 RPM or Equivalent	1
4	No of Poles	4	
5	Power Factor	0.8	
6	Frequency	50Hz	-
7	Rated Voltage	220/ 440 Volts AC	01
8	No of Phases	3 Phase 4 Wires	
9	Types of Cooling	Water Cooled	
10	Insulation	Class H (Electrical Resistance)	
11	Alternator	Any European Alternator with catalogue.	
12	Fuel Tank	Built in fuel tank for at least 10 hours operation at Fullload	
13	Fuel Type	Diesel	
14	Control Module	Built in Control Module	
14 15	Canopy	<ul> <li>Local Soundproof /weather Proof Canopy.</li> <li>All canopy parts are designed with modular principles.</li> <li>Doorson each side. Exhaust silencer is protected against environment influences</li> </ul>	
16	Base frame	Iron frame with anti-vibration pads.	

19	First generator service upon completion of 50 hrs running and second service on 400hrs running. or 6 months whichever comes earlier will be provided free by firm,		
1 1	supplier/service provider.		
20	Complete installation including transportation (including loading/unloading) to the required place (Any Campus in Swat). Earthing, etc. Training on the generator to the designated UEAS staff.	<u> </u>	
21	Cabling unit cost should be mentioned separate in Feet and payment will be as per actual.	70	

A STEP STORY

#### Section VI. Sample Forms

#### **Sample Forms**

1.	BID FORM AND PRICE SCHEDULES	58
2.	BID SECURITY FORM	60
3.	CONTRACT FORM	61
4.	PERFORMANCE SECURITY FORM	62
5.	MANUFACTURER'S AUTHORIZATION FORM	63
6.	INTEGRITY PACT	64
7.	Installation /Commissioning/Training Undertaking by OEM	65

#### 1. Bid Form and Price Schedules

Date:\_\_\_\_\_\_\_
IFB No:\_\_\_\_\_\_

To: [name and address of Procuring Agency]									
Gentlemen and/or Ladies:									
Having examined the bidding documents including Addenda Nos. [insert numbers], the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver [description of goods and services] in conformity with the said bidding 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 deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.								
	guarantee of a bank in a sum equivalent to erformance of the Contract, in the form prescribed								
We agree to abide by this Bid for a period of [number] days from the date fixed for Bid opening under Clause 22 of the Instructions to Bidders, 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.									
Commissions or gratuities, if any, paid or to contract execution if we are awarded the contract	r to be paid by us to agents relating to this Bid, and act, are listed below:								
Name and address of agent Amount and Cu	Purpose of Commission or gratuity								
CX O'									
(if none, state "none")									
We understand that you are not bound to accept the	ne lowest or any bid you may receive.								
Dated this day of									
signature]	[in the capacity of]								

#### Price Schedule in Pak. Rupees

Name of Bidder		_ IFB Nu	mber	Page	of	
1	2	3	4	5	6	7
Item	Description	Country of Origin	Quantity	Unit price DDP/C&F named place	Total DDP/C&F	Unit price of Delivered duty paid (DDP) to final destination plus price of other incidental services if required3

Signature of Bidder \_

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

#### 2. Bid Security Form

Whereas [name of the Bidder] (hereinafter called "the Bidder") has submitted its bid dated [date of submission of bid] for the supply of [name and/or description of the goods] (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called "the Bank"), are bound unto [name of Procuring agency] (hereinafter called "the Procuring agency") in the sum of for which payment well and truly to be made to the said Procuring agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this

day of

20

#### THE CONDITIONS of this obligation are:

- 1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
- 2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring agency during the period of bid validity:
  - a. fails or refuses to execute the Contract Form, if required; or
  - b. fails or refuses to furnish the performance security, in accordance with the Instructions to Bidders;

We undertake to pay to the Procuring agency up to the above amount upon receipt of its first written demand, without the Procuring agency having to substantiate its demand, provided that in its demand the Procuring agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including twenty eight (28) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

[signature of the bank]

#### 3. Contract Form

of [country of	Procuring agency] (hereing	after called "the Proce	between [name of Procuring Agencuring agency") of the one part and [name e Supplier") of the other part:	
description of	goods and services] and ha	s accepted a bid by t	in goods and ancillary services, viz., [b. the Supplier for the supply of those good (hereinafter called "the Contract Price").	ods
NOW THIS	AGREEMENT WITNE	SSETH AS FOLLOV	WS:	
	his Agreement words and them in the Conditions o	-	nave the same meanings as are respective.	ely
2. The Agreement, (a) (b) (c) (d) (e) (f)	viz.:  the Bid Form and the Schedule of Record the Technical Special Conditions the Special Conditions.	ne Price Schedule sub quirements; ifications;	rm and be read and construed as part of the bidder;  Award.	his
hereinafter 1	mentioned, the Supplier ervices and to remedy de	hereby covenants v	y the Procuring agency to the Supplier with the Procuring agency to provide tormity in all respects with the provisions	the
provision of other sum a manner pres	the goods and services as may become payable cribed by the contract.	and the remedying of under the provision ereto have caused thi	pay the Supplier in consideration of the f defects therein, the Contract Price or suns of the contract at the times and in the same is Agreement to be executed in accordance.	ich the
	spective laws the day an ed, delivered by	the	(for the Procuring Agency)	
	ed. delivered by	the	(for the Supplier)	

#### 4. Performance Security Form

To: [name of Procuring agency]
WHEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. [reference number of the contract] dated 20 to supply [description of goods and services] (hereinafter called "the Contract").
AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Contract.
AND WHEREAS we have agreed to give the Supplier a guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.
This guarantee is valid until the day of20
Signature and seal of the Guarantors
[name of bank or financial institution]
[Address]
[date]

#### 5. Manufacturer's Authorization Form

[See Clause 13.3 (a) of the Instructions to Bidders.]

To: [name of the Procuring agency]

WHEREAS [name of the Manufacturer] who are established and reputable manufacturers of [name and/or description of the goods] having factories at [address of factory]

do hereby authorize [name and address of Agent] to submit a bid, and subsequently negotiate and sign the Contract with you against IFB No. [reference of the Invitation to Bid] for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

[signature for and on behalf of Manufacturer]

Note: This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its bid.

#### 6. 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 Government of Khyber Pakhtunkhwa (GoKP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoKP 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 GoKP, 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 GoKP 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 GoKP under any law, contract or other instrument, be voidable at the option of GoKP.

Notwithstanding any rights and remedies exercised by GoKP in this regard, [name of Supplier] agrees to indemnify GoKP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoKP in an amount equivalent to ten time 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 GoKP.

Name of Buyer:	Name of Seller/Supplier:
Signature:[Seal]	Signature:
{Seal]	

## 7. INSTALLATION/COMMISSIONING/TRAINING UNDERTAKING BY ORIGINAL EQUIPMENT/SOFTWARE MANUFACTURER

We (Name of Original Equipment/software Manufacturer), a manufacturer
duly organized under the law of (Name of Country) and having its principal place of
business at (Address of Original Equipment/software Manufacturer) hereby
undertake that we are exclusively responsible for the successful Installation,
Commissioning, and Training for the equipment/software 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/software 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/software Manufacturer premises Address) for
each lot secured as per the Purchaser bidding 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/software Manufacturer (Signature)

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