



# University of Agriculture, Faisalabad

## Bidding Documents

### Tender No.6/2025

#### **SPECIAL INSTRUCTIONS**

- No cutting, erasing is allowed in the Tender bid.
- Bid offered strictly in accordance with the bid document will only be accepted.
- Only typed bid will be accepted
- All bidders and the representative visits the University of Agriculture, Faisalabad must ensure safety measures for COVID-19 as directed by the Govt. of Pakistan

**THIS IS FOR STRICT COMPLIANCE, FAILING WHICH THE  
RESPECTIVE BID SHALL STAND CANCELLED**

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## **Section I.**

# **Invitation for Bids**



## UNIVERSITY OF AGRICULTURE, FAISALABAD (TENDER NOTICE No.6/2025)

The prospective bidders having Income Tax, General Sales Tax, Provincial Sales Tax (if applicable) registered with relevant authority/department are invited to submit sealed tenders on the basis of Single Stage (two envelop procedure) for purchase of **Innovation & Technological Instruments and ICT Equipment** under project titled “**Import Substitution and Export Enhancement through Promotion of Sesame, Soybean and Canola**” (in accordance with the bidding document) **who are registered with PPRA for E-Procurement on “e-Pak Acquisition and Disposal System (e-PADS). All e-bids must be submitted through e-PADS** under method by **Uploading PDF File** for the Soybean Project, Department of Plant Breeding and Genetics at University of Agriculture, Faisalabad.

<b>Date of Receiving and Opening</b>	<b>11.02.2025</b>	<b>Receiving Time</b>	<b>10:30 a.m.</b>
		<b>Opening Time</b>	<b>11:00 a.m.</b>
		<b>Bid Security</b>	<b>2% of the Estimated Price</b>

- As per PPRA Rule 25(7), “The bidder shall download the bidding documents from the website of the authority and participate in the procurement process without paying any cost or fee.”

**Note: All potential bidders shall submit their bids through E-Procurement on “e-Pak Acquisition and Disposal System (e-PADS)”.**

**DIRECTOR (DPIC)**  
(For & On behalf of the Committee)  
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**Extn.3503/3504/3505/3506/3507**  
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## Section II.

# **Instructions to Bidders**

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## **Instructions to Bidders**

### **A. Introduction**

- |                                       |   |
|---------------------------------------|---|
| <b>1. Source of Funds</b>             | University of Agriculture, Faisalabad.  |
| <b>2. Eligible Bidders</b>            | <p>2.1 The invitation for Bids is opened to all supplier having trade relations with Pakistan and registration for National Tax Number &amp; Sales Tax Number with Federal Board of Revenue</p> <p>2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.</p> <p>2.3 Only Government owned enterprises may participate, only if they are legally allowed.</p> <p>2.4 bidders shall not be under a declaration of ineligibility in accordance with Government organization. The bidder shall provide affidavit to this effect.</p> |
| <b>3. Eligible Goods and Services</b> | <p>3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such goods and services.</p> <p>3.2 For purposes of this clause, “origin” means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.</p> <p>3.3 The origin of goods and services is distinct from the nationality of the Bidder.</p>   |
| <b>4. Cost of Bidding</b>             | <p>4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser named in the bid date sheet, hereinafter referred to as “the purchaser” will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.</p>  |

## B. The Bidding Documents

- |  |  |
|--|--|
| <b>5. Content of Bidding Documents</b>       | <p>5.1 The goods required, bidding procedures, and contract terms are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents include:</p> <ul style="list-style-type: none"><li>(a) Instructions to Bidders (ITB)</li><li>(b) Bid Data Sheet</li><li>(c) General Conditions of Contract (GCC)</li><li>(d) Special Conditions of Contract (SCC)</li><li>(e) Schedule of Requirements</li><li>(f) Technical Specifications</li><li>(g) Bid Form and Price Schedules</li><li>(h) Manufacturer's Authorization Form</li><li>(i) Integrity pact.</li><li>(j) Mechanism of Blacklisting and Deregistration</li></ul> <p>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.</p> |
| <b>6. Clarification of Bidding Documents</b> | <p>6.1 A prospective Bidder requiring any clarification of the bidding documents may notify the Purchaser in writing at the Purchaser's address indicated in the <b>Bid Data Sheet</b>. The Purchaser will respond in writing to any request for clarification of the bidding documents which it receives prior to the deadline for the submission of bids prescribed in ITB Clause 19.1. Written copies of the Purchaser's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all prospective bidders that have received the bidding documents.</p>   |
| <b>7. Amendment of Bidding Documents</b>     | <p>7.1 At any time prior to the deadline for submission of bids, the Purchaser, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, may modify the bidding documents by amendment.</p> <p>7.2 All prospective bidders that have received the bidding documents will be notified of the amendment in writing and will be binding on them.</p> <p>7.3 In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the</p>  |



Purchaser, 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 Purchaser shall be written in English. 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 above, in which case, for purposes of interpretation of the Bid, the translation shall govern.
- 9. Documents Constituting 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.
- 10.2 Bidders tendering for engineering goods produced in Pakistan shall be accorded a price preference in rupees up to a specific percentage (in proportion to the value addition) of the lowest quoted landed cost of an item of foreign origin with similar specifications as mentioned in the tenders:
- Provided that-
    - (a) The saving in foreign exchange is not less than the amount of price preference; and
    - (b) It is ensured that in each case of such preference, the total import requirements for producing the supplies tendered for locally manufactured items has been duly indicated by the bidders.

- Price preference shall be allowed as under:-
  - (a) Having minimum of twenty percent value addition through indigenous manufacturing price preference shall fifteen percent;
  - (b) Having over twenty percent and up to thirty percent value addition through indigenous manufacturing, price preference shall be twenty percent, and
  - (c) Having over thirty percent value addition through indigenous manufacturing, price preference shall be twenty five percent.
- For the purpose of granting a margin of domestic preference bids will be classified into following groups.

**Group.A.** Bids offering engineering goods produced in Pakistan.

**Group.B.** Bids offering good of foreign origin to be imported by the purchaser through the supplier's Local (Pakistan) Agent.

**Group.C.** Bids offering good of foreign origin to be imported by the purchaser directly.

## 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 entered separately in the following manner or specified otherwise in the Bid Data Sheet:-

a). for goods offered from within Pakistan;

the price shall be quoted on FOR UAF basis. (FOR means the price of goods quoted by the bidder shall be inclusive of all costs, expenses, charges, duties and taxes etc. whatsoever incidental to their delivery, installation and commissioning as the case may be at UAF site).

b) for goods offered from abroad by the LOCAL AGENT:

the price shall be quoted Cost and Freight (CFR), Carriage Paid to (Duty Paid) (CPT) Karachi seaport or Lahore/Faisalabad airport Pakistan, as the case may be. The bidder shall also add all cost expenses, charges, duties and

taxes etc. whatsoever expect customs, incidental to delivery installation/commissioning of goods from the port of destination to UAF site. The bidder, in quoting the price, shall be free to use transportation in abroad except transit and means of transport through/of Israel. The LC at sight, as on Usance basis and Advance Payment will be governed as per following:-

**i. LC AT SIGHT**

The bidder shall provide Performa Invoice of principal on CPT/CFR basis as per supply order along with Insurance / Cover Note and CDR **within fortnight** in favor of Director (DPIC) as security equal to 100% amount of the goods to initiate the LC at sight.

**ii. LC ON USANCE BASIS**

In case the bidder, is unable to provide CDR in favor of Director (DPIC) as security equal to 100% amount of the goods to be imported, may chose this option and shall provide Performa Invoice of principal on CPT/CFR basis as per supply order along with Insurance / Cover Note **within fortnight** to initiate the LC on usance basis (minimum usance period 60 days from the date of Airway Bill **OR** 90 days from the date of Bill of Lading).

**iii. ADVANCE PAYMENT**

The bidder shall provide Performa Invoice of principal on CPT/CFR basis as per supply order along with Insurance / Cover Note and CDR **within fortnight** in favor of Director (DPIC) as security equal to 100% amount of the goods to be imported to proceed for advance payment to the exporter. However, this option will be had where the value of the goods to be imported is up to US \$ 10,000 or varied in accordance with the instructions of the State Bank of Pakistan and Pakistan Customs issued from time to time and remittance will also be made accordingly.

**iv. OPEN ACCOUNT**

In case the bidder has not opted for import through LC (at sight or Usance basis or advance payment) may opt this option and shall provide Performa Invoice of principal on CPT/CFR basis as per supply order **within fortnight**. However, remittance will be made maximum up to six months from the date of filing of Goods Declaration (GD) form or otherwise as per Foreign Exchange Manual of State Bank of Pakistan and Pakistan Customs or instruction issued in this regard from time to time.

**v. CONTRACT / COLLECTION**

In case the bidder has not opted the options referred to “i to iv” above and may opt for this option. The bidder shall provide Performa Invoice of principal on CPT/CFR basis as per supply order **within fortnight**. The minimum period for remittance will be 60 days from the date of Airway Bill **OR** 90 days from the date of Bill of Lading.

However, remittance will be made as per Foreign Exchange Manual of State Bank of Pakistan and Pakistan Customs or instruction issued in this regard from time to time.

**vi. INCIDENTAL CHARGES FOR IMPORT OF GOODS:**

All charges (Inside/outside Pakistan) like insurance, LC/bank and clearance of consignment from port/custom authorities will be borne by the bidder.

**vii. RELEASE OF CDR**

In case of LC at sight and advance payment to exporter, the CDR equal to 100% amount of the shipment as security will be released by Director (DPIC) after receiving of satisfactory inspection/installation/commissioning report from convener tender committee concerned.

**viii. INITIATION OF REMITTANCE TO THE EXPORTER**

In case of LC on usance basis, import on Open Account and Contract / Collection basis, the Director (DPIC) will initiate remittance through the concern bank to the exporter after receiving the satisfactory inspection/installation/commissioning report from the purchaser or the convener tender committee as the case may be.

**DELIVERY PERIOD**

After receiving the transmitted LC (at sight OR Usance Basis) OR swift acknowledgment against advance payment / proof of advance payment OR supply order on “Open Account” or “Contract / Collection” basis, the local supplier is responsible to provide complete set of shipping documents [i.e. Airway Bill/Seaway Bill/Bill of Lading, Commercial Invoice, Packing List, Country of Origin Certificate and any other document(s) related to shipment (if required) along with detail of bidder’s clearing agent for issuance of authority letter for clearance of consignment from port / custom authorities] ***within 6 weeks from the date of opening of LC (at sight or usance basis), advance payment and date of supply order for import of goods on “Open Account” or “Contract / Collection” basis. Moreover, after clearance of consignment by bidder from port / custom authorities, will deliver the consignment to the purchaser along with complete set of post shipment documents within 05 days from the date of Authority Letter.*** After expiry of the requisite period, firm will require to apply for extension in delivery period. However, after due scrutiny the Committee may extend the delivery period with liquidated damages as per applicable rate if the delay is on part of the bidder or without liquidated damages if the delay is on the part of the procuring agency or due to “force majeure”.

**NOTE:**

In case of late submission of Proforma Invoice, shipping documents and delivery of goods, difference of exchange rate on higher side as well as liquidated damages shall be recovered out of belongings of the

bidders @ 0.67% of the value of the goods up to maximum 10% of the value of goods.

11.3 The terms CFR, CPT, etc., shall be governed by the rules prescribed in the current edition of *Incoterms* published by the International Chamber of Commerce, Paris or otherwise specified in the Bid Data Sheet and SCC

11.4 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 Purchaser and will not in any way limit the Purchaser's right to contract on any of the terms offered.

11.5 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 non-responsive 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 the following currencies:

- (a) For goods and services that the Bidder will supply from within the Purchaser Country, the prices shall be quoted in Pak Rupees, unless otherwise specified in the **Bid Data Sheet**.
- (b) For goods and services that the Bidder will supply from outside the Purchaser Country, the prices shall be quoted in any currency. However the payment will only be made by the purchaser in pak rupees in case of ITB clause 11.2 (b) and SCC.

## **13. Documents Establishing Bidder's Eligibility and Qualification**

13.1 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.

13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Purchaser's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.

13.3 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser'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 Purchaser 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 Purchaser 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 Purchaser; and
  - (c) an item-by-item commentary on the Purchaser'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 Purchaser 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 Purchaser'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 @ 2% of the Estimated Price or in the amount specified otherwise in the **Bid Data Sheet**.

15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.

15.3 The bid security shall be denominated in the currency of the bid or in another freely convertible currency, and shall be in one of the following forms:

(a) Call deposit receipt (CDR).

15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Purchaser as nonresponsive, pursuant to ITB Clause 24.

15.5 Unsuccessful bidders' bid securities will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Purchaser pursuant to ITB Clause 16.

15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 34, and furnishing the performance security, pursuant to ITB Clause 35.

15.7 The bid security may be forfeited:

(a) if a Bidder:

(i) withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form, or

(ii) does not accept the correction of errors pursuant to ITB Clause 24.2; or

(b) in the case of a successful Bidder, if the Bidder fails:

(i) to sign the contract in accordance with ITB Clause 34; or

(ii) to furnish performance security in accordance with ITB Clause 35.

## **16. Period of Validity of Bids**

16.1 Bids shall remain valid for the period specified in the **Bid Data Sheet** after the deadline 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 nonresponsive.

16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. 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.

**17. Format and  
Signing of  
Bid**

17.1 The Bidder shall prepare an original bid indicated in the **Bid Data Sheet**, clearly marking each "TECHNICAL BID" and "FINANCIAL BID," as appropriate. In the event of any discrepancy between them, the original shall govern.

17.2 The original bid shall be typed and 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 unamended 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 Technical and Financial Bid in separate envelopes, duly marking the envelopes as "TECHNICAL" and "FINANCIAL." The envelopes shall then be sealed in an outer envelope.

18.2 The inner and outer envelopes shall:

- (a) be addressed to the Purchaser 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 22.1.



- 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 Purchaser will assume no responsibility for the bid's misplacement or premature opening.
- 19. Deadline for Submission of Bids**
- 19.1 Bids must be received by the Purchaser at the address specified under ITB Clause 18.2 (a) not later than the time and date specified in the **Bid Data Sheet**.
- 19.2 The Purchaser 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 Purchaser 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 Purchaser after the deadline for submission of bids prescribed by the Purchaser 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 Purchaser 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. A withdrawal notice may also be sent by fax, but followed 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 Purchaser**
- 22.1 The Purchaser 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 Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.

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.

22.4 The Purchaser will prepare minutes of the bid opening.

**23. Clarification  
of Bids**

23.1 During evaluation of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.

**24. Preliminary  
Examination**

24.1 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.

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 there is a discrepancy between words and figures, the amount in words will prevail. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited.

24.3 The Purchaser 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 26, the Purchaser 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 31), and Taxes and Duties (GCC Clause 33), will be deemed to be a material deviation. The Purchaser'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 Purchaser and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

**25. Conversion  
to Single  
Currency**

25.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to either:

- (a) Purchaser Country at the selling exchange rate established for similar transactions by the State Bank of Pakistan and National Bank of Pakistan or specified otherwise;

25.2 The currency selected for converting bid prices to a common base for the purpose of evaluation is Pak Rupees to be converted as per rate of the bank shown in ITB 25.1 (a) on the date of opening of the financial bid or specified otherwise in the **Bid Data Sheet**.

**26. Evaluation and Comparison of Bids**

26.1 The Purchaser will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.

26.2 The Purchaser'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 26.3:

- (a) delivery schedule offered in the bid;
- (b) deviations in payment schedule from that specified in the Special Conditions of Contract;
- (c) the cost of components, mandatory spare parts, and service;
- (d) the availability in the Purchaser's country of spare parts and after-sales services for the equipment offered in the bid;
- (e) the projected operating and maintenance costs during the life of the equipment;
- (f) the performance and productivity of the equipment offered; and/or
- (g) other specific criteria indicated in the **Bid Data Sheet** and/or in the Technical Specifications.

26.3 For factors retained in the Bid Data Sheet pursuant to ITB 26.2, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:

- (a) *Delivery schedule.*
  - (i) 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 nonresponsive. 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.
- (b) *Deviation in payment schedule.*
  - (i) The SCC stipulates the payment schedule offered by the Purchaser. If a bid deviates from the schedule it will be considered as non-responsive bid.
- (c) *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 shall be specified by the bidder. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

**or**

- (ii) The bidder will draw up a list of high-usage and high-value items of components and spare parts, along with estimated quantities of usage in the initial period of operation. 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.
- (d) *Spare parts and after sales service facilities in the Purchaser's country.*

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

- (e) *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.

- (f) *Performance and productivity of the equipment.*

- (i) 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 or otherwise specified in the **Bid Data Sheet** or in the Technical Specifications.

- (g) *Specific additional criteria*

Other specific additional criteria to be considered in the evaluation and the evaluation method shall be detailed in the **Bid Data Sheet** and/or the Technical Specifications.

**26.4. Delivery Schedule.**

As mentioned in Bid Data Sheet.

**27. Domestic Preference**

- 27.1 If the **Bid Data Sheet** so specifies, the Purchaser will grant a margin of preference to goods manufactured in the Purchaser's country for the purpose of bid comparison, in accordance with the procedures outlined in subsequent paragraphs, provided the Bidder shall have established to the satisfaction of the Purchaser that its bid complies with the criteria specified in ITB Clause 10.2 (a):
- 27.2 The Purchaser will first review the bids to confirm the appropriateness of, and to modify as necessary, the bid group classification to which bidders assigned their bids in preparing their Bid Forms and Price Schedules, pursuant to ITB Clauses 10 and 11.
- 27.3 All evaluated bids in each group will then be compared among themselves to determine the lowest evaluated bid of each group. The lowest evaluated bid of each group will next be compared with the lowest evaluated bids of the other groups. If this comparison results in a bid from Group A or Group B being the lowest, it will be selected for contract award.
- 27.4 If, as a result of the preceding comparison, the lowest evaluated bid is from Group C, all Group C bids will then be further compared with the lowest evaluated bid from Group A, after adding to the evaluated bid price of the imported goods offered in each Group C bid, for the purpose of this further comparison only:
- (a) the amount of customs duties and other import taxes that a nonexempt importer would have to pay for the importation of goods offered in each Group C bid;

If the Group A bid in the further comparison is the lowest, it will be selected for award. If not, the lowest evaluated bid from Group C, as determined from the comparison under ITB Clause 27.3 above, will be selected for award.

**28. Contacting the Purchaser**

- 28.1 From the time of bid opening to the time of contract award, if any bidder wishes to contact the Purchaser on any matter related to the bid, it should do so in writing.
- 28.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

**F. Award of Contract**



**29. Post-qualification**

29.1 In the absence of prequalification, the Purchaser 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.

29.2 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 Purchaser deems necessary and appropriate.

29.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.

**30. Award Criteria**

30.1 Subject to ITB Clause 32, the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

**31. Purchaser's Right to Vary Quantities at Time of Award**

31.1 The Purchaser reserves the right at the time of contract award to increase or decrease, as per requirement, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.

- 32. Purchaser's Right to Accept Bid and to Reject All Bids**
- 32.1 The Purchaser reserves the right to accept 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.
- 33. Notification of Award**
- 33.1 Prior to the expiration of the period of bid validity, the Purchaser will notify/inform the successful and unsuccessful Bidder in writing by letter or by Fax/ e-mail, or telephonically, that its bid has been accepted and unaccepted as the case may by.
- 33.2 The notification of award will constitute the formation of the Contract.
- 33.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 35, the Purchaser will discharge bid security to each unsuccessful Bidder on his written request, pursuant to ITB Clause 15.
- 33.4 If, after notification of award, a Bidder wishes to ascertain the grounds on which its bid was not selected, it should address its request to the Purchaser. The Purchaser will promptly respond in writing to the unsuccessful Bidder.
- 34. Signing of Contract**
- 34.1 After 10 days from the announcement of evaluation report, the Purchaser will send supply order or Formal Contract as the case may be to successful bidder. In case of formal contract, the successful bidder will send back the contract to the purchaser duly signed within 7 days from the issuance date. Failing which the Purchaser reserves the right under ITB Clause 15.7.
- 35. Performance Security**
- 35.1 Within Seven (07) days from the issuance of acceptance letter from the Purchaser, the successful Bidder shall furnish the performance security in shape of any bank instrument as desired in Page # 1 of Bidding Document. In case the amount of bid security is equal or greater than the value of the goods to be supplied then the bidder shall not require furnishing the performance security separately and the bid security will be retained to meet the requirement of performance security.
- 35.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 35.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make the award to the next lowest evaluated Bidder or call for new bids. **The purchaser can also purchase at risk and cost of the 1<sup>st</sup> lowest bidder (from 2<sup>nd</sup> lowest bidder or from market).**
- 36. Corrupt or Fraudulent Practices**
- 36.1 The purchaser as well as Bidders/Suppliers/Contractors should observe the highest standard of ethics during the procurement

and execution of such contracts. In pursuance of this policy, the PPRA Govt. of the Punjab;

(a) 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 Purchaser, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition;
- (b) The purchaser 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) The Purchaser will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a University Contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a University Contract.

36.2 Furthermore, Bidders shall be aware of the provision stated in Clauses 5.4 and 24.1 of the General Conditions of Contract.

### **37. Blacklisting**

(1) A procuring agency may, for a specified period and in the prescribed manner, debar a bidder or contractor from participating in any public procurement process of the procuring agency, if the bidder or contractor indulges in corrupt practice or any other prescribed practice.

(2) The Managing Director may, in the prescribed manner, debar a bidder or contractor from participating in any public procurement process of all or some of the procuring agencies for a specified period.

(3) Any person, aggrieved from a decision of a procuring agency, may within

prescribed period prefer a representation before the Managing Director.

(4) A procuring agency or any other person, aggrieved from a decision of the Managing Director, may within prescribed period prefer a representation before the Chairperson whose decision on such representation shall be final.]

(5) The mechanism or process for barring a bidder or contractor from participating in procurement process of a procuring agency, procuring agencies and a representation under this rule is specified in the Appendix-1

**Appendix - I****Subject: MECHANISM OF BLACKLISTING****BLACKLISTING MECHANISM OR PROCESS**

1. The procuring agency may, on information received from any resource, issue show cause notice to a bidder or contractor.
2. The show cause notice shall contain:
  - (a) precise allegation, against the bidder or contractor;
  - (b) the maximum period for which the procuring agency proposes to debar the bidder or contractor from participating in any public procurement of the procuring agency; and
  - (c) the statement, if needed, about the intention of the procuring agency to make a request to the Authority for debarring the bidder or contractor from participating in public procurements of all the procuring agencies.
3. The procuring agency shall give minimum of seven days to the bidder or contractor for submission of written reply of the show cause notice.
4. In case, the bidder or contractor fails to submit written reply within the requisite time, the procuring agency may issue notice for personal hearing to the bidder or contractor/ authorize representative of the bidder or contractor and the procuring agency shall decide the matter on the basis of available record and personal hearing, if availed.
5. In case the bidder or contractor submits written reply of the show cause notice, the procuring agency may decide to file the matter or direct issuance of a notice to the bidder or contractor for personal hearing.
6. The procuring agency shall give minimum of seven days to the bidder or contractor for appearance before the specified officer of the procuring agency for personal hearing.
7. The procuring agency shall decide the matter on the basis of the available record and personal hearing of the bidder or contractor, if availed.
8. The procuring agency shall decide the matter within fifteen days from the date of personal hearing unless the personal hearing is adjourned to a next date and in such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.

9. The procuring agency shall communicate to the bidder or contractor the order of debarring the bidder or contractor from participating in any public procurement with a statement that the bidder or contractor may, within thirty days, prefer a representation against the order before the Managing Director of the Authority.

10. The procuring agency shall, as soon as possible, communicate the order of blacklisting to the Authority with the request to upload the information on its website.

11. If the procuring agency wants the Authority to debar the bidder or contractor from participating in any public procurement of all procuring agencies, the procuring agency shall specify reasons for such dispensation.

12. The Authority shall immediately publish the information and decision of blacklisting on its website.

13. In case of request of a procuring agency under para 11 or representation of any aggrieved person under rule 21 of UAF Procurement Rules 2014, the Managing Director shall issue a notice for personal hearing to the parties and call for record of proceedings of blacklisting. The parties may file written statements and documents in support of their contentions.

14. In case of representation of any aggrieved person or procuring agency under rule 21 of UAF Procurement Rules 2014, the Chairperson shall issue a notice for personal hearing to the parties and may call for the record of the proceedings. The parties may file written statements and documents in support of their contentions.

15. In every order of blacklisting under rule 21 of UAF Procurement Rules 2014, the procuring agency shall record reasons of blacklisting and also reasons for short, long or medium period of blacklisting.

16. The Authority shall upload all the decisions under rule 21 of UAF Procurement Rules 2014, available with it, on its website. But the name of a bidder or contractor shall immediately be removed from the list of blacklisted persons on expiry of period of blacklisting or order of the competent authority to that effect, whichever is earlier.

17. An effort shall be made for electronic communication of all the notices and other documents pursuant to this mechanism or process]

## **Section III.**

# **Bid Data Sheet**

### Bid Data Sheet

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

<b>A-Introduction</b>	
<b>ITB 2.1</b>	The invitation for Bids is opened to all suppliers having registration for National Tax Number & Sales Tax Number with Federal Board of Revenue.
<b>ITB2.3</b>	Government owned enterprises may participate, only if they are legally allowed.
<b>ITB 2.4</b>	In addition to the contents of ITB 2.4 <b>the bidder should not be blacklisted from PPRA and University of Agriculture, Faisalabad</b>
<b>B- Bidding Documents</b>	
<b>ITB 5.1(h)</b>	Not applicable
<b>ITB 6.1</b>	<p>Purchaser's address: Dr. Zaheer Ahmad, Scientific Director/Lead PI, Department of Plant Breeding and Genetics THROUGH  <b>Directorate of Procurement &amp; Inventory Control (DPIC)</b>  <b>University of Agriculture, Faisalabad</b>  <b>Phone No. 041-9200898</b>  <b><u>FOR TECHNICAL RESPONSE:</u></b></p> <p>1. Dr. Zaheer Ahmad, Scientific Director/Lead PI, Department of Plant Breeding and Genetics (Cell # 0300-5127165)</p>
<b>C-Preparation of Bid</b>	
<b>ITB 8.1</b>	Language of the bid. <b>"English"</b>
<b>ITB 11.2</b>	Prices on F.O.R. basis is required
<b>ITB 11.2 (c)</b> <b>ITB 11.3</b>	Not applicable
<b>ITB 13.3 (d)</b>	<p>Qualification requirements attached with Technical Bid:-</p> <ol style="list-style-type: none"> <li><b>1. Company /Bidder Profile:</b> <ol style="list-style-type: none"> <li>At-least three years' experience from NTN registration.</li> <li>NTN &amp; STN Registration (Certificate of NTN &amp; STN to be attached)</li> <li>Certificate of professional tax or renewal fee paid challan.</li> </ol> </li> <li><b>4. Submission of undertaking that the bidder should not be blacklisted from PPRA and University of Agriculture, Faisalabad</b></li> <li><b>5. Only authorized Manufacturer/Dealers/Distributors/agents will participate in the tender for Innovation &amp; Technological Instruments</b></li> <li><b>6. Bidder shall have a direct partnership with Principal against quoted ICT equipment.</b></li> <li><b>7. Bidder shall submit the make, model, and part number of quoted ICT equipment.</b></li> </ol>



<b>ITB 15.1</b>	<u>Amount of bid security:</u> 2% of the Estimated Price of quoted goods in shape of Call Deposit Receipt (CDR) in favour of Director (DPIC), UAF to be uploaded through e-PADS and hard copy submit in the DPIC on due date and time
<b>ITB 16.1</b>	Bid validity period: 180 Days
<b>ITB 17.1</b>	Bid: Single Stage (two envelop procedure)
<b>D-Submission of Bid</b>	
<b>ITB 18.2 (a)</b>	Address for bid submission:- Directorate of Procurement & Inventory Control (DPIC), University of Agriculture, Faisalabad (UAF)
<b>ITB 18.2 (b)</b>	Tender Notice No. 6/2025
<b>ITB 19.1</b>	Deadline for bid submission: 11.02.2025
<b>E-Bid Evaluation</b>	
<b>ITB 25.1(a)</b>	State Bank or a Commercial Bank to be read as State Bank of Pakistan and National Bank of Pakistan
<b>ITB 25.2</b>	The common base currency is PAK Rupee to be converted as per rate of the bank shown in ITB 25.1(a) of the bid data sheet on the date of opening of the financial bid.
<b>ITB 26.3 (a)(i)</b>	The SCC stipulates the payment schedule offered by the purchaser. If a bid deviates from the schedule then it will be considered as non-responsive.
<b>ITB 26.3 (c)</b>	The bidder will provide the cost of spare parts required to be replaced during whole life of the goods after the expiry of warranty period.
<b>ITB 26.3 (e)</b>	The bidder will provide :- i) Cost of consumables N/A ii) Unit of energy consumption per hour N/A iii) Life cycle of the goods N/A
<b>ITB 26.3 (f)</b>	Performance and productivity of Articles.
<b>ITB 26.3 (g)</b>	As per specification.
<b>ITB 27</b>	As per ITB clause 10.2 prior to the award of procurement contract
<b>ITB 33</b>	Subject to PPRA Rule 2014/UAF Procurement Rule 2014, the bidder with the lowest evaluated bid, if not in conflict with any other law, shall be awarded the procurement contract within the original or extended bid validity period after 10 days of announcement of the evaluation report.

## **Section IV.**

### **General Conditions of Contract**

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## 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 Purchaser and the Supplier, as recorded in the Contract Form signed by the parties, or the supply order issued by the purchaser to the supplier, as the case may be, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) “The Goods” means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Purchaser under the Contract.
- (d) “The Services” means those services ancillary to the supply of the Goods, such as transportation and 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 Purchaser” means the organization purchasing the Goods, as mentioned in Bid Data Sheet.
- (h) “The Purchaser’s country” is **Pakistan**.
- (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract and **named in Supply Order**.
- (j) “The University” means the **University of Agriculture, Faisalabad**.
- (k) “The Project Site,” where applicable, means the place or places **named in Bid Data Sheet and technical specifications**
- (l) “Day” means calendar day.

- |  |  |
|--|--|
| <b>2. Application</b>  | 2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.  |
| <b>3. Country of Origin</b>  | <p>3.1 All Goods and Services supplied under the Contract shall have their origin in the countries as elaborated in the <b>Technical Specifications</b>.</p> <p>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.</p> <p>3.3 The origin of Goods and Services is distinct from the nationality of the Supplier.</p>   |
| <b>4. Standards</b>  | 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.  |
| <b>5. Use of Contract Documents and Information; Inspection and Audit by Purchaser</b> | <p>5.1 The Supplier shall not, without the Purchaser’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.</p> <p>5.2 The Supplier shall not, without the Purchaser’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.</p> <p>5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier’s performance under the Contract if so required by the Purchaser.</p> <p>5.4 The Supplier shall permit the Purchaser to inspect the Supplier’s accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the Purchaser, if so required by the Purchaser.</p> |

- 6. Patent Rights**      6.1 The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Purchaser's country.
- 7. Performance Security**      7.1 Within Seven (07) days from the issuance of acceptance letter from the Purchaser, the successful Bidder shall furnish the performance security in shape of CDR at the discretion of the Purchaser in the amount **specified in SCC**. In case the amount of bid security is equal or greater than the value of the goods to be supplied then the bidder shall not require furnishing the performance security separately, it will be retained or deducted from the bidder's claim on bidder's choice.
- 7.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 7.3 The performance security shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Purchaser and shall be in one of the following forms:
- (a) CDR issued by a reputable bank located in the Purchaser's country or abroad, acceptable to the Purchaser, in the form provided in the bidding documents or another form acceptable to the Purchaser.
- 7.4 The performance security will be discharged by the Purchaser and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.
- 8. Inspections and Tests**      8.1 The Purchaser 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 Purchaser. **SCC** and the Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser 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 Purchaser.

- 8.3 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. **If the vendor fail to replace or alter the goods as per tendered specifications within stipulated period given by Enduser then the goods may be purchased at risk and cost of the first lowest bidder (from 2<sup>nd</sup> lowest bidder or from market).**
- 8.4 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 by the Purchaser 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 Purchaser.

## 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 For purposes of the Contract, "CFR," "CPT", the terms used to describe the obligations of the parties shall have the meanings assigned to them by the current edition of *Incoterms* published by the International Chamber of Commerce, Paris.
- 10.3 Documents to be submitted by the Supplier are **specified in SCC.**

**11. Insurance**

- 11.1 The Goods supplied under the Contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery in the manner **specified in the SCC**.
- 11.2 Where delivery of the Goods is required by the Purchaser on a CFR or CPT basis, the Purchaser shall arrange and pay for cargo insurance, naming the supplier as beneficiary.

**12. Transportation**

- 12.1 Where the Supplier is required under Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 12.2 Where the Supplier is required under Contract to deliver the Goods CFR or CPT, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.
- 12.3 Where the Supplier is required under the Contract to transport the Goods to a specified place of destination within the Purchaser's country, defined as the Project Site, transport to such place of destination in the Purchaser'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.
- 12.4 Where the Supplier is required under Contract to deliver the Goods CFR or CPT, no restriction shall be placed on the choice of carrier. Where the Supplier is required under Contract (a) to deliver the Goods FOB or FCA, and (b) to arrange on behalf and at the expense of the Purchaser for international transportation on specified carriers or on national flag carriers of the Purchaser's country, the Supplier may arrange for such transportation on alternative carriers if the specified or national flag carriers are not available to transport the Goods within the period(s) specified in the Contract.



**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 Purchaser'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 to 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 Purchaser may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
  - (i) advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and
  - (ii) following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

**15. Warranty**

15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and

materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Purchaser's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

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 Purchaser 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 notice or in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Purchaser.

15.5 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in the notice or in SCC, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

## 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 Purchaser 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 Purchaser, **but in no case later than thirty (30) days** after submission of an invoice or claim by the Supplier.

16.4 The currency or currencies in which payment is made to the Supplier under this Contract shall be **specified in SCC** subject to the following general principle: payment will be made in the currency or currencies in which the payment has been requested in the Supplier's bid.

16.5 All payments shall be made in the currency or currencies specified in the SCC pursuant to GCC 16.4.

**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 Purchaser's request for bid validity extension, as the case may be.

**18. Change Orders**

18.1 The Purchaser may at any time, by a written order given to the Supplier pursuant to GCC Clause 32, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (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 Purchaser'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 Purchaser's prior written consent.

**21. Subcontracts**

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

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 Purchaser in the Schedule of Requirements. **If the vendor fail to deliver or alter the goods as per tendered specifications within stipulated period given by authority then the goods may be purchased at risk and cost of the first lowest bidder (from 2<sup>nd</sup> lowest bidder or from market).**
- 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 Director (DPIC) 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 Director (DPIC) 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

- 23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage **specified in SCC**. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause 24.

## 24. Termination for Default

- 24.1 The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:
- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 22; or
  - (b) if the Supplier fails to perform any other obligation(s) under the Contract.
  - (c) if the Supplier, in the judgment of the Purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“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.

“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 Purchaser of the benefits of free and open competition.

24.2 In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar Goods or Services. However, 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 Purchaser 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 Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

## **26. Termination for Insolvency**

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

**27. Termination  
for  
Convenience**

- 27.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

**28. Settlement of  
Disputes**

- 28.1 If any dispute or difference of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 28.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.
- 28.2.1 Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.
- 28.2.2 Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.
- 28.3 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

- (b) the Purchaser shall pay the Supplier any monies due the Supplier.
- 29. Limitation of Liability**
- 29.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
- (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.
- 30. Governing Language**
- 30.1 The Contract shall be written in the language **specified in SCC**. Subject to GCC Clause 31, 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.
- 31. Applicable Law**
- 31.1 The Contract shall be interpreted in accordance with the laws of the Purchaser's country, unless otherwise **specified in SCC**.
- 32. Notices**
- 32.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or facsimile and confirmed in writing to the other party's address **specified in SCC**.
- 32.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 33. Taxes and Duties**
- 33.1 A foreign Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's country and purchaser's country as **specified in SCC**.
- 33.2 A local Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

## **Section V.**

### **Special Conditions of Contract**



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## 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. Performance Security (GCC Clause 7)

GCC 7.1—

- A. For goods offered from within Pakistan and abroad by the local agent by Pakistan:

the successful Bidder shall furnish the performance security @ 10% for the warranty period of the value of Supply Order or Contract in shape of CDR in favour of Director (DPIC), UAF within Seven (07) days from the issuance of acceptance and 10% performance security letters from the Purchaser for permanent equipment. In case the amount of bid security is equal or greater than the value of the performance security, then the bidder shall not require to furnish the performance security separately.

- B. 2% CDR in favour of Director (DPIC) already received in lieu of earnest money in case of general type/consumable good(s) will be retained by the office for 3 months from the day of supply of the respective good(s) or fully consumed whichever is earlier.

- C. Failure of the successful bidder to comply with the above requirement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Purchaser may make. **The purchaser can also purchase at risk and cost of the 1<sup>st</sup> lowest bidder (from 2<sup>nd</sup> lowest bidder or from market) or call new bids as deem appropriate by the committee.**

## 2. Inspection and Tests (GCC Clause 8)

GCC 8.1- By the concerned purchaser in accordance with the specifications or samples or both as required.

3. **Warranty (GCC Clause 15)**  
GCC15.2&15.4:

- i. **One year warranty from the date of installation/commissioning of the Innovation & Technological Instruments**
- ii. **One-year warranty of quoted hardware of ICT Equipment**

#### 4. Bid Prices (11.2 ITB)

**for goods offered from within Pakistan;**

the price shall be quoted on FOR UAF basis. (FOR means the price of goods quoted by the bidder shall be inclusive of all costs, expenses, charges, duties and taxes etc. whatsoever incidental to their delivery, installation and commissioning as the case may be at UAF site).

## 5. Payment (GCC Clause 16)

## 6. Prices (GCC Clause 17)

**GCC17.1:** The successful bidder(s) shall provide the price reasonability certificate to the effect that the rates quoted are reasonable in accordance with the market. If it is found at any stage, the quoted rates are higher than the market ones or the item(s) have been provided to any other Institute/Department etc at less rates than the quoted ones. The firm undertakes to refund the difference amount to the purchaser on demand.

## 7. Change Orders (GCC Clause 18)

Not applicable

## 8. Liquidated Damages (GCC Clause 23)

GCC 23.1—Applicable rate:

The liquidated damages, if imposed, will be recovered at the rate of upto0.67% of the value of goods supplied/installed/commission late per day or a part of a period exceeding the original delivery period, subject to the provision that the total liquidated damages thus imposed will not exceed 10% of the total value of the goods delivered/installed/commission late.

9. Settlement of Disputes (GCC Clause 28)

The settlement of dispute will be settled in accordance with mechanism for redresal of grievances and settlement of dispute as specified below:-

Complaints of bidder/contractor shall be disposed/settled by a committee and arbitration prior to the entry into force and after into force of procurement contract respectively. Accordingly, grievances committee with powers and terms of reference and method of arbitration are as under:-

A. Grievances Committee:

The committee comprises the following to address the complaints of the bidders prior to entry into force of the procurement contract:-

- |      |   |            |
|------|---|------------|
| i.   | The Treasurer   | (Convener) |
| ii.  | Resident Auditor or the Technical Expert(s) not below the rank of Assistant Professor | (Member)   |
| iii. | Chairman, Department of Plant Breeding & Genetics                                     | (Member)   |

Any bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances not later than 10 days after the announcement of the bid evaluation report under rule 37 of the UAF Procurement Rules 2014.

The committee shall address the complaints of bidders that may occur prior to the entry into force of the procurement contract. The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint. Mere fact of lodging of a complaint shall not warrant suspension of the procurement process.

Any bidder not satisfied with the decision of the committee may lodge an appeal in the relevant court of jurisdiction.

B. Arbitration:

After coming into force of the procurement contract, all matters of dispute or difference except regarding rejection of goods by the Inspector under GCC clause 8 (Standard Bidding Document) or cancellation of the contract by the Purchaser, under GCC Clause 24 and 27 (Standard Bidding Document) arising out of the agreement between the parties thereto, the settlement of which is not otherwise specially provided for in contract agreement, shall be referred to arbitration as under:-

(a) Foreign Currency Contracts (CFR/CPT, etc.) made directly with Foreign Principal / Manufacturer

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

(b)Indigenous (FOR) contracts

The settlement of dispute, if not otherwise especially provided for in the contract shall be referred for the decision of Vice Chancellor, University of Agriculture, Faisalabad. His decision shall be final and binding on both the parties. The work under the contract shall if reasonably possible continue, under the proceedings before the Vice Chancellor and no account of such proceeding unless they are subject of the dispute.

Note:

- The arbitration award shall be recorded in writing.
- CFR/CPT, etc., contracts made through local agents would be dealt under sub para-B (b) above.

-

**(c) Prior Notice for arbitration:**

If the supplier intends to go for arbitration, he shall have to give 30 days notice in writing informing the purchaser of his intention to refer to the points of differences or dispute of arbitration. He shall have to define clearly the point of difference and or dispute in his notice.

**C. Court Jurisdiction**

Only the Courts at Faisalabad shall have exclusive jurisdiction to adjudicate upon any “lis” brought by either of the parties in relation to the contract.’

**10. Applicable Law (GCC Clause 31)**

GCC 31.1—UAF Procurement Rules 2014 and Laws governing in Pakistan

**11. Notices (GCC Clause 32)**

GCC 32.1: The Supplier shall provide address for notice purposes:

**12. Taxes and Duties (GCC Clause 33)**

**13. Stamp Act**

In accordance with the Stamp Act 1899 amended from time to time.

- 14.** Call Deposit Receipt (CDR) will be preferred. However, Bank Guarantee may also be accepted in case of performance security. CDR and Bank Guarantee be deposited in the University relevant account and in that eventuality, the release of the requisite amount would be made in shape of crossed cheque after deductions of necessary taxes and bank charges

Section VI.

Schedule of Requirements

Schedule of Requirements

Number            Description            Quantity            Delivery schedule:  
Supply within 60 days

INNOVATION & TECHNOLOGICAL INSTRUMENTS

Sr. #	Item names	Unit	Estimated Price (in Million Rs.)
1.	ACID DISPENSER	1	0.085
2.	ACIDITY METER	1	0.550
3.	CLASS II BIOLOGICAL SAFETY CABINET	1	1.900
4.	AMINO ACID ANALYZER	1	21.000
5.	ANALYTICAL BALANCE	1	0.180
6.	ATOMIC ABSORPTION SPECTROPHOTOMETER	1	20.000
7.	AUTOClave	1	0.900
8.	GEL DOCUMENTATION SYSTEM	1	1.900
9.	BOMB CALORIMETER	2	3.750 (Unit Price 1.875)
10.	BUNSEN BURNERS	3	0.225 (Unit price 0.075)
11.	CAMERA FITTED MICROSCOPE	1	0.400
12.	CENTRIFUGE WITH TEMPERATURE CONTROL	1	1.000
13.	COLONY COUNTER	1	0.945
14.	COMMERCIAL WEIGHING BALANCE	1	0.020
15.	DATA LOGGER	10	0.700 (Unit price 0.07)
16.	LYPHOLIZER	1	1.700
17.	DESKTOP LOW THROUGHPUT SEQUENCER	1	3.000
18.	DISTILLERY	1	0.550
19.	EC METER	1	0.500
20.	ELECTROPORATOR	1	2.895
21.	ELECTRICAL SIEVE	1	0.480
22.	OIL EXTRACTION	1	1.000
23.	FOOD GRADE CONTAINER	1	0.200
24.	FTNIR	1	18.000
25.	GEL LECTROPHORESIS (HORIZONTAL)	3	1.452 (Unit Price 0.484)

26.	GENE GUN	1	9.950
27.	HAND LENS MAGNIFIER	50	0.750 (Unit price 0.015)
28.	HANDHELD PHOTOSYNTHESIS SYSTEM	1	2.950
29.	HAEMOCYTOMETER	1	0.050
30.	HIGH SPEED BLENDER	1	0.050
31.	HIGH SPEED REFRIGERATED CENTRIFUGE	1	1.000
32.	HOMOGENIZER	1	0.750
33.	HOT AIR OVEN	1	0.660
34.	ICE MAKER MACHINE	1	0.870
35.	ICE-BOX	2	0.015 (Unit price 0.0075)
36.	INCUBATOR	1	0.850
37.	LAMINAR FLOW CABINET	1	1.300
38.	LEAF AREA METER	1	0.850
39.	MICROSCOPE	1	0.400
40.	LIQUID NITROGEN CONTAINER	3	1.290 (Unit price 0.43)
41.	MAGNETIC STIRRER	1	0.150
42.	MECHANICAL WEEDER/POWER OPERATED	4	0.800 (Unit Price 0.2)
43.	MEMBRANE FILTRATION UNIT WITH VACUUM MACHINE	1	0.350
44.	MICRO APPLICATOR	5	0.500 (Unit Price 0.1)
45.	MICRO- INCINERATOR	1	0.400
46.	MICROPIPETTES	10	0.900 (Unit Price 0.09)
47.	MICROPLATE READER	1	1.800
48.	MICROTOME (CRYO)/ CRYOSTAT	1	6.000
49.	MINICENTRIFUGE MICROSPIN	1	0.250
50.	MOISTURE ANALYZER	1	0.500
51.	NANODROP	1	3.000
52.	NORMAL REFRIGERATOR	1	0.175
53.	OFFSET DISK HARROW	1	1.000
54.	PH METER BENCHTOP	1	0.350
55.	PLANT WATER POTENTIAL APPARATUS	1	1.325
56.	PORTABLE GRINDER 1KG	1	0.020

57.	QUANTITATIVE REAL TIME PCR	1	8.000
58.	REFRIGERATOR -20	1	2.000
59.	ROOT ANALYZER	1	4.000
60.	SEED COUNTER	1	0.290
61.	SEED DRYING EQUIPMENT/ SEED STORAGE	1	5.750
62.	SEED GRADER	1	0.300
63.	SEED PROCESSING EQUIPMENT	1	16.113
64.	SOIL AUGERS	1	0.010
65.	SOIL MOISTURE METER / SENSORS	5	1.600 (Unit Price 0.320)
66.	SOXHLET APPARATUS	2	0.200 (Unit Price 0.1)
67.	SOYBEAN BED PLANTERS	1	0.750
68.	SOYBEAN PRECISE PLANTERS	2	3.000 (Unit Price 1.5)
69.	SOYBEAN SEED AND MEAL STORAGE CONTAINERS	2	1.000 (Unit Price 0.5)
70.	SOYBEAN SOAKING, WASHING AND STORAGE CONTAINERS/TANK	1	0.100
71.	SPECTROPHOTOMETER	1	3.500
72.	SPEEDVAC CONCENTRATOR ALONG WITH VACUUM PUMP	1	5.500
73.	STEREOMICROSCOPE	1	0.400
74.	THRESHER	2	4.000 (Unit Price 2)
75.	TISSUE LYSER II	1	2.400
76.	TOP LOADING BALANCE (100G-10KG)	1	0.120
77.	TOP LOADING AUTOCLAVE	1	1.335
78.	TRINOCULAR MICROSCOPE	1	0.400
79.	ULTRA LOW FREEZER (-20)	1	2.000
80.	ULTRA LOW FREEZER (-40)	1	3.884
81.	ULTRA LOW FREEZER (-80)	1	6.000
82.	VERNIER CALIPER	5	0.035 (Unit Price 0.007)
83.	VORTEX MIXTURE	2	0.120 (Unit Price 0.06)
84.	WATER BATH 10L	1	0.590



**ICT EQUIPMENT**

Sr.#	Items Name	Qty	Estimated Price (in Million Rs.)
1	Laptop.	1	600,000
2	Desktop Systems:	2	700,000
3	Multimedia Projector:	1	320,000
4	Desktop Printers:	3	300,000
5	1-KVA Online UPS:	2	500,000

Section VII.

Technical Specifications

**TECHNICAL SPECIFICATIONS**

The bidder shall quote the goods along with the serial number mentioned below against each and provide soft copy in MS Word Sheet without price. The quoted goods shall have point to point commentary.

**INNOVATION & TECHNOLOGICAL INSTRUMENTS**

Sr. #	Item name	Item specification
1.	ACID DISPENSER	chemical resistance, components are made of PTFE, FEP, BSG, PP, fully autoclavable at 121°C, volume range, from 5mL to 50mL, Vapor pressure max. 500mbar, viscosity max. 500mm2/s, temperature max. 40°C, density max. 2.2g/cm3 or Higher USA/EUROPE/CHINA OR EQUIVALENT
2.	ACIDITY METER	Should have 6.5-inch LCD screen. also Built-in microprocessor chip has Intelligent functions such as automatic calibration, ATC, data storage, clock display, USB output, function settings, wireless printing, and self-diagnosis information, (-2 – 19.98) pH Measuring range, 0.01 pH Resolution, Electrode: ±0.02pH Accuracy, 1, 2, 3 point pH Auto calibration, ≤2×10-12 A pH Input current, ≥1×1012 Ω pH Input impedance, ±0.02 pH/3h pH Stability, (0 ~ 99.9)°C, Auto pH Temp. compensation, ±1999.9mV Measuring range, 1 mV Resolution, ±0.01% FS Accuracy, (0 ~ 99.9)°C Temp Measuring range, 0.1°C Temp Resolution, ±0.5°C Temp Accuracy, 999 sets Data storage, 12V/1A (220V, 50-60Hz) Power, USB, RS232, Bluetooth Output, 5 ~ 39.9 °C Ambient Temp., 4.5-84% Ambient Humidity, IP54 grade, Built-in microprocessor chip has Intelligent functions such as automatic calibration, ATC, data storage, clock display, USB output, function settings, wireless printing, and self-diagnosis information, with electrode holder, two-in-one electrode that consists of pH combination electrode and temperature probe, pH buffer solution, power adapter, buffer solution (4,7 and 10 pH) for calibration or Higher USA/EUROPE/JAPAN OR EQUIVALENT
3.	CLASS II BIOLOGICAL SAFETY CABINET	930* 580*640 mm Internal Size (W*D*H), 1100*750*2150mm External Size (W*D*H), Safety Height = 199 mm (7.9") Opening, 418mm (16.9”) Max Opening, 0.53±0.025 u/s Inflow Velocity, 0.33±0.025 u/s Down flow Velocity, Two, 99.9995% efficient at 0.12um ULPA Filter life indicator. Motorized Front Window. Two-layer laminated toughened glass ≥ 4.9mm. Anti UV, ≤ 58 dB Noise, 30W*1 UV Lamp, UV timer, UV life indicator, emission of 254 nanometers, LED Lamp Illuminating 12W*2, ≥999 Lux Illumination, Two Waterproof Sockets, LCD display: exhaust filter and downflow filter pressure, filter and Microprocessor Control, 70% air recirculation, 30% air exhaust Airflow System, Visual and audio alarm, 304 stainless steel Work Zone Cold-rolled steel with anti-bacteria powder coating Material, 740mm Work Surface, Foot master caster, AC220V50/60Hz, Standard Accessory LED lamp, UV lamp*2, Base stand, Remote control, Foot switch, Drain valve, Waterproof sockets*2 and arm set , Infrared sterilizer LED Display, 300~830 °C Temperature range, 825±50 °C Central zone max temperature, Ceramic Heating tube, ABS Shell, -10~49 °C Working temperature, <80 % RH Working humidity, -40~59 °C Storage temperature, 10~90 % RH Storage humidity or Higher USA/EUROPE OR EQUIVALENT

4.	<b>AMINO ACID ANALYZER</b>	<p>Automatic Amino Acid Analyzer for extended protein hydrolysate equipped for the classical determination of amino acids with ion exchange and high-temperature post-column reaction with Ninhydrin and Data System Buffer storage - Cooled cabinet - All buffer and Ninhydrine stored under N2 protection Buffer pump - Dual piston HPLC pump, metal free (PEEK) - Flow rate: 0.01 to 10 ml/min. - Pressure: 0 – 40 Mpa - Display: MPa or Bar or Psi - Safety: Minimum Pressure free selectable - Separated pressure control for purge function (for column protection) Ninhydrine pump - Dual piston HPLC pump metal free (PEEK) - Flow rate: 0.01 to 2.0 ml/min. - Safety: minimum, max. pressure free selectable Buffer degassing - Integrated 4-channel vacuum degaser Buffer selection - multi-step buffer changes (up to 250 steps) with buffer mixing capability (gradient forming) Buffers (Protein Hydrolysate) - Typically, 2 buffers only Autosampler Autosampler, Peek-version 2x60 samples in two trays; X-,Y-,Z-axes Needle control for random sample access; Variable dosage mode; Programmable volume dosage mode from 1 to 100µl in increments of 1 µl; Partial loop filling of the sample loop with air segmenting; Column heating/cooling Separation column - PEEK column 4.6 x 150 mm; - Long-life column with 7 µm, 10% crosslinked resin Net Analysis time - Protein Hydrolysate: 45 min. - Physiological Fluids: 95 min. High-Temperature Reactor - Temperature range: ambient to 180 °C - Settings in 1°C increments - Coil: FEP coil 0.3 mm I.D. x 1.6 mm; 16 m - Automatic flushing after each analyses Detection - Dual wavelength filter detection 570 and 440 nm High Temperature Reactor for the Ninhydrin post-column derivatization with free programmable temperature selection from RT to 180°C - Electronic sum of the two wavelengths - Flowcell: 10 mm pathlength - Auto zero time programmable Reproducibility - Retention time better 0.2% - Peak area: better 1% Special Capabilities: - short Programs (e.g. Homo-Cystein, Glutathion) with reduced analysis time -Physiology Protein Hydrolysate analysis with same column and buffers without the need to change any of them. Tool Kit Consisting of: Tool Kit Consisting of: 1 pc. Wrench 12x13 mm; 1 pc. Wrench 1/4" 5/16"; 1 pc. Plastic Syringe with tubing adapter; 1 pc. Allen wrench 2,5mm; 1 pc. Allen wrench 3mm; Columns 1 pc. Ammonia Filter Column (for hydrolysate program) 1 pc. Cation Exchange Column (for extended hydrolysate program) Hydrolysate Kit for approx. 100 samples for extended hydrolysate program consisting of: 2 x1000 ml Buffer A-4, 0,12N, pH 2,90 2 x1000 ml Buffer A-5, 0,15N, pH3,6 1 x1000 ml Buffer B-1, 0,20N, pH10.85 1 x1000 ml Regeneration Solution 0,5N 1 x1000 ml Sample Dilution Buffer, 0, 12N, pH 2,20 Standard solution(H-Ox), 5 ml for extended Hydrolysate program for feedstuff sample: 1µMol/ml Ninhydrine Reagent 1000 ml with reducing agent (1ml) MUST BE PROVIDED BY OEM Computer&amp; Laser Printer or Higher Complete as above, Germany/Japan/USA/UK OR EQUIVALENT</p>
5.	<b>ANALYTICAL BALANCE</b>	<p>LCD display, Stainless steel weighing surface, 7 weighing units (g, ct, ozt, oz, GN, dwt, lb), Counting, Full range tare, Internal Automatic calibration, Under floor weighing, Robust chassis and windproof cover in pointed cast aluminium, Sensor with force compensation technology, 220g Weighing range (max), 0.1mg Readability (display), 0.2 mg Reproducibility, ±0.3 mg Linearity, &lt; 4 s Stabilization time, Internal, time and temperature controlled Calibration, Ø 90 mm Weighing plate, AC 230V±10% 50Hz/60Hz</p>

		<p>Power supply, 0-220g Tare range, g (gram), ct (carat), ozt (troy ounce), oz (ounce), GN (gran), dwt (pennyweight), lb (pound)</p> <p>Weighing units, 18-23 °C Operating temperature, (50-70)%RH Humidity, 2 mg Minimum weight, 1 h Warming up time, 0.1 mg Minimum piece weight, 1, 10, 20, 50, 100 Reference piece numbers, Under floor weighing, RS 232C Interface or Higher</p> <p>USA/EUROPE OR EQUIVALENT</p>
6.	<p><b>ATOMIC ABSORPTION SPECTROPHOTOMETER</b></p>	<p>Atomic Absorption Spectrometer for Multi Elemental Analysis. Flame AAS the reliable all-rounder, making routine analysis of diverse samples efficient and cost-effective.</p> <p>Description</p> <p>Compact high-performance atomic absorption spectrometer with flame technology.</p> <p>Light-intensive Czerny Turner spectrometer with quartz-coated optics for the wavelength.</p> <p>single-beam and double-beam mode and automatic wavelength adjustment.</p> <p>Fully automatic 8-fold lamp changer for hollow cathode lamps (HCL).</p> <p>Lamp management system (LMS) - for the use of coded HCL.</p> <p>Gas Management System (GMS) optimizes gas compositions for flame.</p> <p>SiOSens solid state detector for wide range and linear read out operation via high-performance gas box. Self-Check System (SCS) for maximum operational safety.Inclusive 10 years long-term warranty on the components of the high precision optics</p> <p>Technical Specifications:</p> <p>Spectrometer type: Czerny Turner setup, encapsulated, purgeable, focal length 350/389 mm, single-beam and/or double-beam mode</p> <p>Deuterium background correction: D2 hallow cathode lamp</p> <p>wavelength range: 185 to 900 nm</p> <p>Holographic grating: 1800 lines / mm</p> <p>Automatic variable slits width: 0.2, 0.3, 0.5, 0.8, 1.2nm</p> <p>Instrumental sensitivity; Flame: (Cu 324) 0.017 mg</p> <p>Wavelength reproducibility; 0.005 nm</p> <p>Detector: solid state detector</p> <p>Light Source: Coded HCL</p> <p>Gas Management System (GMS)</p> <p>New gas box for automatic control, constant gas ratios, flexible settings and unrestricted safety.</p> <p>In-built gas ports for different gas types with individual switching valves offering advanced applicability.It enables safe and hazard-free ignition and extinguishing of the flame.</p> <p>The automatic gas control has three gas inlets for acetylene, air and nitrous oxide.</p> <p>HCL Lamps; Fe,Zn,K,P</p> <p>Software</p> <p>Simple, routine handling provided via a single user interface featuring great flexibility – A modern and intuitive software with fully automatic device control and extensive data evaluation function. Software functions and modules help to meet all legal requirements and standards. Quickstart – no expert knowledge required Ready-to-use worksheets for outstanding usability Simple method development</p> <p>Accessories</p> <p>Universal Burner head for Air /Acetylene or Acetylene/Nitrous Oxide Flame Air compressor, Exhaust, With Acetylene &amp; Nitrous Oxide Cylinder.</p> <p>Computer &amp; Printer Compatible UPS (Imported)</p> <p>With All accessories required for routine operations.</p> <p>Installation, commissioning and training should be included in the package. or Higher</p>

		Origin: UK, USA, Germany only
7.	<b>AUTOCLAVE</b>	<p>Stainless steel material, Autoclave fully automatic including automatic opening, Closing and locking of the lid with just one finger, Programmable, digital microprocessor controlled, Safety interlocking device, LCD display working status, touch buttons, Automatically discharge cold air, and automatically discharge steam after sterilization, Over-temperature, over-pressure automatic protection function, Water cut protection control, Self-expanding seal, Buzser alarm to indicate end of sterillization, Simple operation, safe and reliable, large Operational panel display with following features:</p> <p>Temperature range 105 – 135°C. <math>\leq \pm 1^{\circ}\text{C}</math> Heat average, Sterilization time 1 – 300 minutes</p> <p>Dissolution timer built in.Built in Fan with forced cooling function.</p> <p>Pressure gauge built in 0 – 0.4 MPA</p> <p>Interior stainless-steel</p> <p>Safety features: Short-circuit, safety valve, lack of water, breakage of sensor wire, overheating, over cooling, overpressure, lid error, exhaust valve error, automatic water supply (OP), heater error, and breakage of floating load sensor wire (OP).</p> <p>Open/close lid with one button.</p> <p>Warming &amp; Agar temperature: 45 - 100°C</p> <p>Complete with 2 stainless steel wire baskets, drain bottle, Heater cover &amp; Printer. Operated on 220 Volts.50Hz, 99.9L Chamber volume</p> <p>Complete as above or Higher</p> <p>Germany/Japan/USA/UK OR EQUIVALENT</p>
8.	<b>GEL DOCUMENTATION SYSTEM</b>	<p>Icon driven - with full analysis using 2 buttons in less than 10 seconds Single Window display of all data, images, and histogram simultaneously Multiple experiments, Zoom control, Automatic track, band and edge finding with manual override Automatic detection and correction for distorted tracks and grimaced or curved bands, Single band/track data, Molecular weight/base pair, Rf, quantity determination, Automatic/manual marker assign Cross gel track profiling (ability to overlay track histograms from different gels) Colony counting (with coloured colonies) Automatic spot/blot analysis with full distortion detection Image contrast/brightness adjustment User editing of Libraries. Automatic 1D gel, Colony counting, Slot blot, Elisa plate analysis Direct link to Excel, Automatic Band matching</p> <p>Band analysis/densitometry</p> <p>Ideal for 1D analysis, the software must have automatic lane and peak detection. automatically compensates for smiling or distorted bands and tracks. Molecular weight or base pair values can be calculated using standards from one or more tracks. Quantification can also be automatically calculated from standards in a number of ways.</p> <p>Band matching</p> <p>Band matching can be performed by position, defined Rf or calibrated molecular weight/base pair value.</p>

		<p>Automatic molecular weight/base pair calculations for sample bands based on standards from one or more lanes</p> <p>has a library of markers for automatic or manual assignment which are user configurable.</p> <p>Multi-tier analysis for high throughput screening</p> <p>Especially useful for analysing high throughput gels, software provides multi-well line functions with automatic track alignment.</p> <p>Manual band quantification</p> <p>The user can manually quantify bands, spots or other objects on a sample. All data is instantly exportable to Microsoft Excel.</p> <p>Spot Blot analysis</p> <p>Automatic detection of spots using a spot grid, quantitative and incidence analysis. The software can also perform multiple background subtraction methods.</p> <p>Export results to Microsoft Excel and Word</p> <p>Customized results tables can be exported to either Microsoft Word or Excel.</p> <p>CAMERA CCD Digital camera 5m pixels USB2 connection</p> <p>LENS Superior zoom lens for exceptional image quality</p> <p>FILTER DRAWER Use a range of filters for extensive choice of fluorescent applications</p> <p>SAFETY SWITCH Protects from accidental UV exposure when opening door</p> <p>INTERNAL LED WHITE LIGHT For sample positioning and focusing</p> <p>Camera</p> <p>Sensor 1/3 inch</p> <p>Resolution 5 million pixels</p> <p>Bit depth 12/16bit (extended)</p> <p>Greyscales 4096/65536</p> <p>Dynamic range 3.6/48 (extended)</p> <p>Viewing area 20x20cm</p> <p>Excitation Source Trans UV 302nm peak</p> <p>Flat Fielding: yes</p> <p>Illumination</p> <p>UV transilluminator 20 x 20cm</p> <p>White Epi overhead Yes</p> <p>Complete with Software, Computer &amp; Printer (Locally Supplied)</p> <p>Complete as above or Higher</p> <p>Germany/Japan/USA/UK OR EQUIVALENT</p>
9.	<b>BOMB CALORIMETER</b>	<p>Capacity 2.9kg. The water cylinder should be equipped with electric stirrer inside to ensures water uniformity. Should Have double layer external water jacket. Construction: Stainless steel material, Pressure resistance: (60~70 atmospheric pressure) or better. Inner water cylinder composed of stainless-steel sheet. 14403 J/K~14999 J/K Heat capacity, 0.001 K Resolution, ± 59J/g Measurement accuracy, ≤0.2% (Grade C) Repeatability, 19.9 Mpa Pressure endurance of oxygen bomb, 10 °C~35°C Temperature measurement range, Ambient temperature 20±5 °C, fluctuation 1 °C during one test , 31 pieces Data saved, ≤85% Relative humidity, AC 220V±5%, 50 Hz, Suitable for petroleum products without water (gasoline, jet fuels, diesel oil and fuel oils, etc.), coal, coke and paraffin, etc or Higher USA/EUROPE/CHINA OR EQUIVALENT</p>
10.	<b>BUNSEN BURNERS</b>	<p>Ø 17mm copper bumer; length: 24mm, 57mm alloy bumer tube with Ø 13mm, Alloy seal valve, copper control valve with stainless steel connection pipe. The air flow should adjust the control hole: width 4mm or more. Base 75mm or more or Higher USA/EUROPE/CHINA OR EQUIVALENT</p>

11.	<b>CAMERA FITTED MICROSCOPE</b>	<p>Microscope frame for transmitted microscopy with LED illumination, Brinocular tube, a pair of eye piece 10X with Helicoid adjustment (F.N.20), quadruple revolving nosepiece, right-handle double-plate stage, abbe condenser and plan objectives (4X NA 0.1 W.D. 27.8 mm, 10X NA 0.25 W.D. 8.0 mm, 40X NA 0.65 W.D. 0.6 mm), including field stop adapter, AC adapter, fixing belt for transportation</p> <p>Plan achromat objective 100X/1.25, WD 0.13 (spring, oil)</p> <p>Stage height movement Coarse movement stroke: 15 mm</p> <p>Coarse adjustment limit stopper. Torque adjustment for coarse adjustment knob Fine focus knob (minimum adjustment gradations: 2.5 µm). Stage: Wire movement mechanical fixed stage Binocular, anti-fungal</p> <p>Eyepiece (Anti-Fungal): 10X Field Number 20</p> <p>Tube Inclination: 30°.Interpupillary distance adjusting range: 48-75mm</p> <p>Eye Point Adjustment: 370.0 – 432.9 mm</p> <p>Abbe condenser</p> <p>Microscope Digital Camera</p> <p>HDMI C-mount camera</p> <p>12MP Still resolution 3264x1836</p> <p>12MP Live video 1920x1080 60 fps (frames per second) via HDMI</p> <p>12MP Live video 1920x1080 30 fps (frames per second) via USB2.0</p> <p>Video record: 1080p 30fps (frames per second) on SD card or PC</p> <p>Output: HDMI, USB 2.0, SD Card, 1/3" CMOS chip (use .3x C-mount adapter)</p> <p>Button (1) controls: Exposure, White balance, Gamma, Gain, Sharpness, Saturation,</p> <p>Contrast, Button (2) controls: Cross line, Image Compare, Image Freeze</p> <p>support: Windows</p> <p>Software: IS Capture full parameter control</p> <p>C-mount Adaptor</p> <p>LED 32” or Higher</p> <p>USA, Europe, Japan OR EQUIVALENT</p>
12.	<b>CENTRIFUGE WITH TEMPERATURE CONTROL</b>	<p>Centrifuge Machine Micro Refrigerated</p> <p>Digital microprocessor controlled with large LCD Control Panel interactive user interface, should accommodate wide range of rotors of various volume ranges; Max. Speed range 200 to 15000 rpm, Maximum RCF 25,700 x g, Capacity 24 x 1.5 ml or as per rotor, Drive System: Direct, Induction Low Profile; low energy consumption, Fixed Angle Rotor; Material: Aluminum; with following features:</p> <ul style="list-style-type: none"><li>- Automatic motor driven lid lock.</li><li>- Maintenance free induction drive</li><li>-Active imbalance-identification and cut off</li><li>-Storage up to 99 programmes.</li><li>-Pre-selection of the running time range 99 hr 59 minutes;</li><li>-Refrigerated: Yes;</li><li>-Temperature range -20 to 40°C, Environmental stress : &lt;68 dB(A);</li><li>-Standstill cooling.</li><li>-Selection of speed in both rpm and G-force.</li><li>-Quick Key for short Runs</li><li>-CFC Free Refrigeration System</li><li>-Manufactured according to international safety regulations (Safety Features: short Spin, Imbalance detection, program resuming, finger-pinch prevention, Pre-cooling feature, breakage-proof construction; Push button rotor exchange)</li><li>-10 acceleration &amp; deceleration rates</li><li>-Audible signal at the end of each run</li></ul>



		<p>tube rack, 4 or more interchangeable plug type; Suitable for wide range of rotors and Include Pipette filler should have Backlit LCD display to monitor battery life, pump speed and alarms with a blinking light. With Independent push buttons controls aspiration and dispensing. should be wall mountable and table stand. Separate aspirate and dispense buttons on the rear and eight speeds control “+” or “-” to adjust pipetting speed. Runtime between charges: 15 hours of continuous use or more, Lithium-Ion Battery Type, 8 Dispensing Speed, For Use with Graduated and Volumetric Glass Serological Pipette, universal charger, table stand, wall-mounted Holder, 3 hours Recharge Time, 240V 50/60Hz, should be must wall mounted</p> <p>01-No. Angle Rotor capacity 24 x 1.5 ml Speed 15,000rpm</p> <p>Complete with above Rotor, Operated on 220 Volts, Complete as above or Higher</p> <p>Germany/Japan/USA/UK OR EQUIVALENT</p>
13.	COLONY COUNTER	<p>Three-digit LED display (0-999), Anti-glare LED lighting, Optional light or dark background (dark background aids counting translucent colonies), Can be connected to a PC, Antimicrobial surface coating, Counting is initiated by pressing down on the Petri dish with any pen, Pressure sensitivity is individually adjustable, Confirmation of count by audible signal (optional), With average counter, max. 99 Petri dishes can be analysed, +5 to +39 °C Operating temperature, 230 V, 50 Hz, Accessories 3x magnifying glass or Higher</p> <p>USA/EUROPE/GERMANY OR EQUIVALENT</p>
14.	COMMERCIAL WEIGHING BALANCE	<p>150-200 kg Capacity, digital display, local or Higher</p>
15.	DATA LOGGER	<p>Automatic data output as PDF file, no driver installation required, Status and alarm LEDs with audible signal, Windows-compatible software for logger programming, Motion sensor detects and documents vibrations, Network operation possible, temperature, humidity Parameters, -40 to +69 °C Temperature measuring range, ±0.5 °C (-10 to +40 °C), ±1.0 °C (outside) Temperature accuracy, 0 to 100 % Rel. humidity measuring range, ±3.5% (20–80%) ±5% (outside) Rel. humidity accuracy, 0,1 °C Temperature resolution, 0,1 % Rel. humidity resolution, Display, 99,900 measured values Data memory, 10 s to</p> <p>24 h Measuring cycle, USB Port, Min./max. function, 3.6 V/1/2 AA lithium battery, 240 V, 50/60 Hz, or Higher</p> <p>USA/EUROPE OR EQUIVALENT</p>
16.	LYPHOLIZER	<p>LCD touch screen. With historical data inquiry function. With USB interface to export the data. Large capacity ice condenser trap and without coil inside. With cascade refrigeration technology. Pre-freezing shelf can be used as guide barrel to speed up the drying rate. Ice condenser trap and operation panel are made by stainless steel. Drying chamber is transparent which is visual and safe. Shelves are stainless steel, Type: Standard chamber, Freeze Drying Area: 0.12 m², Tray: 4pcs, Height Between Trays: 76/50mm, Cold Trap Temperature: -60°C, Cold Trap Capacity: 6.9L, Cold Trap Size (Diameter*H): Φ215*190mm, Vacuum Degree: &lt;10P, Water Capture Capacity: 3kg/24h, Tray Size (D*H): Φ195*20mm, Freeze Drying Time: 24h, Loading Capacity/Shelf (Liquid): 0.3L, Total Loading Capacity (Liquid): 1.2L, Drying Chamber Size (Diameter*H): Lower circle Φ260mm, Upper circle Φ240mm Height 450mm, Total Qty. Of Vial Φ22: 260, Total Qty. Of Vial Φ16: 480, Total Qty. Of Vial Φ12: 920, Refrigerant: R600a+R290+R23, Cooling System: Air cooling, Power Consumption: 0.9KW, Power Supply: AC220V, 50/60Hz (single phase) Standard Accessory:</p>

		Vacuum pump 2L/S, 8m³/h, Material tray, Material rack, PC cover or Higher USA/EUROPE OR EQUIVALENT
17.	DESKTOP LOW THROUGHPUT SEQUENCER	Output: 144 megabases (Mb) to 30 gigabases (Gb) Single-end reads per run: 1 million to 100 million or higher
18.	DISTILLERY	Automatic distiller and continuous output. High quality distillation with water of high purity and free of metal ions and pyrogens. Safety device protects the water still in the event of water supply failure. parts made of borosilicate glass 3.3, and heater protected by a quartz sheathe lengthens its duration. Small size for easy handling and cleaning, 3.9 L/H Distillation Capacity, 1 L/Min Water Consumption, 1x2800(W) Heater, 230V or higher USA/EUROPE OR EQUIVALENT
19.	EC METER	Conductivity, TDS, salinity or resistivity with temperature Measurement Modes, 2-cell or 4-cell conductivity sensors with built-in temperature Compatible Probes, 0.001 to 199.9cm-1 Cell Constant, Conductivity with calibration editing option and temperature, 5 Calibration Points (Conductivity), 0.001 µS/cm to 3000 mS/cm Range (Conductivity), 0.001 µS minimum, auto ranging up to 4 significant digits Resolution (Conductivity), 0.5% of reading ±1 digit > 3 µS; 0.5% of reading ±0.01 µS ≤ 3 µS Accuracy (Conductivity), Linear, nLFn (non-linear ultra-pure water), nLFu (non-linear, ultra-pure degassed water), Temperature Compensation Temperature Reference, 5, 10, 15, 20, 25°C, 0.06 to 80.00 psu, 0.05 to 42.00 ppt Range (Salinity), 0.01 psu or 0.01 ppt minimum, auto ranging Resolution (Salinity), 0.5% of reading ±1 digit Accuracy (Salinity), Practical salinity (psu) or natural sea water (ppt), 0.001 to 200.0 ppm Range (TDS), 0.001 ppm minimum, auto ranging up to 4 significant digits Resolution (TDS), 0.5% of reading ±1 digit Accuracy (TDS), Linear (0.02 to 9.99) TDS Factor Range, -5°C to +104°C Temperature Range, 0.1°C (0.1°F) Resolution (Temperature), ±0.1°C Accuracy (Temperature), 2 ohm to 100.0 megohm Range (Resistivity), Manual or automatic with ATC temperature probe, 1 point temperature offset calibration, Graphic LCD with Backlight, Backlight Option selectable, Non-volatile memory preserves data log, calibration log and meter settings, 2000 with date and time stamp, Automatic data logging with Auto-Read and Timed measure modes; manual data logging with Continuous, Transfer single, range or all data points to printer or computer, High/low limit alarm, calibration due alarm, 8 pin MiniDIN (conductivity sensor with built-in temperature),stirrer input (stirrer probe), USB, RS232, IP54, Conductivity sensor, stirrer probe ultrapure water 2-cell conductivity sensor), 5 to 85%, non-condensing Relative Humidity Range, 1 ohm or 0.1 megohm, auto ranging Resolution (Resistivity), 10 per channel with password protection, Selectable fast, medium, slow or Smart Stability setting; Selectable off or Automatic Smart averaging setting, Comprehensive with menu-specific function keys and dual purpose scroll/shortcut keys, 5°C to 45°C (ambient) Temperature Operating, 1 Channels, 0.5% of reading ±1 digit Accuracy (Resistivity), Includes: conductivity meter, ultra-pure water conductivity, sensor, electrode stand, universal power adapter, literature CD, printed quick start guide, computer interface cable and meter test certificate or higher USA/EUROPE OR EQUIVALENT

20.	<b>ELECTROPORATOR</b>	<p>Transformation/Transfection Applications</p> <ul style="list-style-type: none"><li>● E. coli</li><li>● Bacterial cells</li><li>● Yeasts</li><li>● Fungi</li><li>● Mammalian cells</li></ul> <p>Voltage, Current, Resistance (Impedance) Measurements of output pulses Voltage 100–3,000 V (increment: 1 V) Time constant: None setting: measured value is displayed 1.0-5.0 msec setting: set value is displayed Number of pulses: 1 or 2 Cuvette chamber The cuvette chamber can be connected to electroporators, and a Nepa Electroporation Cuvette can be set in for delivering electric pulses into the cuvette. Cuvette stand holder the cuvette stand holder can hold up to 20 electroporation cuvettes Electroporation Cuvettes 2mm gap with pipettes, 50 pcs/pack or higher Germany/Japan/USA/UK OR EQUIVALENT</p>
21.	<b>ELECTRICAL SIEVE</b>	<p>Typically requires 50~150g of sample material. 1 ~8 layers Working Layer, 1-10,10-250,250-350,350-400,450,500,550,600,635 Screen Mesh Size, 299mm Diameter, Stainless steel 304 Material, 0~99min59s Timing Range, 1399r/min Speed, 220V±10%, 60/50HZ, Must be with Lid and Base or higher USA/EUROPE/CHINA OR EQUIVALENT</p>
22.	<b>OIL EXTRACTION</b>	<p>Hot press soybean oil extractor 150kg/day local or China or higher</p>
23.	<b>FOOD GRADE CONTAINER</b>	<p>Various sizes, Plastic and Metal Containers local or higher</p>
24.	<b>FTNIR</b>	<p>Fourier transform technology, Better than 2cm-1 Resolution, 12,450-3990cm-1(798-249500nm) Spectral Range, Better than 0.1 cm-1 Wavenumber accuracy, High performance air cooled NIR source. highly stable and vibration insensitive interferometer system, permanently aligned Interferometer, Ca2 F Beam splitter, High sensitivity InGaAs detector, thermoelectrically cooled Detector, Diode laser, 32-bit Analog/digital converter, Ethernet card connection Communication, Sampling method: Diffuse reflection for solid sample, built-in gold-plated integrating sphere, built-in automatic switching gold-plated background. Sample rotating table, combined with sapphire light window sample cup, can perform rotating sampling. 100mm diameter sample cup, hard-coated aluminum with low OH quartz window. The software displays the temperature and humidity values inside the instrument with an automatic humidity alarm function. Quantitative analysis software using a full spectrum multivariate analysis (PLS) method for setting up models. Provides a wide range of pre-processing and validation options and offers an automatic routine for the optimization of calibration methods. Sequence measurement function for laboratory, user can set up products, experimental parameters and models, The software package controls data acquisition and result prediction or Higher USA/EUROPE/CHINA OR EQUIVALENT</p>
25.	<b>GEL ELECTROPHORESIS (HORIZONTAL)</b>	<p>2 x 16 sample combs, loading guides and dams, run upto 100 samples, Low buffer volumes, Ideal for rapid electrophoresis loading guides allow easy well bromophenol blue, migration rate, 4-5cm/hr at 90V. 10 x 10 cm Gel Dimensions (W x L) or Better, 100 samples Maximum or Better, Buffer Volume 300 ml Buffer Volume or Better, 90V, 45-60 minutes Typical running condition, Power Supply 230 VAC, 50/60 Hz, Input Power , One T4A 250VAC, one</p>

		extra fuse, 120 W Output power in watts or better, Backlit TFT-LCD Graphic type display, 2 VDC - 300 VDC Output voltage range or better, 1 mA – 500 Ma Output current range or better, 1 V step Constant Voltage, mA step Constant Current, 1 watt step Constant Power, Up to 999 min per step Timer, Automatic Crossover, touch screen display, should have atleast four sets or Higher USA/EUROPE OR EQUIVALENT
26.	<b>GENE GUN</b>	Low-pressure Gene Delivery System for Plant, complete with mainbody, 4.5 mm diameter, barrel, gas pressure regulator, hose assembly, O-ring, sample loading sleeve and instruction manual. Spread even calibration kit for even calibration or Higher Germany/Japan/USA/UK OR EQUIVALENT
27.	<b>HAND LENS MAGNIFIER</b>	PXM® Material, should be Suitable for use when a large field of vision is required with low level magnification. Biconvex PXM® lightweight lens, Plano-convex spare lens with 5x magnification integrated in the handle, Eyelet in the handle for round-the-neck carry cord, 2.5x Magnification, 6,4 dpt Diopters, Ø 60 mm Field of view or Higher USA/EUROPE/GERMANY OR EQUIVALENT
28.	<b>HANDHELD PHOTOSYNTHESIS SYSTEM</b>	Non-diffuse infrared CO2 analysis, 0-1000ppm/0-1500ppm/0-2000ppm; resolution:0.1ppm; accuracy: 0.1ppm Measurement range, Imported high precision digital temperature sensor Leaf chamber temperature, 0-50°C; resolution: 0.1°C; error:±0. 2°C Measurement range, platinum resistance Leaf temperature, 0-50°C; resolution: 0.1°C; error: ±0.2°C Measurement range, high precision digital humidity sensor imported Leaf humidity, 0-100%;Resolution: 0.1%;error: ≤±3% Measurement range, Silicon photocell with correction filter Illumination (PAR), 0-2500µmolm m2/s; accuracy:≤5µmolm m2/s Measurement range, 55*20mm standard size, Temperature 0°C-50°C,relative humidity: 0-100%, DC8.4V lithium battery, can work continuously for 7-9 hours, 2GB SD card to store 0.5 million data for a long time. Text document format, no need to configure communication software With portable strength meter High accuracy and resolution, easy to operate, portable. Auto save testing pressure, time and testing sequence number. With peak maintenance function. equipped probes, hooks, pressure plates and other accessories are convenient for different experimental studies. Auto switch off. With backlight function. 499N Max load, 0.1N Resolution, 0-100mm Culm width, ±0.5% Accuracy, N, KG Unit, RS232 Output Interface, Chargeable battery, Charger (charge voltage:100V-240V) or Higher USA/EUROPE/CHINA OR EQUIVALENT
29.	<b>HAEMOCYTOMETER</b>	Glass Material, Double net ruling. For counting cells in liquor or for counting nematodes. Glass Material, Double counting grid. Counting grid or Local or Higher USA/EUROPE/GERMANY OR EQUIVALENT
30.	<b>HIGH SPEED BLENDER</b>	Local
31.	<b>HIGH SPEED REFRIGERATED CENTRIFUGE</b>	Outstanding corrosion resistance with lightweight engineered polymer rotors. Standard rotor runs 24 microcentrifuge tubes in a single row, from 1.5 to 2.0 mL tubes to mini-preps and spin columns. Ergonomic one-click rotor opening and closing, as well as transparent design for added safety and convenience with ClickSeal biocontainment lids. 24 x 1.5/2 MI Capacity, 14,790 rpm Max. Speed, 21,050 x g Max. RCF, 56 dB(A) Noise Level, Ambient temperature, 24 x 1.5/2.0mL rotor with ClickSeal biocontainment lid Includes, Ventilated, 230 V 50/60 Hz, 1 to 99 min. (1 min. increments); HOLD Run Time, Benchtop Centrifuge Capacity: 6 x

		1.5/2.0 mL or better; Max. Speed: 5900 rpm or better; Max. RCF: 2,000 x g; Environmental stress: 53 dB or better; Temperature Range: Ambient; Includes: 6 x 1.5/2.0mL tube rotor, singles or 2 x 8 strip, 6 tube adapters 0.2mL, 6 tube adapters 0.5mL, storage case for rotors and adapters for ease of transport and use in field, tube rack, 4 or more interchangeable plug type; or Higher USA/EUROPE/GERMANY OR EQUIVALENT
32.	<b>HOMOGENIZER</b>	Continuously adjustable speeds for better results, Light-weighted and small-dimensioned for better handling, Triple safety of the drive (overload protection. Smooth start – against jerky work, safety switch), High quality dispersing tools as standard for better resistance to corrosion (SS 316 L steel), Quick-change system of the dispersing tools for a short changing time between preparations, Viscosities up to 9999 cps, One shaft size, Knob Speed setting, Scale Speed display, 10~40,000ML Process Range H2O(mL), 10,000~30,000 rpm Speed with Zero-Load, Ø4~Ø23 mm Applicable aggregates, 72 dB Noise Level, AC Motor, 220V/50~60Hz, 80% RH Relative humidity (max.), 0~40°C Operating temperature, IP20 IP Code or Higher USA/EUROPE/GERMANY OR EQUIVALENT
33.	<b>HOT AIR OVEN</b>	Adjustable fan speed in five steps for drying and heating. Programmable controller for temperature ramps and dwells, Up to 10 programs can be saved, each with 10 discrete steps, Features electronically controlled fan speed and damper position, Automatic turn on or off at pre-set times, Access port for independent data monitoring, Programmable Microprocessor control with vacuum, Fluorescent display Controller Type, 50-70 L Capacity, ≤300to329°C Temperature, Mechanical Convection, Coated Steel Material, 2 No. of Shelves, ±1.8°C Temperature Stability, Automatic over temperature alarm, Audio and Visual alarms, stackable, RS 232 Data interface, 230 V 50/60 Hz or Higher  Ethernet for Data Transfer Setting accuracy temperature up to 99.9 °C: 0.1°C Adaptive Multifunctional Digital PID-microprocessor Controller with High-Definition TFT-Color Displays Single DISPLAY Natural convection Adjustment of pre-heated fresh air admixture by air flap control in 10% steps for each segment individually Self-diagnostics for fault analysis Digital timer adjustable from 1 minute to 99 days, 23 hours Multiple Over temperature Protection with audible and visual alarm Interior Stainless Steel & Textured Stainless-Steel Casing Programme stored in case of power failure Air flap  USA/EUROPE/GERMANY OR EQUIVALENT
34.	<b>ICE MAKER MACHINE</b>	82 kg Ice Making Capacity(kg/24h), 22 (kg) Ice Storage Capacity Small particle of irregular snow ice, 480 Input Current(w), Air cooling Condensation, 10~35°C Ambient Temperature, 2~15°C Water, Temperature, Stainless steel Tank shell, R134a Refrigerant, Standard Accessories Water inlet pipe*1, Drainage pipe*1, Ice spoon*1, AC 220V50/60Hz, 380*500*860 External Size(W*D*H)mm or Higher USA/EUROPE/CHINA OR EQUIVALENT
35.	<b>ICE-BOX</b>	For sample transportation and short-term working storage local/ China or Higher

36.	<b>INCUBATOR</b>	<p>Operated on 220volts.50/60 Hz,</p> <p>Precision Adaptive multifunctional Digital PID-Microprocessor controller with High-Definition TFT-Color Display, Resolution of display for set point values 0.1°C, Double doors (interior glass, exterior stainless steel), Dual convection for application versatility, fan speed adjustable from 0 to 100%, by air flap control in 10% steps, Advanced digital timer for daily or weekly ON/OFF cycles, Intuitive user interface for setting temperature, Adjustment of pre-heated fresh air admixture</p> <p>Microprocessor control with vacuum fluorescent display Controller Type, 65 L Capacity, 2 No. of Shelves, Ambient +5°C to 104°C Temperature Range, ±0.1°C Temperature Stability, ±0.6°C Temperature Uniformity, weekly / real time / hour digital Timer, Digital timer adjustable from 1 minute to 99 days, 23 hours, Adjustable electronic over temperature monitor and mechanical temperature limiter, protection class 1, Double Over Temperature Protection, Interior &amp; Housing made of Stainless Steel, set point WAIT function, Open door alarm, Over Temp alarm, stackable, Programme Stored in Case of Power Failure, Capacity 100-110 Lit, two single stainless steel tray or Higher</p> <p>USA/EUROPE/GERMANY OR EQUIVALENT</p>
37.	<b>LAMINAR FLOW CABINET</b>	<p>1290*810*2030mm External Size (W*D*H), 1185*495*565mm Internal Size (W*D*H), 749mm Work Surface Height, LCD Display, Average of 0.3~0.5m/s Airflow Velocity, Main Body: Cold-rolled steel with anti-bacteria powder coating Work Table: 304 stainless steel, Side and Front Window: 5mm toughened glass, anti-UV, Polyester fiber, washable Pre-filter, 99.995% efficiency at 0.3µm HEPA Filter, &lt;65dB Noise, Motorized Front Window, 420 mm Max Opening or more, 12W*1 LED Lamp, 30W*1 UV Lamp, Emission of 253.7 nanometers, total load ≤500W Waterproof Socket Two, Universal caster with leveling feet, AC220V±10%, 50/60Hz, LED lamp; UV lamp*2; Base stand; Gas Tap; Waterproof socket*2; Standard Accessory, Infrared sterilizer LED Display, 300~830 °C Temperature range, 825±50 °C Central zone max temperature, Ceramic Heating tube, ABS Shell, -10~50 °C Working temperature, &lt;80 % RH Working humidity, -40~60 °C Storage temperature, 10~90 % RH Storage humidity or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
38.	<b>LEAF AREA METER</b>	<p>Measurement function: it should measure the blade length, width, aspect ratio, perimeter, area, shape factor, shape factor, ambient temperature, etc. Bluetooth App functions: transfer data, upgrade hardware programs, and return longitude and latitude to the instrument. Data viewing: historical data and blade shape in the equipment memory can be browsed. Time function: the equipment has time and date functions, which can save the measurement time with the measurement data. Transmission function: Type-c data, charging interface for data transmission and charging, universal mobile phone cable, driver free. Power supply function: low voltage and low power consumption power supply, rechargeable lithium battery, continuous working time up to 16h, easy maintenance, safe and reliable. Portable function: the whole machine is highly integrated, easy to operate, and suitable for indoor and outdoor use. Parameters: Leaf area, average area, length, width, perimeter and ratio of length and width. PC connected. millimeter, square centimeter Test unit ±2% Precision, 0.01cm2 Resolution, ≤1000mm Measuring Length, ≤160mm Measuring Width, ≤8mm Thickness, ≥1000 Groups Data capacity, RS-232 connects meter to PC, data can be converted to excel format can be printed. with plant nutrition analyser Non-destructive test plant quickly, not to effect plant</p>

		<p>growth. four parameters (nitrogen, chlorophyll, leaf temperature and leaf humidity) are displayed in the screen and can be stored at the same time. The average values of the four indexes can be calculated automatically. should have “system settings”, “view data”, “energy saving settings”, “clock settings”, “delete data” and other functions. View historical data, either sequentially or jump. standard fertilizer amount can be directly calculated by inputting the plant name, the standard nitrogen content and the utilization rate. Data that has been saved in the host after an unexpected power outage is not lost. Historical data can be deleted either individually or in one click. has its own USB interface, which can connect the computer to export the measured data. It is convenient for the management and analysis of plant nutrients. Built-in lithium battery power supply, direct charging does not need to change the battery, instrument with its own backlight function. Nitrogen, chlorophyll, leaf temperature, leaf humidity Testing object, 0.0-98.9SPAD Chlorophyll range, 0.0-98.9mg/g Nitrogen range, 0.0-98.9RH% Leaf humidity, -10-98.8°C Leaf temperature, 2mm*2mm Testing area, less than 3sec Testing interval, 32KB Stored data capacity, 4.2V 2000mah Recharge Li-ion battery Power supply, ±3SPAD Chlorophyll accuracy, ±5% Nitrogen accuracy, ± 0.5% Leaf humidity accuracy, ± 0.5°C Leaf temperature accuracy or Higher</p> <p>USA/EUROPE/CHINA OR EQUIVALENT</p>
39.	MICROSCOPE	<p>The butterfly tube allows optimal angular observation to be set, compartment on the rear of the device, the power cable can be quickly stowed in a space-saving manner, The 1.25 Abbe condenser with aperture cover, with its height-adjustable focus, enables ideal light concentration and illumination of the specimen, The mechanical cross table ensures fast working and positioning of the specimen. It features a coaxial coarse and fine focus drive fitted on both sides for adjusting the height and focusing on the specimen With strong, infinitely dimmable 3 W LED transmitted light illumination, binocular Tube, 40x, 100x, 400x, 1000x Total magnification, turret Magnification type, wide-field 10x Ocular magnification, achromatic Lenses, 4-way, tilted forwards Lens arrangement, - 4x/N.A. 0.10, W.D. 18.6 mm- 10x/N.A. 0.25, W.D. 6.5 mm, - 40x (spring)/N.A. 0.65, W.D. 0.47 mm- 100x (spring, oil)/N.A. 1.25, W.D. 0.07 mm Lens magnification, 18 mm Field of view, on one side Diopter compensation, 30 ° Angular observation, can be rotated 360° Head, 48-75 mm Distance between eyepieces, Abbe N.A. 1.25 with aperture cover Condenser, LED Light source, transmitted light Type of lighting, coaxial coarse and fine focus with scale: 2 µm Image focusing, finite Optics, 125 x 115 mm area coaxial x/y travel range of 50 x 70 mm Microscope stage, 240 V, 50/60 Hz or Higher</p> <p>USA/EUROPE/GERMANY OR EQUIVALENT</p>
40.	LIQUID NITROGEN CONTAINER	<p>Material: metal blue-coated, borosilicate glass 3.3 insert, fully silver-plated, lid made of insulated plastic, aluminium handle. Suitable for storage and transport of heat-sensitive samples in coolants, such as liquid nitrogen. When using gassing coolants, a hole must be made in the lid (central; Ø approx. 2 mm). Evaporation rate 1.3 l liquid N2/d, Type 29 B, Vol. 4 l or Higher</p> <p>USA/EUROPE/GERMANY OR EQUIVALENT</p>
41.	MAGNETIC STIRRER	<p>184x184mm (7 inch) Work plate Dimension [W x D], Glass ceramic Work plate material, Shaded pole motor, 200-240V 50/60Hz, Stirring positions: 1, 10 L Max. stirring quantity, [H2O], 80mm Max. magnetic bar[length], 0-1400 rpm Speed range, Scale Speed display, LED Temperature display, Room temp.-500°C, increment 5°C Heating temperature range, ±10°C Temperature control</p>

		accuracy, 500°C Overheating protection, ±1°C Temperature display accuracy, PT1000 (accuracy ±0.2) External temperature sensor, 50°C "Hot" warning, IP21 Protection class, 5-40°C Permissible ambient temperature , 80%RH humidity, or Higher  USA/EUROPE/CHINA OR EQUIVALENT
42.	MECHANICAL WEEDER/POWER OPERATED	1.5 ft or 2.5 ft, engine operated Local or Higher
43.	MEMBRANE FILTRATION UNIT WITH VACUUM MACHINE	Quick filtration results, Easily exchangeable elements, Magnetic Stability Cup, Environmental friendly, Maintenance-free, Low noise, Added filters for enhanced pump longevity, 100% Oil-free vacuum pump, magnetic filtration flask set, Silicone tube, PTFE disc filter, minimum 12 L/min Flow Rate of the Pump, 125 mbar Ultimate Vacuum, Motor protection (IP 20), VF1 Filtration Glass Set, 999 ml Suction Bottle Capacity, minimum 499 ml Filter Flask Capacity, Operating pressure (bar g) 2.4 minimum, Glass Filter Cup Filter Flask Material, 9.6 cm2 Effective Filtration Area, 8 mm Tube I.D. Operated on 220 Volts  Complete as above or Higher  Germany/Japan/USA/UK/EUROPE OR EQUIVALENT
44.	MICRO APPLICATOR	Local or Higher
45.	MICRO- INCINERATOR	LED Display, 301~829 °C Temperature range, 825±50 °C Central zone max temperature, Ceramic Heating tube, ABS Shell, -10~49 °C Working temperature, <80 % RH Working humidity, -40~60 °C Storage temperature, 10~90 % RH Storage humidity or Higher  USA/EUROPE/CHINA OR EQUIVALENT
46.	MICROPIPETTES	Fully autoclavable. (121°Cfor 20 minutes), with a lock mechanism, easier to adjust volume smoothly. Enhanced UV resistance., 4 Digit, Hyper blower system, longer second-push stroke, improves Dispensing efficiency.(2µL,10µL), 4 digit shows 1-10 µL, ±4.0, ≤3.0, 5, ±1.0, ≤1.0, 10, ±1.0, ≤0.5, 10-100 µL, 10, ±2.0, ≤1.0, 50±1.0, ≤0.3, 100, ±0.8, ≤0.3, 100-1000 µL: 100 ±1.0, ≤0.5, 500, ±0.8, ≤0.3, 1000, ±0.7, ≤0.2, 0.2-2 µL, 0.2, ±12.0, ≤6.0, 1, ±5.0, ≤2.5, 2, ±3.0, ≤1.0, 2-20 µL, 2, ±5.0, ≤3.0, 10, ±1.0, ≤1.0, 20, ±1.0, ≤0.4, 20-200 µL, 20, ±1.0, ≤0.5, 100, ±0.8, ≤0.3, 200, ±0.8, or Higher USA/EUROPE/JAPAN OR EQUIVALENT
47.	MICROPLATE READER	Reading Options: 96 Well Plate, Read-out Range: 0 to 6 Abs, Software Type: SkanIt Software, Plate Type: 96-well plates, Wavelength Selection Filters, Wavelength Range: 340 to 849nm, Filters: 8-position filter wheel; filters installed: 405nm, 450nm, and 620nm, measurement modes such as End Point, Two-Point, and Kinetic, Linearity: 0–3 Abs, ± 2% at 405nm, 96-well plate, Resolution: 0.001 Abs, Accuracy: ± 1% (0–3 Abs) or ± 0.003 Abs, whichever is greater at 405nm, Precision: CV ≤ 0.: Photo detector, Interface: User: On-board or PC control, Light Source: Quartz-halogen lamp, Programmable Shaking parameters with three speeds and mode Linear, Measurement Speed: 7 seconds, 96-well plate, fast mode; 13 seconds, 96-well plate, normal mode, Depth: 35cm, Width : 28cm, Height ): 20cm, Compatibility: Robot, include Microplate Centrifuge for Rapid centrifugal wall-hanging droplets and Quick centrifugation before PCR/QPCR experiment helps to obtain more stable and accurate results. Suitable for all kinds of PCR microplates with 2499rpm/min Max. Speed, ≤10% Speed Accuracy, 2×96-well PCR plate Capacity, 499×g Max. RCF, ≤70dB Noise level, 5°C -



		40°C Ambient temperature, ≤85% Relative humidity, 858hPa-1058hPa Atmospheric pressure, AC220V, 50/60Hz or Higher USA/EUROPE/JAPAN OR EQUIVALENT
48.	<b>MICROTOME (CRYO)/ CRYOSTAT</b>	<p>Freeze Chamber</p> <ul style="list-style-type: none"><li>- Temperature range: 0°C to -50°C</li><li>- 0°C to -50°C Specimen Head Temp. Range</li><li>- UV light sterilization, automatic defrost, and standby mode</li><li>- Extra-large chamber with storage for slides, stains, and tools</li><li>- -45°C Lowest Temp. of Refrigerating Table,</li><li>- -60°C Lowest Temp. of Peltier Together with Re</li></ul> <p>Microtome</p> <ul style="list-style-type: none"><li>- Fully encapsulated for maintenance-free reliability</li><li>- High-precision microtome with 360° specimen orientation</li><li>- Section thickness range: 1-100 µm (adjustable in 0.5 µm increments)</li><li>- 10-400µm Trimming Thickness Range</li></ul> <p>Control and Safety Features</p> <ul style="list-style-type: none"><li>- Control panel with locking function to prevent incorrect operation</li><li>- Self-explanatory symbols and displays for easy operation</li><li>- Sensor self-diagnosis function with auto-detected alarm system</li><li>- Standby mode for temperature control between -5°C and -15°C</li></ul> <p>Technical Specifications</p> <ul style="list-style-type: none"><li>- Cooling down time to -50°C: 40 minutes</li><li>- Freeze shelf routine temperature: 0°C to -50°C</li><li>- Peltier working time: 15 minutes</li><li>- Maximum specimen size: 55 mm x 80 mm</li><li>- Specimen vertical stroke: 70 mm</li><li>- 21mm Specimen Horizontal Stroke</li><li>- 0.7mm/S, Slow 0.35mm/S Electric Coarse Feed Rapid</li></ul> <p>- Voltage and frequency: AC220V 50/60Hz or Higher</p> <p>USA/UK OR EQUIVALENT</p>
49.	<b>MINICENTRIFUGE MICROSPIN</b>	<p>Quick-spin feature, Quiet operation, low vibration, Tool-free, quick rotor exchange, Includes: 6 x 1.5/2.0mL tube rotor, 16 x 0.2mL tube rotor (singles or 2 x 8 strip), 6 tube adapters 0.2mL, 6 tube adapters 0.5mL, storage case for rotors and adapters, tube rack, universal power adapter 110-240V 50/60 Hz, with 4 interchangeable plug type, Capacity: 6 x 2 ML, Max. Speed: 6,000 rpm, Max. RCF: 2,000 x g, Noise Level: 51-53 dB(A), Temperature Range: Ambient temperature, Certifications/Compliance: CSA, CE, UL or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
50.	<b>MOISTURE ANALYZER</b>	<p>With latest Uniblock/Monobloc technology excellent performance for a wide variety of applications in multiple industries. Easy start mode (Fast response time)</p> <p>Capacity: Max = 60g, Min = 0.02g, 0.001g / 0.01%, Readability, 0.001g/0.01/0.1%, Repeatability, 0.15% (2g), 0.05% (5g), 0.02% (10g), %M, %S, ATRO %M, ATRO %S Weighing Units, External calibration, 3.0 Stabilization</p> <p>Time, 99.9mm ø Pan Size, 0.002g Linearity, Mains power cord Power Supply, Die-cast aluminum Construction, RS-232, USB Interface, overload protection, windows direct function,</p>

		<p>pan 110mm, 0° to 40°C Operating Temperature, 23mm Display Digit Height, Einzelner 400W Halogen lampe Heating Technology, Internal memory stores up to 99 test results, and 49 programmable user settings External USB drive for limitless data storage of test results and settings.</p> <p>Timer setting: 1-120 minutes or continuous, (max 12 hours), Operated on 220Volts.</p> <p>Complete as above or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
51.	NANODROP	<p>260 to 280 nm Wavelength Range, 16 x 11.5 cm Footprint, Nucleic Acid Quantification, DNA Quantification, RNA Quantification, Protein Quantification Printer Includes, 303 stainless steel; quartz fiber Material, &lt;5 sec. Measurement Time, 4 ng/μL (dsDNA); 45 mg/mL (BSA) Min. Data Interval, One No. of Samples, 0.5 mm Pathlength, &lt;8nm Resolution, 1 to 2 μL Sample Volume, 8.0 nm Spectral Resolution, 1 μL Volume, 0.002 (10 individual measurements at 0.74 Abs) Wavelength Repeatability, 0.03 Absorbance Accuracy , 0 to 30 A Absorbance Range, 1500 ng/μL (dsDNA); 45 mg/mL (BSA) Concentration, USB Connections, 0.12 mg/ml (BSA), 4 ng/μ/ (dsDNA) Detection Limits, Silicon Photodiode Detector Type, LCD Display, LED Light Source, Include Pipette filler should have Backlit LCD display to monitor battery life, pump speed and alarms with a blinking light. With Independent push buttons controls aspiration and dispensing. should be wall mountable and table stand. Separate aspirate and dispense buttons on the rear and eight speeds controls “+” or “-” to adjust pipetting speed. should have fill time for 50 ml 5.5 sec or better. Runtime between charges: 15 hours of continuous use or more, Lithium-Ion Battery Type, 8 Dispensing Speed, For Use With Graduated and Volumetric Glass Serological Pipette, For Use With Graduated and Volumetric Plastic Serological Pipette, 1 to 99.9 mL Volume, 0.45 Micron Standard Filter Type, Includes Pipet Filler, universal charger, table stand, wall-mounted Holder, 1mL pipet support, 3 hours Recharge Time, 240V 50/60Hz, should be must wall mounted or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
52.	NORMAL REFRIGERATOR	Local (size 500 liters or above) or Higher
53.	OFFSET DISK HARROW	For field preparation, Local, from reliable, well reputed and authentic manufacturer or Higher
54.	PH METER BENCHTOP	<p>Should have 6.5-inch LCD screen. also Built-in microprocessor chip has Intelligent functions such as automatic calibration, ATC, data storage, clock display, USB output, function settings, wireless printing, and self-diagnosis information, -2 – 19.98±0.005 pH Measuring range, 0.001 pH Resolution, Electrode: ±0.02pH Accuracy, 1, 2, 3 point pH Auto calibration, ≤2×10-12 A pH Input current, ≥1×1012 Ω pH Input impedance, ±0.02 pH/3h pH Stability, (–5 to +105.0)°C, Auto pH Temp. compensation, ±1999.9mV Measuring range, 1 mV Resolution, ±0.01% FS Accuracy, (0 ~ 99.9)°C Temp Measuring range, 0.1°C Temp Resolution, ±0.5°C Temp Accuracy, 999 sets Data storage, 12V/1A (220V, 50-60Hz) Power, USB, RS232, Bluetooth Output, 5 ~ 39.9 °C Ambient Temp., 4.5-84% Ambient Humidity, IP54 grade, ATC, data storage, clock display, USB output, function settings, wireless printing, and self-diagnosis information, with electrode holder, two-in-one electrode that consists of pH combination electrode and temperature probe, pH buffer solution, power adapter, buffer solution (4,7 and 10 pH) for calibration</p>

		<p>pH Electrode precision Type with Built in Temperature Sensor</p> <p>Complete as above or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
55.	<p><b>PLANT WATER POTENTIAL APPARATUS</b></p>	<p>Plant Water Potential Analyzer is a device which be used for testing the plant water regime, its composition and get the plant conduit juice and doing component analysis. And it applies for research the relationship between plant water relations, plants and environment. This device is suitable for the study in Plant physiology, Ecology, Agricultural, Forestry and pasture. It instructs how to use the water and how to fight a drought. Plant Water Potential Analyzer is easy to operate, fast test, both indoor and outdoor test are available. Technical parameter 0~3.5Mpa Measuring Range, 0.01Mpa Accuracy, or Higher</p> <p>USA/EUROPE/CHINA OR EQUIVALENT</p>
56.	<p><b>PORTABLE GRINDER 1KG</b></p>	<p>Local or Higher</p>
57.	<p><b>QUANTITATIVE REAL TIME PCR</b></p>	<p>Real-time PCR instrument should comprise of advanced optical technology with coupled filter wheel and precise temperature control to deliver sensitive, reliable detection using in-built Peltier technology. Resolution: should detect as little as 1.5-fold changes and sensitivity to detect one copy. ROX dye capability for troubleshooting. Fast thermal cycling produces results in &lt;35 min or better, dye compatibility with FAM™, SYBR™ Green, VIC™, TAMRA, Cy®3, JOE™, HEX™, TET™, ABY™, NED™, JUN™, ROX™, Texas Red™ etc. It can multiplex up to 4 targets or more. Should have Veri Flex Blocks; three separately controlled alloy blocks (or zones) that enable users to set specific temperatures, Data can be accessed online via cloud software. 96 Sample wells, 0.2 mL block Sample Capacity, 10–100 µL Sample Volume. It should have bright white LED to illuminate entire plate at once, 500-640nm Detection range, coupled filter Optical detection, 6.5 C/sec Ramp rate, 3.66 C/sec Avg. ramp rate, 0.4 C Temp. Uniformity, 450-600nm Excitation range, Interactive touch screen Display, Standalone. Communication Interface; Cloud-based connect, Ethernet, USB, Wi-Fi System configuration, 5000 or more run storage with 10 GB on board memory including Laptop. Mini-Cell Electrophoresis System with Reagents, 8x8cm gel dimension, Gel Handcast Hardware and Reagents, each sufficient to make 500 mL of stacking or resolving buffer. The Handcast Bundle A includes all the hardware and reagents need to get started: 2 Gel Handcast Stations, 1 sets Glass Plates, 10 Gel Spacers, 1no. 10-well Multi-Use Tool, 1no. 12-well Multi-Use Tool, 1no. 15-well Multi-Use Tool, 6 Gel Combs (2 each: 10-, 12-, 15-well), 1 Stacking Buffer (1L), 2-pack 500ml, 1 Resolving Buffer (1L), 2-pack 500ml, 25 g SureCast Ammonium Persulfate. 450 mL SureCast Acrylamade Solution. 30 mL SureCast TEMED or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
58.	<p><b>REFRIGERATOR -20</b></p>	<p>350 to 400 L Capacity, -20°C to -30°C Temperature Range, -20°C Temperature (Setpoint), Solid Door Style, 1 No. of Doors, Steel Cabinet Material, Painted Steel Interior, Painted Steel Exterior Finish, Whisper quite operation &lt; 60 Db, White painted interior and exterior, Temperature, door ajar, and power failure (with battery backup) alarms. Low heat output, Rear access port, Keyed Lock, LED interior lighting, Green hydrocarbon refrigerants, Remote alarm contacts, 4 Adjustable Shelves, 28.5 kg Capacity Shelf, Casters, Digital Microprocessor Control Type, Boxed Packaging Type, Key Lock Access Security, Smart View Compatibility, 230 V/50 Hz,</p>

		Energy Efficient, R290 Refrigerant, adaptive defrost, digital controller, condenser alarm. or Higher, Alarm system: High/low temperature alarm (adjustable ±5 to ±15) or Higher  USA/EUROPE/JAPAN OR EQUIVALENT
59.	ROOT ANALYZER	Range: 0-1,000; Accuracy: error <5%, Root system length: total root system length, including main root and secondary roots; Should analyze root length, diameter, surfacearea, volume, root tip number, branch number, etc. Clear interface design, modular function designRange: 0-10,000 mm, Accuracy: error <3.65%, Average diameter: diameter e: 0-20 mm, Accuracy: error <0.04%Projected area range: 0-200,000 mm2, Accuracy: error <4.02%, area Range: 0-1,000,000 mm2, Accuracy: error <3.75% Volume: overall volume Range: 0-2,000,000,000 mm3, Accuracy: error <3.82%, Quantity: the sum of the number of roots at all levels ; Range: 0-100, Number of connections: the sum of the number of connections on the side roots at all levels ;Range: 0-100, Length: the sum of the lengths of the lateral roots at all levels Range: 0-10,000 mm, Diameter: the average diameter of each side root Range: 0-20 mm, Surface area: the sum of the surface area of each side root Range: 0-1,000,000 mm2, Volume: the sum of the volume of each side root Range: 0-2,000,000,000 mm3, Projected area: the sum of the projected area of each side root Range: 0-200,000 mm2, image recognition technology, can analyze root length, diameter, S.A volume, root tip number also can be used for root morphology and structure resarch adjustable speed, with plant nutrition analyzer Nondestructive test plant quickly, not to effect plant growth. four parameters (nitrogen, chlorophyll, leaf temperature and leaf humidity) are displayed in the screen and can be stored at the same time. The average values of the four indexes can be calculated automatically. should have “system settings”, “view data”, “energy saving settings”, “clock settings”, “delete data” and other functions. View historical data, either sequentially or jump. standard fertilizer amount can be directly calculated by inputting the plant name, the standard nitrogen content and the utilization rate. Data that has been saved in the host after an unexpected power outage is not lost. Historical data can be deleted either individually or in one click. has its own USB interface, which can connect the computer to export the measured data. It is convenient for the management and analysis of plant nutrients. Built-in lithium battery power supply, direct charging does not need to change the battery, instrument with its own backlight function. Nitrogen, chlorophyll, leaf temperature, leaf humidity Testing object, 0.0-98.9SPAD Chlorophyll range, 0.0-98.9mg/g Nitrogen range, 0.0-98.9RH% Leaf humidity, -10-98.8°C Leaf temperature, 2mm*2mm Testing area, less than 3sec Testing interval, 32KB Stored data capacity, 4.2V 2000mah Recharge Li-ion battery Power supply, ±3SPAD Chlorophyll accuracy, ±5% Nitrogen accuracy, ± 0.5% Leaf humidity accuracy, ± 0.5°C Leaf temperature accuracy, with Leaf area meter Measurement function: it can measure the blade length, width, aspect ratio, perimeter, area, shape factor, shape factor, ambient temperature, etc. Bluetooth App functions: transfer data, upgrade hardware programs, and return longitude and latitude to the instrument. Data viewing: historical data and blade shape in the equipment memory can be browsed. Time function: the equipment has time and date functions, which can save the measurement time with the measurement data. Transmission function: Type-c data, charging interface for data transmission and charging, universal mobile phone cable, driver free. Power supply function: low voltage and low power consumption power supply, rechargeable lithium battery, continuous working time up to 16h, easy maintenance, safe and reliable. Portable function: the whole machine is highly integrated, easy to operate, and suitable for indoor

		and outdoor use. Parameters: Leaf area, average area, length, width, perimeter and ratio of length and width. PC connected. millimeter, square centimeter Test unit $\pm 2\%$ Precision, 0.01cm <sup>2</sup> Resolution, $\leq 1000$ mm Measuring Length, $\leq 160$ mm Measuring Width, $\leq 8$ mm Thickness, $\geq 1000$ Groups Data capacity, RS-232 connects meter to PC, data can be converted to excel format can be printed. or Higher USA/EUROPE/JAPAN OR EQUIVALENT
60.	SEED COUNTER	counting, Microcomputer automatic control, have touch-key, Count speed is adjustable, time, level and number of particles display clearly, diamond, tablet. Small and middle sample: 0.7~4 mm $\times$ 0.7~12mm Count Range, 3~10mm $\times$ 3~12 mm Big sample, 1-12mm Count Range, $\pm 2\%$ Count Accuracy, 1-99999 Bulk Counting, <70db Noise, -10°C- 50°C, <85% RH Operation Environment, Big and middle sample: 2/1000 small sample: 4/1000 Count Accuracy, $\geq 1000$ /3min (it's based on level 2, if you want fast you can, turn to level 3-7) Count Speed, 1~99999 Count Capacity, 220V, 50 $\pm$ 10Hz, $\geq 5$ Hr Characteristics Continuous working time, seeds Rice, Wheat, Sorghum, Corn, Vegetable and other crops, automatic multiple modes such as free and bulk count at the end of process, LCD screen, can monitor count time, level, number of particles with an option of easy to select mode or Higher USA/EUROPE/CHINA OR EQUIVALENT
61.	SEED DRYING EQUIPMENT/ SEED STORAGE	Commercial seed drying for multiple seed types specifically for soybean, Local, from reliable, well reputed and authentic manufacturer. Power operated, Seed storage includes installation of insulators, AC/Chillers and dehumidifiers in the storage for effective temperature and humidity control or Higher
62.	SEED GRADER	Suitable for cleaning and grading of seeds like soybean, wheat, rice, barely, maize, millet, sorghum, sunflower, brassica. 800kg/h capacity and 8Hp Electric motor, Local or Higher
63.	SEED PROCESSING EQUIPMENT	Commercial for multiple seed types, Local, from reliable, well reputed and authentic manufacturer. Power operated or Higher
64.	SOIL AUGERS	For soil sampling, local, from reliable, well reputed and authentic manufacturer or Higher
65.	SOIL MOISTURE METER / SENSORS	Portable, Storage capacity 30,000, with 4G Micro SD. 8.4V lithium battery Working power supply, 5min~99hour Data-collection interval, 1.5m Standard cable length, 0~100% Range, $\leq 2$ s Response time, $\leq 3\%$ Relative error, LCD Display, can be connected to PC, can be used to collect data manually or Higher USA/EUROPE/CHINA OR EQUIVALENT
66.	SOXHLET APPARATUS	Local or Higher
67.	SOYBEAN BED PLANTERS	Commercial for multiple seed sowing specifically soybean coupled with fertilizer application, adjustable bed width and plant to plant distance, Local, from reliable, well reputed and authentic manufacturer or Higher
68.	SOYBEAN PRECISE PLANTERS	Commercial for multiple seed sowing specifically soybean coupled with fertilizer application, adjustable PxP and RxR distance, seed depth, number of seed, Local, from reliable, well reputed and authentic manufacturer or Higher
69.	SOYBEAN SEED AND MEAL STORAGE CONTAINERS	Various sizes, Plastic and Metal Containers local or Higher
70.	SOYBEAN SOAKING, WASHING AND STORAGE CONTAINERS/TANK	Various sizes, Plastic and Metal Containers/ tanks local or Higher

71.	<b>SPECTROPHOTOMETE R</b>	Must be Live Display in Abs, %T or Concentration, Scanning, Fixed wavelength at multiple wavelengths with calculations, Quantitative Analysis, OD600 analysis, Kinetics, Programmable method library, Smart Start direct boot-up, UV-VIS Double beam, Czerny-Turner optical system with sample and reference cell position, Xenon flash lamp, Dual silicon photodiode detectors, Removable, washable sample compartment, Easy-access top-and-front sample compartment lid, 7 inch/17.8cm High Definition Color Touch panel display; Tilttable; 1280 x 800 pixels, Sloping surfaces to shed spills, 190 - 1100nm Wavelength Measurement, accomodate 8-cell changer, Range, $\pm 0.5\text{nm}$ Wavelength Accuracy, $< \pm 0.2\text{nm}$ Wavelength Repeatability, 0.1, 0.2, 0.5, 1, 2, 5 nm Data interval when scanning, Slow, Medium & Fast - up to 1600nm/min Scan speeds, -3A to +5A Photometric Display Range, -2A to +3.5A Photometric Linear Range, $\pm 0.002\text{A}$ at 0.5A. $\pm 0.004\text{A}$ at 1A. $\pm 0.008\text{A}$ at 2A Photometric accuracy, 2nm Spectral bandwidth, $\leq 0.0002\text{A}$ at 0A; $\leq 0.0003\text{A}$ at 1A; $\leq 0.0004\text{A}$ at 2A @ 260nm and 500nm Noise, $< 0.0005\text{A/hr}$ Drift, @198nm $< 1.0\% \text{T}$ ; @220nm $< 0.05\% \text{T}$ ; 340nm $< 0.03\% \text{T}$ Stray light, $\pm 0.002\text{A}$ Baseline Flatness, should have cell changes for high through applications, should include 8- cell changer or Higher USA/EUROPE/JAPAN OR EQUIVALENT
72.	<b>CONCENTRATOR ALONG WITH VACUUM PUMP</b>	Benchtop vacuum concentrator for evaporation of non-aggressive organics, Glass safety cover, PTFE-coated aluminium chamber, silicone rubber chamber seal, polypropylene fittings, 35-80°C temp. Setting, 1 min to 9 hr 59 min and continuous time setting, lid lock indicator, auto and manual run button, preheat button, Digital display and programming, Six programs available, Enhanced evaporation, organic compatible, Radiant glass cover to accelerate evaporation and reduce drying time, Vacuum end point mode terminates run when preset vacuum level is reached, Digital display of vacuum, temperature and time section, Latched lid and lid lock indicator ensuring user safety during operation, SpeedVac concentrator, Universal vacuum system including an oil-free vacuum pump and a - 50 °C refrigerated vapor trap, Glass condensation flask, 40 x 1.5 mL rotor, Tubing package including 12' of thick-walled vacuum tubing, cutter, clamps and fittings, manual bleed valve and instructions, Cryo Cool heat transfer fluid (1 L), 230 V 50 Hz, include container Material: metal blue-coated, borosilicate glass 3.3 insert, fully silver-plated, lid made of insulated plastic, aluminium handle. Suitable for storage and transport of heat-sensitive samples in coolants, such as liquid nitrogen. When using gassing coolants, a hole must be made in the lid (central; Ø approx. 2 mm). Evaporation rate 1.3 l liquid N2/d, Type 29 B, Vol. 4 l or Higher USA/EUROPE OR EQUIVALENT
73.	<b>STEREOMICROSCOPE</b>	Microscope body with 0.67-4.5X zoom optics, and 45 degrees inclination trinocular tube (C-mount), Trinocular Head, 360° Rotatable, Diopter Adjustable, Brightness Adjustable Light Source, BL3 Big Square Base Pole Stand, Transmitted and reflected light LED illuminator stand Eyepiece 10X with ESD capability, F.N. 22 Eyepiece 10X with ESD capability, F.N. 22, focusable Power Cord Dust Cover Microscope Digital Camera HDMI C-mount camera 6MP Still resolution 3264x1836 2MP Live video 1920x1080 60 fps (frames per second) via HDMI 2MP Live video 1920x1080 30 fps (frames per second) via USB2.0 Video record: 1080p 30fps (frames per second) on SD card or PC Output: HDMI, USB 2.0, SD Card, 1/3" CMOS chip (use .3x C-mount adapter)

		Button (1) controls: Exposure, White balance, Gamma, Gain, Sharpness, Saturation, Contrast, Button (2) controls: Cross line, Image Compare, Image Freeze OS support: Windows XP and later Software: ISCapture full parameter control C-mount Adaptor Complete as above  or Higher  USA/EUROPE OR EQUIVALENT
74.	THRESHER	Soybean thresher (threshers conventionally being used for peas and chickpea threshing), large and medium, Local, from reliable, well reputed and authentic manufacturer or Higher
75.	TISSUE LYSER II	220V/50Hz Power Supply, 1 (S) -9999 (S) Timing, 10-70Hz, 300-2099times/min Frequency Setting, 33mm (vertical) Clamp Stroke, 2ml Adaptor 48hole、 5ml Adaptor12 hole Sample Capacity, 7inch TFT Touch Screen Display, Open cover protection, High-throughput tissue grinder can in dry grinding, wet grinding, mixing and homogenizing treatment. Sample categories provided: plant tissues (Such as rice, corn, wheat, beans, peanuts, etc), animal tissues (Such as muscle and the small intestine, heart, lungs, fur, bones and so on) cells, bacteria and yeast, etc or better. For large-throughput sample extraction of nucleic acid, the grinder can greatly enhance the efficiency and quality of grinding include Cryogenic tubes Large writing areas accommodate sample information and graduations for easy visual volume assessment, 12.6 mm Diameter, Cryogenic Screw Top Product Type, 2.0 mL Capacity, Conical Bottom Shape, Polypropylene Material, External Thread Style, 500/ Case pack, RNase Free, Sterile, Graduated, Anti-Rotation, Polyethylene Closure Material, DNase Free, Screw Cap Closure Type, Certified SAL of 10 <sup>-6</sup> for the highest sterility assurance, System 100 Tubes offer a more dense storage option (9.5x9.5), Self standing tubes or Higher USA/EUROPE OR EQUIVALENT
76.	TOP LOADING BALANCE (100G-10KG)	g, lb, 2 weighing units, Counting function (Reference Num:1/10/20/50/100), Stainless steel weighing plate, Auto calibration, Strain gauge, Full range tare, 20mm green LED display, 9.5kg Capacity, 1g Resolution(d), 10d Linearity, 0-9.5kg Tare range, 9.5kg Calibrating weight, 330×210mm Dimension of platform or Higher USA/EUROPE OR EQUIVALENT
77.	TOP LOADING AUTOCLAVE	High quality all stainless steel material, Hand wheel translation type quick opening structure Safety interlocking device, LCD display working status, touch buttons, Automatically discharge cold air, and automatically discharge steam after sterilization, Over-temperature, over-pressure automatic protection function, Water cut protection control, Self-expanding seal, The buzzer will automatically stop when the sterilization is over, Simple operation, safe and reliable, 99.9L Chamber volume, 0.22Mpa Working pressure, 134°C Working temperature, 0.23 Mpa Max working pressure, ≤±1°C Heat average, 1 - 248 minute Timer, 105~134°C Adjustment of temperature, AC220V.50Hz or Higher USA/EUROPE/CHINA OR EQUIVALENT
78.	TRINOCULAR MICROSCOPE	Microscope body with 0.67-4.5X zoom optics, and 45 degrees inclination trinocular tube (C-mount), Trinocular Head, 360° Rotatable, Diopter Adjustable, Brightness Adjustable Light Source, BL3 Big Square Base Pole Stand, Transmitted and reflected light LED illuminator stand Eyepiece 10X with ESD capability, F.N. 22 Eyepiece 10X with ESD capability, F.N. 22, focusable Power Cord

		<p>Dust Cover</p> <p>Microscope Digital Camera</p> <p>HDMI C-mount camera</p> <p>6MP Still resolution 3264x1836</p> <p>2MP Live video 1920x1080 60 fps (frames per second) via HDMI</p> <p>2MP Live video 1920x1080 30 fps (frames per second) via USB2.0</p> <p>Video record: 1080p 30fps (frames per second) on SD card or PC</p> <p>Output: HDMI, USB 2.0, SD Card, 1/3" CMOS chip (use .3x C-mount adapter)</p> <p>Button (1) controls: Exposure, White balance, Gamma, Gain, Sharpness, Saturation, Contrast, Button (2) controls: Cross line, Image Compare, Image Freeze</p> <p>OS support: Windows XP and later</p> <p>Software: ISCapture full parameter control</p> <p>C-mount Adaptor</p> <p>Complete as above or Higher</p> <p>USA/EUROPE OR EQUIVALENT</p>
79.	<p><b>ULTRA LOW FREEZER</b></p> <p><b>(-20)</b></p>	<p>350-400 L Capacity, -20°C to -30°C Temperature Range, -20°C Temperature (Setpoint), Solid Door Style, 1 No. of Doors, Steel Cabinet Material, Painted Steel Interior, Painted Steel Exterior Finish, Whisper quiet operation &lt; 60 DbA, White painted interior and exterior, Temperature, door ajar, and power failure (with battery backup) alarms. Low heat output, Rear access port, Keyed Lock, LED interior lighting, Green hydrocarbon refrigerants, Remote alarm contacts, 4 Adjustable Shelves, 28.5 kg Capacity Shelf, Casters, Digital Microprocessor Control Type, Boxed Packaging Type, Key Lock Access Security, Smart View Compatibility, 230 V/50 Hz, Energy Efficient, R290 Refrigerant, adaptive defrost, digital controller, condenser alarm. or Higher, Alarm system:High/low temperature alarm (adjustable ±5 to ±15) or Higher</p> <p>USA/EUROPE/JAPAN OR EQUIVALENT</p>
80.	<p><b>ULTRA LOW FREEZER</b></p> <p><b>(-40)</b></p>	<p>Easy to use, Advanced security features: alarm settings, set point security passcode, four inner doors allowing for easy sample access without exposing greater freezer content to ambient conditions, Improved customer convenience with new ergonomically designed handle, high contrast eye-level display, and comfortable easy-access shelf locations. 500-550 L Capacity, -10°C to -40°C Temperature Range, 1 Outer, 4 Inner Door Style, 5 No. of Doors, Vacuum Insulation Panels (VIP) + Water-Blown Polyurethane, Foam (SNAP-compliant) Insulation, Stainless Steel Interior, 3 Shelves, 74.5 kg Capacity Shelf, 8 Rack Capacity, 2 in. Boxes (399) Holds, HIC 5.6 in. touch screen display, Manual Defrost, Alarm, Recorder Monitoring Options, Setpoint Security, Remote Alarm Connections, 4-20mA, RS485, and Dry Contacts Connectivity, Smart-Vue Compatible, Noise level: 51 dB or less, 208 - 230V, 60Hz, 39,999 x 2Ml Vial Capacity, H-Drive Compressor, R290 Refrigerant, , Cardboard Freezing Racks 100 well with Lid: 70 Nos or more, Freezing Container: Holds 12 to 18 tubes and has profile height of 86 or 151mm (3-7/16 to 5-5/16 in.), which saves precious freezer space during the cooling process, Cryo Freezing Gloves: 1 Pair or more, Seamless, laminated interior. Lightweight polyolefin lining in knitted cotton inner glove. Protection in the lowest temperature range down to -160 °C. Suitable for handling dry ice (-79 °C), operations in the gas phase of cryogenic liquefied media, such as liquid nitrogen in the gas phase. audible and visual alarm, Freezing Container: Holds 12 to 18 tubes and has profile height of 86 or 151mm (3-7/16 to 5-5/16 in.), which saves precious freezer space during the cooling process, Liquid nitrogen container Material: metal blue-coated, borosilicate glass 3.3 insert, fully silver-plated, lid made of insulated plastic, aluminium handle. Suitable for storage and transport of heat-sensitive samples in coolants, such as liquid</p>



		nitrogen. When using gassing coolants, a hole must be made in the lid (central; Ø approx. 2 mm). Evaporation rate 1.3 l liquid N2/d, Type 29 B, Vol. 3.9 L capacity or Higher USA/EUROPE/GERMANY
81.	ULTRA LOW FREEZER (-80)	HIC 5.3 inches touchscreen Display, Temperature, Range: -50°C to -86°C; Vial Capacity: 39,990 x 1.5/2mL; Rack Capacity: 8 or more; Shelves: 3 or more; Monitoring Options: Alarm, Recorder; Natural hydrocarbon refrigerants: R290 (1st stage), R170 + R290 mix (2nd stage); Compressor: H-Drive Compressor; Insulation: Vacuum, Insulation Panels (VIP) + Water-Blown Polyurethane Foam (SNAP-compliant); Capacity Shelf: Smart View Compatibility; Setpoint Security: Yes; Connectivity: External Monitoring Compatible; 4-20mA, RS485, Dry Contacts; Efficient and energy saving; Door Style: 1 Outer, 4 Inner; Capacity: 500-550 liters or more, Boxes 400 or more, Powered by H-drive's hydrocarbon technology, should have instrument health status on display to determine efficiency and condition, Noise 51dB or less, Security features such as visual and audible alarms, door ajar alarm, temperature variation set point alarms, set point security, Cardboard Freezing Racks 100 well with Lid: 30 Nos or more, Freezing Container: Holds 12 to 18 tubes and has profile height of 86 or 151mm (3-7/16 to 5-5/16 in.), which saves precious freezer space during the cooling process, Cryo Freezing Gloves: 1 Pair or more, Seamless, laminated interior. Lightweight polyolefin lining in knitted cotton inner glove. Protection in the lowest temperature range down to -160 °C. Suitable for handling dry ice (-79 °C), operations in the gas phase of cryogenic liquefied media, such as liquid nitrogen in the gas phase. Liquid nitrogen container Material: metal blue-coated, borosilicate glass 3.3 insert, fully silver-plated, lid made of insulated plastic, aluminium handle. Suitable for storage and transport of heat-sensitive samples in coolants, such as liquid nitrogen. When using gassing coolants, a hole must be made in the lid (central; Ø approx. 2 mm). Evaporation rate 1.3 l liquid N2/d, Type 29 B, Vol. 3.9 L capacity or Higher USA/EUROPE/GERNAMY OR EQUIVALENT
82.	VERNIER CALIPER	Digital Local or Higher
83.	VORTEX MIXTURE	Touch operation/Continuous Motion type, 4mm Orbital diameter, 0-3000rpm (Adjustable), Speed range, Scale Speed display, Touch operation/Continuous Run type, Shaded pole motor, 200-240V 50/60Hz, 5-40°C Permissible ambient temperature, 80%RH, Electronic speed control maintains constant speed even during changes in load Steel base with specially designed vacuum suction feet provides stability and dampens vibration Robust aluminium-cast construction, Permissible relative humidity, IP21 Protection class, or Higher USA/EUROPE/CHINA OR EQUIVALENT
84.	WATER BATH 10L	Preheat, Auto on and auto off timer, feature to save routine setups with four temperature presets, Should have over temperature safety circuit audible alarms, Protect from bath damage and overheating with low-fluid protection, Simplify operation with quick disconnect drain, Advanced microprocessor controller, Stainless Steel Chamber Material, hinge design lid, Digital Controller Type, 9.5 L Capacity, Ambient to 100°C Temperature Range, Monochrome LCD Display with icons, Clear Polycarbonate Gable Cover, external Epoxy Powder-coated Steel Material, 4 Temperature Presets, ±0.1°C Temperature Stability, ±0.2°C Temperature Uniformity, 230V 50/60 Hz, adjustable digital overtemp protection, low level detection and light temperature cut off, concealed drain hose includes gabble cover, diffuser tray, drain hose and rubber duck. USA/EUROPE OR EQUIVALENT

**ICT EQUIPMENT**

Sr.#	Requirement description
1	<b>Laptop. Intel® Core™ i9-13900H: Up to 5.4 GHz with Intel® Turbo Boost Technology, 24 MB L3 cache, 14 cores, 20 threads, 16" diagonal Display, Graphics card: ≥ 4 GB, Installed RAM: at least 32 GB DDR5 (shall support RAM upgradable up to 64 GB), Storage: 1 TB PCIe NVMe SSD, Wifi, camera, Gigabit Ethernet, carrying case, Long Life 6-cell battery, power adapter and allied accessories, latest Microsoft Windows professional edition.</b>
2	<b>Desktop Systems: Intel® Core™ i7-12700: Up to 4.9 GHz with Intel® Turbo Boost Technology, 25 MB L3 cache, LED display: at least 20-inch or higher. Graphics card: at least 4 GB or higher, Installed RAM: 16 GB DDR4 , Storage: 1-TB SSD, WiFi, Gigabit Ethernet LAN, Wireless keyboard, Wireless mouse. latest Microsoft Windows professional edition. Cables with allied accessories,</b>
3	<b>Multimedia Projector: Native resolution: XGA 1024 x 768. Brightness: 6000 ANSI Lumens. Contrast: 10,000:1. Lamp Life Eco+/Dynamic/Bright: 4000/3500/2500 (hrs). Flex type motorized screen with size of 100”. Roof mounting kit. HDMI cable of 10 meter length. remote with allied accessories.</b>
4	<b>Desktop Printers: Processor speed minimum 800 MHz or higher, Print quality black min. 1200 x 1200 dpi or higher, Print speed min. 33 ppm or higher, USB port, RJ45 Ethernet 10/100/1000 Gigabit network port.</b>
5	<b>1-KVA Online UPS: Output power capacity: 800 Watts / 1.0kVA, Nominal Output voltage: 230V, Topology: Double conversion online, Waveform type: Sine wave. Nominal Input Voltage: 230V, Efficiency at Full Load: 88.0 %. Battery type: Lead-acid battery. Interface Port(s): DB-9 RS-232, USB. Control panel: Multifunction LCD status and control console. Surge energy rating: 600Joules.</b>

Section VIII.

**Sample Forms**

**Sample Forms**

1.	Bid Form and Price Schedules .....	85,86
2.	Manufacturer’s/Distrbutor's/Dealer's Certificate Form	87

1. Bid Form and Price Schedules

To:

Date: \_\_\_\_\_

Tender No. \_\_\_\_\_

Dr. Zaheer Ahmad,  
Scientific Director/Lead PI, SGSSCC,  
Convener of the Tender Committee,  
Department of Plant Breeding and Genetics,  
University of Agriculture, Faisalabad.

Gentlemen and/or Ladies:

Having examined the bidding documents including Tender No.6/2025, 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 understand that 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 our risk and may result in the rejection of its bid.

If our bid is accepted, we undertake to provide a performance security in the form, in the amounts, and within the times specified in the bidding documents and to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements. Failure to which, the Purchaser reserve the right to take action as per provisions of the bidding documents.

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

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____
(if none, state “none”)		

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any bid you may receive.

We certify/confirm that we comply with all requirements as per ITB Clause 2 of the bidding documents.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

\_\_\_\_\_

[signature]

\_\_\_\_\_

[in the capacity of]

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

### Price Schedule for Goods Offered from within the Purchaser's Country

Name of Bidder \_\_\_\_\_.Tender Number \_\_\_\_\_.Page \_ of \_\_\_\_.

1	2	3	4	5
Item	Description	Country of origin	Quantity	Price including all Taxes

Signature of Bidder \_\_\_\_\_

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

**Manufacturer’s/Distributor’s/Dealer’s Certificate Form**

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

To: *[name of the Purchaser]*

WHEREAS *[name of the Manufacturer/Distributor/Dealer]* who are established and reputable Manufacturer/Distributor/Dealer of *[name and/or description of the goods]* having factories/Warehouse/trading house 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 Tender 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/Distributor/Dealer 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.