

# **BABA GURU NANAK UNIVERSITY NANKANA SAHIB**



**BIDDING DOCUMENTS FOR**

## **Purchase of Science Lab Equipment**

**Tender No. BGNU/Tender/2025-26/03**

# Table of Contents

<b>SECTION-I: INVITATION TO BIDS .....</b>	<b>5</b>
1.1 INVITATION TO BIDDERS .....	5
<b>SECTION-II: INSTRUCTIONS TO BIDDERS (ITB) .....</b>	<b>5</b>
2.1. INTRODUCTION .....	6
2.1.1 <i>Scope of Bid</i> .....	6
2.1.2 <i>Source of Funds</i> .....	6
2.1.3 <i>Eligible Bidders</i> .....	6
2.1.4. <i>Eligible Goods and Services</i> .....	8
2.1.5. <i>Cost of Bidding</i> .....	8
2.1.6. <i>One person one bid</i> .....	9
2.2. THE BIDDING DOCUMENTS.....	9
2.2.1. <i>Content of Bidding Documents</i> .....	9
2.2.2. <i>Clarification of Bidding Documents</i> .....	10
2.2.3. <i>Amendment of Bidding Documents</i> .....	11
2.3. PREPARATION OF BIDS.....	11
2.3.1. <i>Language of Bid</i> .....	11
2.3.2. <i>Bid Form</i> .....	12
2.3.3. <i>Bid Prices</i> .....	12
2.3.4. <i>Bid Currencies</i> .....	12
2.3.5. <i>Documents Establishing Bidder’s Eligibility and Qualification</i> .....	12
2.3.6. <i>Documents Establishing Goods’ Eligibility and Conformity to Bidding Documents</i> .....	13
2.3.7. <i>Bid Security</i> .....	14
2.3.8. <i>Period of Validity of Bids</i> .....	15
2.3.9. <i>Format and Signing of Bid</i> .....	15
2.4. SUBMISSION OF BIDS.....	16
2.4.1 <i>Sealing and Marking of Bids</i> .....	16
2.4.2 <i>Deadline for Submission of Bids</i> .....	17
2.4.3. <i>Late Bids</i> .....	18
2.4.4. <i>Modification and Withdrawal of Bids</i> .....	18
2.5. OPENING AND EVALUATION OF BIDS .....	19
2.5.1. <i>Opening of Bids by the Procuring Agency</i> .....	19
2.5.2. <i>Confidentiality</i> .....	20
2.5.3. <i>Clarification of Bids</i> .....	21
2.5.4. <i>Preliminary Examination</i> .....	21
2.5.5. <i>Examination of Terms and Conditions; Technical Evaluation</i> .....	23
2.5.6. <i>Correction of Errors</i> .....	23
2.5.7. <i>Conversion to Single Currency</i> .....	23
2.5.8. <i>Post-Qualification &amp; Evaluation of Bids</i> .....	24
2.5.9. <i>Contacting the Procuring Agency</i> .....	24
2.5.10. <i>Grievance Redressal</i> .....	24
2.6. AWARD OF CONTRACT.....	25
2.6.1. <i>Notification of Award</i> .....	25
2.6.2. <i>Performance Guarantee</i> .....	26
2.6.3. <i>Signing of Contract/ Issuance of Purchase Order</i> .....	26
2.6.4. <i>Award Criteria</i> .....	26
2.6.5. <i>Procuring Agency’s Right to Vary Quantities at Time of Award</i> .....	27
2.6.6. <i>Procuring Agency’s Right to Accept or Reject All Bids</i> .....	27
2.6.7. <i>Re-Bidding</i> .....	27

2.6.8. Corrupt or Fraudulent Practices.....	28
<b>SECTION-III. TECHNICAL SPECIFICATIONS .....</b>	<b>29</b>
3.1. TECHNICAL SPECIFICATIONS .....	29
<b>SECTION-IV: BID DATA SHEET .....</b>	<b>422</b>
<b>SECTION-V: GENERAL CONDITIONS OF CONTRACT .....</b>	<b>46</b>
1. DEFINITIONS .....	46
2. APPLICATION .....	47
3. COUNTRY OF ORIGIN .....	47
4. STANDARDS .....	47
5. USE OF CONTRACT DOCUMENTS AND INFORMATION; INSPECTION AND AUDIT BY THE PROCURING AGENCY.....	47
6. PATENT RIGHTS.....	48
7. PERFORMANCE GUARANTEE .....	48
8. INSPECTIONS AND TESTS .....	48
9. PACKING .....	49
10. DELIVERY AND DOCUMENTS.....	49
11. INSURANCE .....	50
12. TRANSPORTATION.....	50
13. INCIDENTAL SERVICES .....	50
14. SPARE PARTS .....	51
15. WARRANTY .....	51
16. PAYMENT .....	52
17. PRICES .....	52
18. CHANGE ORDERS .....	52
19. CONTRACT AMENDMENTS .....	53
20. ASSIGNMENT .....	53
21. SUB-CONTRACTS.....	53
22. DELAYS IN THE SUPPLIER’S PERFORMANCE.....	53
23. LIQUIDATED DAMAGES .....	54
24. TERMINATION FOR DEFAULT .....	54
25. FORCE MAJEURE .....	54
26. TERMINATION FOR INSOLVENCY.....	55
27. TERMINATION FOR CONVENIENCE .....	55
28. RESOLUTION OF DISPUTES .....	56
29. GOVERNING LANGUAGE .....	56
30. APPLICABLE LAW .....	56
31. NOTICES .....	56
32. TAXES AND DUTIES.....	56
<b>SECTION-VI. SPECIAL CONDITIONS OF CONTRACT .....</b>	<b>57</b>
SPECIAL CONDITIONS OF CONTRACT.....	57
1. Definitions (GCC Clause 1).....	57
2. Country of Origin (GCC Clause 3):.....	57
3. Performance Guarantee (GCC Clause 7) .....	57
4. Inspections and Tests (GCC Clause 8).....	57
5. Packing (GCC Clause 9).....	57
6. Delivery .....	57
7. Warranty.....	58
8. Sample provision.....	58
9. Payment (GCC Clause 16).....	58
10. Prices (GCC Clause 17) .....	58

11. Liquidated Damages (GCC Clause 23).....	58
12. Resolution of Disputes (GCC Clause 28).....	58
13. Governing Language (GCC Clause 29) .....	59
14. Applicable Law (GCC Clause 30).....	59
15. Notices (GCC Clause 31).....	59
<b>SECTION-VII. SCHEDULE OF REQUIREMENTS .....</b>	<b>60</b>
<b>SECTION-VIII: SAMPLE FORMS .....</b>	<b>73</b>
8.1 BID FORM .....	74
8.4. BIDDER PROFILE FORM .....	75
8.5. GENERAL INFORMATION FORM .....	76
8.6. AFFIDAVIT .....	77
8.7. PERFORMANCE GUARANTEE FORM .....	78
8.8. TECHNICAL BID FORM .....	79
8.9. CONTRACT FORM .....	93
8.10. FINANCIAL BID FORM .....	93
8.11. BID SECURITY FORM.....	95
<b>SECTION IX- CHECK LIST .....</b>	<b>96</b>

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## Section-I: Invitation to Bids 1.1 INVITATION TO BIDDERS

### Tender Notice

*Bid Ref No. BGNU/Tender/2025-26/03 for Purchase of Science Lab Equipment*

Baba Guru Nanak University Nankana Sahib invite e-procurement bids under PPRA Rules, on **item wise basis**, from the Bidders i.e., firms/companies/sole proprietor/engaged in manufacturing/trading, registered with relevant Registration Authorities and Tax Departments/ Authorities (Income Tax & Sales Tax). The details of the tender are given below:

S#	Tender #	Tender Name	Qty	Estimated Price	Closing Date & Time	Opening Date & Time
1.	BGNU/25-26/03	Purchase of Science Lab Equipment	Details in Tender Document	56.400 million	10-02-2026 till 1:30 PM	10-02-2026 at 02:00 PM

- Bidding shall be conducted through E-Procurement (**Single Stage Two Envelope**) as specified in the Punjab Procurement Rules PPRA 2014 which is open to all eligible bidders as defined in the bidding document.
- Interested eligible bidders can participate through e-procurement <https://punjab.eprocure.gov.pk/#/auth/login>
- The bidding documents containing all Terms & Conditions, requirements, Specification etc. are immediately available under Rule 25(1), free of cost, at PPRA i.e. <http://ppra.punjab.gov.pk>, EPADS website i.e. <http://punjab.eprocure.gov.pk> and <http://bgnu.edu.pk>.
- All bids on **item wise basis** must be uploaded through e-procurement (<https://punjab.eprocure.gov.pk/#/auth/login>) before closing date and time.
- E-bids would be opened under PPRA Rule 30(1) in presence of bidders or their representatives.
- All Bids must be accompanied by a Bid Security of **2%** of the estimated price in the form of CDR/ Demand Draft / Pay Order in favor of "Treasurer, Baba Guru Nanak University, Nankana Sahib". The bidder must submit original Bid Security at the time of opening of E-bids.
- Bid Validity will be 120 days.
- The URL of the website of the PPRA is (<http://eproc.punjab.gov.pk/viewTender.aspx>) and the response time shall be calculated exclusively from the date of publication of the advertisement on the website of the PPRA.
- In case of official holiday on the day of submission, next day will be treated as closing date.

**Secretary Purchase Committee**  
**Baba Guru Nanak University, Nankana Sahib.**  
**Ph.056-9201171, [www.bgnu.edu.pk](http://www.bgnu.edu.pk) Email: [treasurer@bgnu.edu.pk](mailto:treasurer@bgnu.edu.pk)**

## Section-II: Instructions to Bidders (ITB)

### 2.1. Introduction

#### 2.1.1 Scope of Bid

- i) Baba Guru Nanak University, Nankana Sahib invites Bids for the provision of Goods as specified in the Section-IV Bid Data Sheet (BDS) and Section III - Technical Specifications & Section VII-Schedule of Requirements. The successful Bidders will be expected to deliver, install / commissioning the goods within the specified period and timeline(s) as stated in the BDS.

#### 2.1.2 Source of Funds

- i) Baba Guru Nanak University, Nankana Sahib has available Regular Budget. The University intends to apply the provided funds / a portion of this budget to make eligible payments under the contract for which the Invitation to bids has been issued.

#### 2.1.3 Eligible Bidders

- i) The Invitation to Bids is open to companies/sole proprietor/ registered with relevant Registration Authorities and Tax Departments/ Authorities (Income Tax & Sales Tax & Punjab Sales Tax etc.)
- ii) 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 Baba Guru Nanak University to provide consultancy 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 to Bids [if applicable].
- iii) Government-owned enterprises may participate only if they are duly/legally authorized in this regard by the respective/relevant competent forum/authority.
- iv) Bidders shall not be under a declaration of blacklisting by the Baba Guru Nanak University Nankana Sahib.
- v) A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be non-Responsive. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if they:

- a) Are associated or have been associated for the procurement of the goods to be purchased under this Invitation for Bids, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring Agency to provide consulting services for the preparation of the design, specifications and other documents to be used.
  - b) Have controlling shareholders in common; or
  - c) Receive or have received any direct or indirect subsidy from any of them; or
  - d) Have the same legal representative for purposes of this Bid; or
  - e) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Procuring Agency regarding this Bidding process; or
- xii) **A Bidder may be ineligible if –**
- (a) The Bidder is declared bankrupt or, in the case of company or firm, insolvent;
  - (b) Payments in favor of the Bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting, in accordance with the national laws, in the total or partial loss of the right to administer and dispose of its property;
  - (c) Legal proceedings are established against such Bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property;
  - (d) The Bidder is convicted, by a final judgment, of any offence involving professional conduct;
  - (e) The Bidder is debarred and blacklisted due to involvement in corrupt and fraudulent practices in accordance with the provision of section 17A of PPRA

Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.

(f) The Bidder is debarred and blacklisted in general (i.e., to the extent of Baba Guru Nanak University Nankana Sahib) due to consistent performance failure in accordance with the section 17A of PPRA Act, 2009 and Rule-21, read with Schedule appended with, Punjab Procurement Rules, 2014.

(g) The firm, supplier and contractor are blacklisted/ debarred by any international organization.

xiii) Bidders shall provide to the Procuring Agency evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.

xiv) Bidders shall provide such evidence of their continued eligibility satisfactory to the Procuring Agency, as the Procuring Agency shall reasonably request.

**2.1.4. Eligible Goods and Services**

i) All goods and related services to be supplied under the Contract shall have their origin in eligible source countries, defined in the *Bid Data Sheet (BDS/Technical Specification)*,

ii) 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 is obtained that is substantially different in basic characteristics or in purpose or utility from its components.

iii) The origin of goods and services is distinct from the nationality of the Bidder. *In any case, the requirements of Rules 10 & 26 of PPR-14, shall be followed.*

**2.1.5. Cost of Bidding**

i) The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Baba Guru Nanak University, Nankana Sahib hereinafter referred to as "the Procuring Agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Bidding process.

**2.1.6. One person one bid**

- i) As per Rule 36A of Punjab Procurement Rules 2014, a Bidder shall submit only one Bid in the same bidding process individually as a Bidder.

**2.2. The Bidding Documents**

**2.2.1. Content of Bidding Documents**

- (a) The goods required, Bidding procedures, and contract terms are prescribed in the Bidding documents. The Bidding documents, inter alia, include:
  - (b) Invitation to Bids
  - (c) Instructions to Bidders (ITB)
  - (d) Technical Specifications
  - (e) Bid Data Sheet
  - (f) General Conditions of Contract (GCC)
  - (g) Special Conditions of Contract (SCC)
  - (h) Schedule of Requirements
  - (i) Bid Form
  - (j) Manufacturer's Authorization Form
  - (k) Bidder Profile Form
  - (l) General Information Form
  - (m) Affidavit
  - (n) Bid Security Form
  - (o) Technical Bid Form
  - (p) Contract Form
  - (q) Financial Bid Form / Price Schedule
  - (r) Performance Guarantee Form

- (s) Check List
- (t) The Bidder is required to examine all instructions, forms, terms, and specifications in the Bidding documents. Failure to furnish all information as required by the Bidding documents or to submit a Bid not responsive to the Bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its Bid.
- (u) In case of discrepancies between the Invitation to Bid and the Bidding Documents listed in **ITB 2.2.1 (i)** above, the said Bidding Documents, not in conflict with any provision of PPR-14, will take precedence.
- (v) The Procuring Agency is not responsible for the completeness of the Bidding Documents and their addenda, if they were not obtained directly from the Procuring Agency or from its website or website of PPRA. Re-confirming from the Procuring Agency that all pages/ contents have been properly and clearly received is the prime responsibility of the Bidder.

**2.2.2. Clarification of Bidding Documents**

- i) A prospective Bidder requiring any clarification of the Bidding documents may notify the Procuring Agency in writing or by email at the Procuring Agency's address indicated in Invitation to Bid/ Tender Notice/ Advertisement. The Procuring Agency will respond in writing to any request for clarification of the Bidding documents which it receives no later than seven (7) days prior to the deadline for the submission of Bids prescribed in the Bid Data Sheet. Written copies of the Procuring Agency's response (including an explanation of the query but without identifying) will be sent to all prospective Bidders that have received the Bidding documents.
- ii) A prospective Bidder requiring any clarification of the Bidding Documents may notify the Procuring Agency in writing or in electronic form that provides record of the content of communication at the Procuring Agency's address indicated in the BDS.
- iii) The Procuring Agency will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any request for clarification provided that such request is received not later than seven (7) days prior to

the deadline for the submission of Bids. As prescribed in ITB 2.2.2 (i), above. However, this clause shall not apply in case of alternate methods of Procurement.

- iv) Copies of the Procuring Agency's response will be uploaded on the website of procuring agency on given date and forwarded to identified Prospective Bidders through an expeditious identified source of communication, e.g.: e-mail etc., including a description of the inquiry, but without identifying its source.
- v) Should the Procuring Agency deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under ITB 2.2.3.
- vi) If indicated in the BDS, the Bidder's designated representative is invited at the Bidder's cost to attend a pre-Bid meeting at the place, date and time mentioned in the BDS. During this pre-Bid meeting, prospective Bidders may request clarification of the schedule of requirement, the Evaluation Criteria or any other aspects of the Bidding Documents.

**2.2.3. Amendment of Bidding Documents**

- i) At any time prior to the deadline for submission of Bids, but not later than three (3) days before the closing date of the submission of Bid, the Procuring Agency, 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. Any such change/amendment in the Bidding documents shall be provided in a timely manner, preferably through electronic means also, not later than three (3) days, and on equal opportunity basis as per Rule-25(3) OR Rule 25(4) of PPR-14 as the case may be.
- ii) In order to allow prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Procuring Agency, at its discretion, may extend the deadline for the submission of Bids, as per rule 29 of PPR-14, in the manner similar to the original advertisements, so as to avoid any inconvenience and to doubly ensure level playing field for all prospective bidders.

**2.3. Preparation of Bids**

**2.3.1. Language of Bid**

- i) The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and the Procuring Agency shall be written in the language

specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in same language.

**2.3.2. Bid Form** i) The Bidder shall complete the Bid Form and the appropriate Price Schedule (Financial Bid) furnished in the Bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

**2.3.3. Bid Prices** i) The Bidder shall indicate on **form 8.10** the unit prices (where applicable) and total Bid price of the goods it proposes to supply under the contract.

ii) Prices indicated on the Price Schedule shall be **item wise**.

iii) The Bidder's separation of price components in accordance with ITB Clause 2.3.3(ii) above will be solely for the purpose of facilitating the comparison of Bids by the Procuring Agency and will not in any way limit the Procuring Agency's right to contract on any of the terms offered.

iv) 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 may be rejected.

**2.3.4. Bid Currencies** i) Prices shall be quoted in **Pak Rupees**.

**2.3.5. Documents Establishing Bidder's Eligibility and Qualification** i) Pursuant to ITB Clause 2.1.3, 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.

ii) The documentary evidence of the Bidder's eligibility to Bid shall establish to the Procuring Agency's satisfaction that the Bidder, at the time of submission of its Bid, is eligible as defined under ITB Clause 2.1.3.

iii) The documentary evidence, of the Bidder's qualifications to perform the contract if its Bid is accepted, shall establish to the Procuring Agency's satisfaction:

- (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the same in Pakistan;
- (b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
- (c) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.

**2.3.6. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents**

- i) Pursuant to ITB Clause 2.1.4, the Bidder shall furnish, as part of its Bid, documents establishing the eligibility and conformity to the Bidding documents of all goods and related services which the Bidder proposes to supply under the contract.
- ii) The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule/Financial Bid Form 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.
- iii) The documentary evidence of conformity of the goods and services to the Bidding documents may be in the form of literature, drawings, data and shall consist of:
  - (a) a detailed description of the essential technical and performance characteristics of the goods;
  - (b) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating **responsiveness** of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- iv) For purposes of the commentary to be furnished, the Bidder shall note that **standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers** designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive.
- v) **Sample is required, which shall be:**
  - (a) submitted as part of the bid, in the quantities, dimensions and other details requested in the **BDS**;

- (b) carriage paid;
  - (c) received on, or before, the closing time and date for the submission of bids; and
  - (d) Evaluated to determine compliance with all characteristics listed in the **BDS**.
  - (e) evaluated on the basis of weight, Texture, whiteness and smoothness of the sample paper
- vi) The Procuring Agency may retain the sample(s) of the successful Bidder till the successful delivery of the goods. A Procuring Agency may reject the Bid if the sample(s)-
- (a) do(es) not conform to all characteristics (Quality, Gauge, Workmanship) prescribed in the bidding documents; and
  - (b) is/are not submitted within the specified time clearly mentioned in the Bid Data Sheet.
- vi) Pursuant to the requirements as indicated in ITB 2.3.6, the Bidder shall furnish, as part of its Bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the Bidding Documents for all goods and related services which the Bidder proposes to deliver.
- vii) The required documents and other accompanying documents must be in English.

### 2.3.7. Bid Security

- i) The Bidder shall furnish, as part of its Bid, a Bid security in the amount specified in the Bid Data Sheet.
- ii) The Bid security is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture Pursuant to ITB Clause 2.3.8. (vii).
- iii) The Bid security shall be in Pakistan Rupees and shall be in one of the following forms:
- iv) **Bank Guarantee, Bank call-deposit (CDR), Demand Draft (DD), Pay Order (PO) or Banker's cheque** valid for 3(three) months beyond the validity of bids.
- v) Any Bid not secured in accordance with ITB Clauses 2.3.8 (i) and (ii) may be rejected by the Procuring Agency as non-responsive.
- vi) Unsuccessful Bidders' Bid security will be discharged or returned as promptly as possible but not later than 7 (seven) days after the expiration of the period of Bid validity prescribed by the Procuring Agency pursuant to ITB Clause 2.3.8 (ii) or along with unopened financial proposal as per rule

38(2)(a)(vii) of PPR-14, which shall take precedence, and is as under:

- vii) The successful Bidder's Bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 2.6.1, and furnishing the Performance Guarantee, pursuant to ITB Clause 2.6.2.
- viii) The Bid security may be forfeited:
  - a. If a Bidder withdraws its Bid during the period of Bid validity specified by the Bidder on the Bid Form; or
  - b. In the case of a successful Bidder, if the Bidder:
    - i. Fails to sign the contract in accordance with ITB Clause 2.6.3; **or**
    - ii. Fails to furnish Performance Guarantee in accordance with ITB Clause 2.6.2; or
    - iii. If the blacklisting proceedings under Section-17A of PPRA Act, 2009 read with Rule-21 of PPR-14 are initiated and the bidder is declared blacklisted after due process of law.

**2.3.8. Period of Validity of Bids**

- i) Bids shall remain valid for the period specified in the Bid Data Sheet after the date of Bid opening prescribed by the Procuring Agency. A Bid valid for a shorter period may be rejected by the Procuring Agency as non-responsive.
- ii) In exceptional circumstances, the Procuring Agency may solicit the Bidder's consent to an extension of the period of validity (as per rule-28 of PPR-14). The request and the responses thereto shall be made in writing (or by email). The Bid security provided under ITB Clause 2.3.8 shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid security. A Bidder accepting the request will not be required nor permitted to modify its Bid.

**2.3.9. Format and Signing of Bid**

- i) The Bidder shall prepare an original Bid.
- ii) The Bidder shall authorize a person/ person for signing, submission and further correspondence with Procuring Agency on behalf of bidder. Authority letter must be part of bid. However, in case of any issue bidder shall be responsible for all consequences.

- iii) The Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to bind the Bidder to the contract. All pages of the Bid, shall be signed and stamped by the authorized person.
- iv) Any interlineation, erasures, or overwriting shall be valid only if they are initialed by the authorized person for signing the Bid.
- v) The Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, shall be signed and stamped by the authorized person.
- vi) Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person or persons signing the Bidder.
- vii) 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.

## **2.4. Submission of Bids**

### **2.4.1 Sealing and Marking of Bids**

- i) As per Rule 24, the Bid will be uploaded secretly.
- ii) The Bid shall:
  - a. be addressed to the Procuring Agency at the address given in the Bid Data Sheet; and
  - b. bear the title of procurement Activity indicated in the Bid Data Sheet, the Invitation to Bids (ITB) title and number indicated in the Bid Data Sheet, and a statement: “DO NOT OPEN BEFORE.... (Time and date),” *[to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.4.2.]*

- iii) 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".
- iv) If the outer envelope is not sealed and marked as required by ITB Clause 2.4.1 (i), the Procuring Agency will assume no responsibility for the Bid's misplacement or premature opening.
- v) **In case of Single Stage Two Envelope Procedure**, The Bid shall comprise of two proposals submitted simultaneously, one called the Technical Proposal and the other Financial Proposal. Each Bidder shall submit his bid online as under:
  - a) Bidder shall submit his TECHNICAL PROPOSAL and FINANCIAL PROPOSAL online through e-pads separately against each Lot for which the bidder is participating.
- vi) The Proposals shall:
  - a) be addressed to the Procuring Agency at the address provided in the BDS;
  - b) bear the name and identification number of the contract as defined in the BDS; and provide a warning not to open before the time and date for bid opening, as specified in the BDS, pursuant to ITB 2.4.2;

**2.4.2 Deadline for Submission of Bids**

- i) Bids must be uploaded by the bidder against each lot for which bids are desired by procuring agency no later than the time and date specified in the Bid Data Sheet. **Original Bids Security** will be submitted at the address specified no later than the time and date specified.
- ii) The Procuring Agency may, at its discretion and as per rule 29 of PPR-14, extend this deadline for the submission of Bids by amending the Bidding documents in accordance with ITB **Clause 2.2.2 & 2.2.3** in which case all rights and obligations of the Procuring Agency and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

### **2.4.3. Late Bids**

- iii) Bids shall be received by the Procuring Agency at the address specified under BDS no later than the date and time specified in the BDS.
- i) No Bid will be uploaded after the deadline for submission of Bids prescribed by the Procuring Agency pursuant to ITB Clause 2.4.2 will be rejected.
- ii) The Procuring Agency shall not consider for evaluation any Bid that will be contrary to the desired lots.
- iii) Any original Bid security received by the Procuring Agency after the deadline for submission of Bids shall be declared late, recorded, rejected and returned unopened to the Bidder.

### **2.4.4. Modification and Withdrawal of Bids**

- i) The Bidder may modify or withdraw its Bid after the Bid's submission, provided that written notice of the modification, including substitution or withdrawal of the Bids, is received by the Procuring Agency prior to the deadline prescribed for submission of Bids.
- ii) The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of Clause (i) A withdrawal notice may also be sent by email, but followed by a signed confirmation copy, postmarked no later than the deadline for submission of Bids.
- iii) No Bid may be modified after the deadline for submission of Bids.
- iv) 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 (along with other remedies available under PPR-14), pursuant to the ITB Clause 2.3.8 (vii).
- v) A Bidder may withdraw its Bid after it has been submitted, provided that written notice of the withdrawal of the Bid, is received by the Procuring Agency prior to the deadline for submission of Bids.
- vi) Revised bid may be submitted after the withdrawal of the original bid before the deadline for submission of Bids.

## 2.5. Opening and Evaluation of Bids

### 2.5.1. Opening of Bids by the Procuring Agency

- i) The Procuring Agency will open all Bids online, in public, in the presence of Bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the Bid proceedings at the place, on the date and at the time, specified in the BDS. The Bidders' representatives present shall sign a register/attendance sheet as proof of their attendance.
- ii) First, files marked "WITHDRAWAL" shall be opened and read out and the file with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains a valid authorization to request the withdrawal and is read out at bid opening-
- iii) Second, file marked "SUBSTITUTION" shall be opened. The file containing the Substitution Bid shall be exchanged for the corresponding Original Bid being substituted, which is to be returned to the Bidder unopened. No file shall be substituted unless the corresponding Substitution Notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.
- iv) Next, file marked "MODIFICATION" shall be opened. No Technical Proposal and/or Financial Proposal shall be modified unless the corresponding Modification Notice contains a valid authorization to request the modification and is read out and recorded at the opening of the Bids. Any Modification shall be read out along with the Original Bid except in case of Single Stage Two Envelope Procedure where only the Technical Proposal, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Financial Proposal, both Original and Modification, will remain unopened till the prescribed financial bid opening date.
- v) **In case of Single Stage Two Envelope Procedure**, the Procuring Agency will open the Technical Proposals in public at the address, date and time specified in the **BDS** in the presence of Bidders' designated representatives who choose to attend and other parties with a legitimate interest in the Bid proceedings. The Financial Proposals will remain unopened and will be held in custody of the Procuring Agency until the specified time of their opening.

- vi) The files holding the Technical Proposals shall be opened one at a time, and the following read out and recorded: (a) the name of the Bidder (b) the presence of a Bid Security (c) Any other details as the Procuring Agency may consider appropriate.
- vii) Bidders are advised to send in a representative with the knowledge of the content of the Bid who shall verify the information read out from the submitted documents. Failure to send a representative or to point out any un-read information by the sent Bidder's representative shall indemnify the Procuring Agency against any claim or failure to read out the correct information contained in the Bidder's Bid.
- viii) No Bid will be rejected at the time of Bid opening except for late Bids which will be returned unopened to the Bidder, pursuant to 2.4.3 (i).
- ix) The Procuring Agency shall prepare minutes of the Bid opening. The record of the Bid opening shall include, as a minimum: the name of the Bidder and whether or not there is a withdrawal, substitution or modification, the Bid price if applicable.
- x) The Bidders' representatives who are present shall be requested to sign on the attendance sheet. The omission of a Bidder's signature on the record shall not invalidate the contents and affect the record.
- xi) Minutes of the Financial Bid Opening shall be recorded and uploaded by the procuring agency on its website or shared to all bidders through e-mail.

**2.5.2.  
Confidentiality**

- i) Information relating to the examination, clarification, evaluation and comparison of Bids and recommendation of contract award shall not be disclosed to Bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report in accordance with the requirements of rule 37 of PPR-14.
- ii) Any effort by a Bidder to influence the Procuring Agency processing of Bids or award decisions may result in the rejection of its Bid.

- iii) Notwithstanding ITB Clause 2.2.2 from the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Procuring Agency on any matter related to the Bidding process, it should do so in writing or in electronic forms that provides record of the content of communication.

### 2.5.3. Clarification of Bids

- i) As per rule 33(2) of PPR-14, to assist in the examination, evaluation and comparison of Bids and post-qualification of the Bidders, the Procuring Agency may, at its discretion, ask any Bidder for a clarification of its Bid including breakdown of prices to determine its reasonability. **Any clarification submitted by a Bidder that is not in response to a request by the Procuring Agency shall not be considered.**
- ii) The request for clarification and the response shall be in writing or in electronic forms that provide record of the content of communication. In case of Single Stage Two Envelope Procedure, **no change in the prices or substance of the Bid shall be sought, offered, or permitted.**
- iii) The **alteration or modification** in The Bid which in any way affect the following parameters **will be considered as a change in the substance of a bid:**
  - a) Evaluation & qualification criteria;
  - b) Required scope of work or specifications;
  - c) All securities requirements;
  - d) Tax requirements;
  - e) Terms and conditions of bidding documents.
  - f) Change in the ranking of the Bidder
- iv) From the time of Bid opening to the time of Contract award if any Bidder wishes to contact the Procuring Agency on any matter related to the Bid it should do so in writing or in electronic forms that provide record of the content of communication.

### 2.5.4. Preliminary Examination

- i) The Procuring Agency will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order.
- ii) Arithmetical errors will be rectified on the following basis: -

- a. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its Bid may be rejected, and its Bid security may be forfeited.
  - b. If there is a discrepancy between words and figures, the amount in words will prevail.
- iii) Prior to the detailed evaluation, the Procuring Agency will determine the responsiveness of each Bid to the Bidding documents, pursuant to ITB Clause 2.5.5. For purposes of these Clauses, a 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 2.3.8), Applicable Law (GCC Clause 30), Taxes and Duties (GCC Clause 32) & mandatory Registrations/Renewals will be deemed to be a material deviation. The Procuring Agency's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.
- iv) If a Bid is not responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the non-conformity.
- v) Prior to the detailed evaluation of Bids, the Procuring Agency will determine whether each Bid:
  - a) Meets the eligibility criteria defined in ITB 2.1.3 and ITB 2.1.4;
  - b) Has been prepared as per the format and contents defined by the Procuring Agency in the Bidding Documents;
  - c) Has been properly signed;
  - d) Is accompanied by the required securities; and
  - e) Is responsive to the requirements of the Bidding Documents.

The Procuring Agency's determination of a Bid's responsiveness will be based on the contents of the Bid itself.

**2.5.5. Examination of Terms and Conditions; Technical Evaluation**

- i) The Procuring Agency shall examine the Bid to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the Bidder without any material deviation or reservation.
- ii) The Procuring Agency shall evaluate the technical aspects of the Bid submitted to confirm that all requirements specified in Section III-Technical Specifications, Section VII – Schedule of Requirements & Evaluation Criteria as provided in BDS, have been met without material deviation or reservation.
- iii) If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not responsive in accordance, it shall reject the Bid.

**2.5.6. Correction of Errors**

- i) Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -
  - a) If there is a discrepancy between unit prices 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, unless in the opinion of the Procuring Agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;
  - b) If there is an error in a total corresponding to the addition or subtraction of sub-totals, **the sub-totals shall prevail** and the total shall be corrected; and
  - c) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.
  - d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.
- ii) The amount stated in the Bid will, be adjusted by the Procuring Agency in accordance with the above procedure for the correction of errors. The concurrence of the Bidder shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, its Bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed in accordance with **ITB 2.3.8**.

**2.5.7. Conversion to Single Currency**

- i) Not Applicable

**2.5.8. Post-  
Qualification &  
Evaluation of Bids**

- i) The Procuring Agency will determine to its satisfaction whether the Bidder is qualified to perform the contract satisfactorily, in accordance with the evaluation criteria listed in BDS & pursuant to ITB Clause 2.1.3.
- ii) The determination will take into account the Bidder’s **financial, technical, and production/ supplying 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 2.3.6, as well as such other information required for eligibility/qualification expressed in Bid Data Sheet as the Procuring Agency deems necessary and appropriate.
- iii) The Procuring Agency will **technically evaluate** and compare the Bids which have been determined to be responsive, pursuant to ITB Clause 2.5.5, as per Technical Specifications required.
- iv) The **financial evaluation** of a Bid will be on the basis of form of Price Schedules/ Financial Bid form 8.10 to be decided by the Procuring Agency which must include clear cut instruction regarding item wise or package wise evaluation inclusive of prevailing taxes, duties, fees etc.

**2.5.9. Contacting  
the Procuring  
Agency**

- i) Subject to ITB Clause 2.5.3, no Bidder shall contact the Procuring Agency on any matter relating to its Bid, from the time of the Bid opening to the time the evaluation report is made public i.e., 10 days before the contract is awarded. If the Bidder wishes to bring additional information or has grievance to the notice of the Procuring Agency, it should do so in writing.
- ii) Any effort by a Bidder to influence the Procuring Agency during Bid evaluation, or Bid comparison may result in the rejection of the Bidder’s Bid.

**2.5.10. Grievance  
Redressal**

- i) As per Rule-67 of PPR-14, Procuring Agency shall constitute a Grievance Redressed Committee (GRC) comprising of odd number of persons with proper powers and authorization to address the complaints. The GRC shall not have any of the members of the Procurement Evaluation Committee. The Committee may preferably have one subject specialist depending upon the nature of the procurement in addition to

one person with legal background as per their availability to the Procuring Agency.

- ii) Any Bidder feeling aggrieved can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the Bidding documents found contrary to provision of Rule 33, and the same shall be addressed by the Procuring Agency well before the proposal submission deadline.
- iii) Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the bidding documents found contrary to provision of Rule 34 and the same shall be addressed by the Procuring Agency well before the proposal submission deadline.
- iv) 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 ten days after the announcement of the Final evaluation reports. In case of single stage - two envelope bidding procedure any bidder feeling aggrieved from technical evaluation may file a grievance within 5 days of announcement of the technical evaluation report. After completion of the technical evaluation process, the procuring agency shall immediately upload the technical evaluation report on the website of PPRA and Procuring Agency for obtaining/ receiving grievance petitions from the prospective bidders (if any).
- v) In case, the complaint/grievance is filed after the issuance of the final evaluation report, **the complainant cannot raise any objection on technical evaluation of the report.**
- vi) The **GRC 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.

## **2.6. Award of Contract**

### **2.6.1. Notification of Award**

- i) Prior to the expiration of the period of Bid validity, the Procuring Agency will notify the successful Bidder in writing by registered letter and by email to be confirmed in writing by registered letter, that its Bid has been accepted.

- ii) The notification of award will constitute the formation of the Contract.
- iii) Upon the successful Bidder's furnishing of the Performance Guarantee pursuant to ITB Clause 2.6.2 (i), the Procuring Agency will promptly notify each unsuccessful Bidder and will discharge its Bid security, pursuant to ITB Clause 2.3.8 (v).

**2.6.2. Performance Guarantee**

- i) **Within Fifteen (15)** days of the receipt of notification of award from the Procuring Agency, the successful Bidder shall furnish the **Performance Guarantee** in accordance with the Conditions of Contract, in the Performance Guarantee Form provided in the Bidding documents, or in another form acceptable to the Procuring Agency.
- ii) Failure of the successful Bidder to comply with the requirement of ITB Clause (i) above or ITB Clause 2.6.3 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid security along with other remedies available under PPR-14. After that, the Procuring Agency may decide to award the contract to the next lowest evaluated Bidder, keeping in view the Bid validity time, or call for new Bids keeping in view the concept of value for money as defined under rule-2(ae) read with Principles of Procurement as enunciated in rule-4 of PPR-14.

**2.6.3. Signing of Contract/ Issuance of Purchase Order**

- i) At the same time as the Procuring Agency notifies the successful Bidder that its Bid has been accepted, the Procuring Agency will send the Bidder the Contract Form provided in the Bidding documents, incorporating all agreements between the parties.
- ii) Under rule-63 of PPR-14, where the Procuring Agency requires formal signing of contract, within Seven (7) days of receipt of the Contract Form, the successful Bidder shall sign and mention date of the contract and return it to the Procuring Agency.

**2.6.4. Award Criteria**

- i) Subject to ITB Clause 2.6.2, under rule-55 of PPR-14, the Procuring Agency will award the contract to the successful Bidder whose Bid has been determined to be responsive and has been determined to be the lowest evaluated Bid, provided

that the Bidder has been determined to be qualified to perform the contract satisfactorily.

**2.6.5. Procuring Agency's Right to Vary Quantities at Time of Award**

- i) The Procuring Agency reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions, on the analogy of rule-59 (c)(iv) of PPR-14 (not more than 15%).

**2.6.6. Procuring Agency's Right to Accept or Reject All Bids**

- i) As per rule 35 of PPR-14, the Procuring Agency reserves the right to accept or reject all Bids or proposals (and to annul the Bidding process) at any time prior to the acceptance of any Bid or proposal, without thereby incurring any liability towards the Bidders.
- ii) The Bidders shall be promptly informed about the rejection of the Bids, if any
- iii) The Procuring Agency shall upon request communicate to any Bidder, the grounds for its rejection of all Bids or proposals, but shall not be required to justify those grounds.

**2.6.7. Re-Bidding**

- i) If the Procuring Agency rejects all the Bids under rule 35, it may proceed with the process of fresh Bidding but before doing that it shall assess the reasons for rejection and may, if necessary, revise specifications, evaluation criteria or any other condition for Bidders.

**2.6.8. Corrupt or Fraudulent Practices**

- i) The Procuring Agency Bidders, Suppliers, and Contractors observe the highest standard of ethics during the procurement and execution of contracts.

“Corrupt practices” in respect of procurement process, shall be as given in S-2 (d) of PPRA, Act, 2009,

**ii) Blacklisting & Debarment:**

Blacklisted Consultants and those found involved in “Corrupt Practices” are not allowed to participate in bidding.

**Requirements & Procedure for Blacklisting & Debarment will be**

As per as per S-17A of PPRA, Act, 2009 and *rule 21 and sub-rule (6) of rule 21 of PPR-14*

## Section-III. Technical Specifications

### 3.1. Technical Specifications

Sr #	Instrument/Item	Specifications	Qty
1	<b>Flame photometer</b>	<p>Microprocessor Controlled to give fast, Accurate and precise analysis of sodium, potassium, calcium, barium and lithium in one single aspiration. Embedded 7 inch Colour LCD touch screen with colour graphics such as calibration graph and data, Simultaneous analytical results. Selection of elements with concentration unit selection &amp; automatic calculation of curve coefficients. Language selection including English, Turkish, Portuguese, Polish and Russian</p> <p><b>Specifications:</b>  <b>Reproducibility:</b> ≤2% Response  <b>Time:</b> &lt; 8 seconds  <b>Sample Uptake Volume</b> &lt; 6 ml/minute  <b>Display:</b> 7 inch Color LCD touch screen  <b>Languages:</b> English, Turkish, Portuguese, Polish, Russian  <b>Gas:</b> LPG  <b>With Compressor, LPG Cylinder &amp; Regulator</b>  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
2	<b>Macro Kjeldahl Apparatus</b>	<p><b>Micro Kjeldahl Apparatus</b>  <b>Kjeldahl Digester</b>                      20 position, Corrosion-resistant, advanced insulation technology, eco-friendly, reduce energy intensity maximum limitedly. Multi-protection, Over-current protection, high temperature warning, overload protection.                      LCD display. Used with microwave reaction system, pretreat for microwave digestion or removing acid after digestion. Linear and curve temperature rise mode, up to 5 stages temperature setting. Curve temperature rise and linear temperature rise two temperature control modes.</p> <p><b>Technical Specifications:</b>                      Temperature range: Room temperature +5 - 450°C                      Temperature accuracy: ±1°C                      Heating method: Infrared heating and high-purity graphite Conduction                      Heating insulation method: Unique air duct insulation technology                      Digestion tube capacity: 300mL                      Capacity per batch: 20pcs/batch                      Power supply Power: 220 VAC±10% 50HZ 3600W                      Dimensions: 515mmX421mmX211mm                      Net weight: 25Kg                      With Gas Collection Hood</p> <p><b>Exhausting System</b>                      Anticorrosion vacuum pump, low noise, large suction, reduce wasted gas exhausting and environmentally friendly. Ternary filtration system ensures perfect neutralization and absorption performance. PTFE anticorrosion pipe design, improve using life.</p> <p><b>Kjeldahl Distillation Unit</b>                      Display: 4.3-inch color screen., Manual/Automatic mode available. Automatic Alkali pipeline washing function.                      Automatic or manual filling mode is optional according to test need. Distillation time can be edited and automatic alarming upon completion. Automatic cleaning of control system and distiller, Intelligent cooling water control system.</p> <p><b>Technical Data:</b>                      Measuring range: 0.1mg ~ 240mg N                      Analysis time: 3 ~ 6min/sample                      Recovery: ≥ 99.5%                      Sample capacity: solid≤6g/sample, liquid≤16mL/sample                      Cooling Water Consumption: 1.5L/min                      Operating Mode: Manual/automatic mode                      Display modes: 4.3" LCD screen                      Power supply: 220VAC±10%, 50Hz                      Power supply: 220VAC±10%, 50Hz                      Power: 1.3Kw                      Net weight: 30Kg                      Dimensions: 400mm×385mm×735mm                      With Laptop core I7, 1 TB drive, 8 GB Ram, 15.6 display, 512 SSD  <b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
3	<b>IR Spectrometer</b>	<p><b>FT-IR Spectrometer with Diamond ATR</b>                      High Sensitivity Optical System Cube -Corner Michelson Interferometer combined with patented mirror fixing alignment ensures long term stability. Reflecting mirrors are gold coated to provide maximum</p>	1

		<p>light throughput and optimum detection sensitivity. Multiple sealed Interferometer with high capacity, easy replaceable, desiccant cartridge complete with visible window. Real time monitoring of temperature and humidity reduces the influences from chemical corrosion in the Interferometer. The high sensitivity integrated DLATGS detector module ensures high quality real-time data collection and high speed transmission</p> <p><b>Technical Specifications:-</b></p> <p>Interferometer : Cube-corner Michelson interferometer  Beam splitter : Multilayer Ge coated KBr  Detector : Room temperature DLATGS module (standard)  IR Source : High intensity, long lifetime, air-cooled IR source  Wavenumber Range: 7800cm<sup>-1</sup>-350cm<sup>-1</sup>  Resolution : 0.85 cm<sup>-1</sup>  Signal to noise ratio: : Better than 20000:1 (RMS value, at 2100cm , resolution: 4cm collection) ±0.01 cm<sup>-1</sup>-1-1-1 ~ 2000cm<sup>-1</sup> or , detector: DLATGS, 1 minute  Wavenumber Accuracy: ±0.01 cm<sup>-1</sup>  Scanning Speed : Microprocessor control, different scanning, speed selectable  Software : Main FT-Win software suite workstation, compatible to all version Windows OS (including Windows 10 touch screen)  Communication: Ethernet interface  Data Output : Standard data format, report generation and output  Status Diagnosis: Power on self-check, real-time temperature, humidity and reminders  Certification : FDA 21 CFR Part 11 compliance,  Environment Conditions: Temperature: 10°C-30°C Humidity: Less than 70%  Power Supply : 220V±22V, 50Hz±1Hz  Accessories: Transmition sample holder</p> <p><b>With</b>  <b>Compatible PC, I7, SSD 512 GB &amp; UPS</b>  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	
4	<b>Bench top, Micro Centrifuge</b>	<p><b>Micro Centrifuge</b></p> <p>LED screen Shows RPM/ RCF and time. Speed programming in 50 RPM/ 10 xg steps. Count up/down from “0” or at “set RPM/RCF” for reproducible tests. Timer from 1 to 99 min. programmable in 1 min. steps and hold position. Deceleration control in 3 steps: fast, soft and free. Acoustic and visual messages on screen showing the equipment status to the user, Lid provided with security systems: Automatic lid lock system, motorized. Emergency lid-lock release. Locking and protection against opening along the run. Lid dropping protection. Port in the lid for calibration and operation checking. Unbalance detection and switch off. Protection safety ring between the centrifugation chamber and the housing. Chamber of centrifugation in stainless steel. Rotors and adapters autoclavable, easy to install by the user. Ventilation system to reduce temperature increasing, Automatic disconnection for energy saving, with deactivation option.</p> <p><b>Technical Data:</b>  ROTOR: ANGLE FIXED 30 °  Max. Capacity: 8x15 ml.  RPM Max.: 8000  Radius (mm): 88  RCF Max. (xg): 6511</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
5	<b>Water Bath</b>	<p><b>Water Bath</b></p> <p>Temperature range from ambient +7°C to 100°C., Microprocessor PID control / Automatic tuning / Calibration., Easy readout digital LED displays. (0.1°C resolution), Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.), Programming functions ideal for critical research quality control, and regulatory tests. Memory function of up to three frequently set temperature. Corrosion-resistant stainless-steel construction allowing other bath fluids as well as water and silicone fluids. Low-profile reservoir design with gabled cover. Isolated heater, and sensor by a baffle plate. Complete safety protection system with warning alarms. Low fluid level and dry-running, over-temperature, over-current. Splash-proof keypad.</p> <p><b>Specifications:</b>  Bath volume (L / cu ft): 11.5 / 0.4</p> <p>Working temperature range (°C / °F): Amb. +7 to 100 / Amb. +12.6 to 212</p> <p>Temperature stability at 50°C (±°C / °F): 0.3 / 0.54  Heat up time to 70°C (min) (±°C / °F): 36  Bath opening / depth (W×L, D) (mm / inch): 300×240, 200/ 11.8×9.5, 7.9</p>	1

		<p>Exterior with gable cover (W×L×H) (mm / inch): 360×300×294 / 14.2×11.8×11.6  Net weight (kg / lbs): 10 / 22  Electrical requirements (230V, 50 / 60Hz): 4.3A  <b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	
6	<b>Osmometer</b>	<p>Sample type Aqueous-based solution  Sample volume 30 ± 1 µL  Test time 90 seconds (typical) to test single sample 40 minutes (typical) to test 20 samples  Sample Capacity Multi sample  Resolution 1 mOsm/kg H2O  Range 0-2000 mOsm/kg H2O  Accuracy<sup>2</sup> 0-400 mOsm/kg H2O: mean value ± 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: mean value ± 0.75% from normal value  Within-run Repeatability<sup>2</sup> 0-400 mOsm/kg H2O: standard deviation ≤ 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: Coefficient of Variation ≤ 0.75%  Temperature effects<sup>3</sup> Less than 1 mOsm/kg H2O per 5 °C (9 °F) ambient temperature change  Calibration 0*, 50, 850, and 2000* mOsm/kg H2O (* optional)  Supported Languages Simple Chinese, English, French, German, Italian, Japanese, Korean, Russian, Spanish, Turkish Storage temperature -20 °C to +45 °C (-4 °F to +113 °F)  Electrical voltage 100 to 240 VAC (50/60 Hz)  Power consumption 60 Watts  Dimensions (D x W x H) 39 cm x 25 cm x 46 cm (15.3" x 10" x 18")  Net weight 13.2 kg (29 lbs.)</p>	1
7	<b>Large External Controlled Hotplate</b>	<p>Width (Outer): 630 mm  Length (outer): 360 mm  Height (outer): 150 mm  Version with filter rectangular  Controller Digital  Housing material: Aluminum  Weight: 16 kg  Heating power 2000 W  Plate size 310 x 620 mm  Plate material Ceramic-coated aluminum  Temperature control resolution  Display 0.1°C, control 0.5°C  Temperature range with filter 350°C  Temperature accuracy ±0.3°C</p>	1
8	<b>Compound Microscope</b>	<p><b>Trinocular</b> 30° inclined tube, 360° rotation. Tube length 160 mm Nosepiece for 4 objectives. Ball-bearing mechanism and click-stops Achromatic 4x N.A. 0.10, 10x N.A. 0.25, S40x N.A. 0.65 and S100x N.A. 1.25 oil DIN 35 mm parfocal objectives, The S40x and S100x objectives must be spring-mounted, Square stage 115 x 100 mm with 55 x 22 mm X-Y translation stage, Coaxial coarse and fine adjustments with 200 graduations. Precision 15 µm, 3 mm per rotation. Total travel approximately 15 mm. Friction adjustment Friction of focus control can be adjusted N.A. 1.25, Condenser with iris diaphragm and filter holder 1 W LED illumination with intensity control, rechargeable batteries with external power supply/charger, painted with antibacterial protection layer must be supplied with manual and dust cover in Styrofoam case,  Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2.2 x 2.2 µm pixels ,Pixels: 2592 x 1944 (capture mode) ,1920 x 1080 pixels (live view) ,HDMI 15 fps USB 15 fps 1080p video recording mode ,Scan: Progressive scan ,Noise: 3D Noise Reduction function ,White balance: Automatic/manual ,Sensitivity: 1V ,Interfaces: Digital HDMI, USB 2 ,Storage: 4 GB SD memory card or to USB-2 ,Camera buttons On/Off ,Mounting: C-mount interface. supplied with 0.45x objective, HDMI cable, 23.2 to 30 mm and ,23.2 to 30.5 mm adapter rings for stereo microscopes and computer, Mouse Power supply: External main adapter 100-240 Vac to 12Vdc/2A, Operation: 0 to 60° C, 45-85 % humidity Dimensions: 80 x70 x 90 mm &amp; Latest Smart TV 32" and HDMI Interface  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
9	<b>Inverted Microscope Trinocular</b>	<p>Inverted trinocular microscope, Pair HWF 10x/22 mm eyepieces trinocular head, 45° inclined tubes. Tubes can be positioned in upper or lower positions Interpupillary distance 54-75 mm. Diopter adjustment on left eyepiece reversed quintuple revolving nosepiece on ball-bearings Plan phase 10x, 20x, S40x IOS objectives all optics should be anti-fungus treated and anti-reflection coated for maximum light throughput 250 x 230 mm stage with 120 x 78 mm mechanical stage Supplied with glass insert with 30 mm hole, a metallic insert with 25 mm hole, a metallic insert for 35 mm diameter Petri dish holder, a 76x26 mm slide holder with 54mm Petri dish holder and a Multiwall holder with 65 mm Petri dish holder Coaxial coarse and fine adjustments. Precision 2 µm, 0.2 mm per rotation. Total travel approximately 25 mm must be supplied with metallic insert for 35 mm Petri dishes and Terasaki holder N.A. 0.30 condenser with iris diaphragm and filter holder, working distance 72 mm Supplied with slider with phase contrast annuli and green filter Transmitted 5 W NeoLED™, intensity adjustable with internal power supply 100-240 V (CE) Supplied with power cord and transportation box  Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2.2 x 2.2 µm pixels</p>	1

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10	<b>Purifier</b>	<p><b>Water Purification System (ASTM I &amp; II)</b></p> <p>Ultrapure water purification system which requires external water tank that use tap water as feed water. Integrated Grade 2/ Grade 1 laboratory water system, large color touch screen, data logging capability, warning and alarm messages, a wide range of flow control options, the ability to connect multiple remote dispensers, Ethernet and USB interfaces, dispense report preparation, improved accuracy of conductivity and TOC measurements.</p> <p><b>Applications:</b></p> <p>HPLC, TOC, AAS, ICP-OES, ICP-MS and all biological applications.</p> <p><b>Feed water requirements:</b></p> <table> <tr> <td><b>Feed water:</b></td> <td>Potable tap water</td> <td>bar</td> </tr> <tr> <td><b>Pressure:</b></td> <td>0.4–6.0</td> <td>μS/cm</td> </tr> <tr> <td><b>Conductivity:</b></td> <td>&lt;2000</td> <td></td> </tr> <tr> <td><b>Temperature:</b></td> <td>5–35 °C</td> <td></td> </tr> </table> <p><b>System Specifications:-</b></p> <table> <tr> <td><b>Grade 1 water resistivity at 25 °C:</b></td> <td>18.2 MΩ x cm</td> </tr> <tr> <td><b>Grade 1 water conductivity at 25°C:</b></td> <td>0.055 μS/cm</td> </tr> <tr> <td><b>Grade 2 water resistivity at 25 °C:</b></td> <td>&gt;10 MΩ x cm</td> </tr> <tr> <td><b>Grade 2 water conductivity at 25°C:</b></td> <td>&lt;0.1 μS/cm</td> </tr> <tr> <td><b>TDS Rejection Rate:</b></td> <td>≥97%</td> </tr> <tr> <td><b>TOC level:</b></td> <td>&lt; 5 ppb</td> </tr> <tr> <td><b>Rnase:</b></td> <td>&lt; 0.01 ng/mL</td> </tr> <tr> <td><b>Dnase:</b></td> <td>&lt; 4 pg/mL</td> </tr> <tr> <td><b>Bacteria:</b></td> <td>&lt; 0.01 CFU/mL</td> </tr> <tr> <td><b>Endotoxins:</b></td> <td>&lt; 0.001 EU/mL</td> </tr> <tr> <td><b>Particles &gt;0.22 μm:</b></td> <td>&lt; 0.05/mL</td> </tr> <tr> <td><b>Nominal flow, pure water (to storage tank):</b></td> <td>10 L/h</td> </tr> <tr> <td><b>Dispense rate, ultrapure water:</b></td> <td>1.5–2 L/min</td> </tr> <tr> <td><b>Volumetric dispense:</b></td> <td>0.01–100 L</td> </tr> <tr> <td><b>System weight, kg:</b></td> <td>29</td> </tr> </table> <p><b>Accessories:</b> Water storage tank 30 L multipoint level sensor, Opaque housing walls for protection against the light Level switch Gravity outlet Delivery pump, Multi-position level sensor, Spare set of filter cartridges, Complete installation kit.</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	<b>Feed water:</b>	Potable tap water	bar	<b>Pressure:</b>	0.4–6.0	μS/cm	<b>Conductivity:</b>	<2000		<b>Temperature:</b>	5–35 °C		<b>Grade 1 water resistivity at 25 °C:</b>	18.2 MΩ x cm	<b>Grade 1 water conductivity at 25°C:</b>	0.055 μS/cm	<b>Grade 2 water resistivity at 25 °C:</b>	>10 MΩ x cm	<b>Grade 2 water conductivity at 25°C:</b>	<0.1 μS/cm	<b>TDS Rejection Rate:</b>	≥97%	<b>TOC level:</b>	< 5 ppb	<b>Rnase:</b>	< 0.01 ng/mL	<b>Dnase:</b>	< 4 pg/mL	<b>Bacteria:</b>	< 0.01 CFU/mL	<b>Endotoxins:</b>	< 0.001 EU/mL	<b>Particles &gt;0.22 μm:</b>	< 0.05/mL	<b>Nominal flow, pure water (to storage tank):</b>	10 L/h	<b>Dispense rate, ultrapure water:</b>	1.5–2 L/min	<b>Volumetric dispense:</b>	0.01–100 L	<b>System weight, kg:</b>	29	1
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11	<b>Top Loading Balance</b>	<p><b>Precision Balance</b></p> <p>High-contrast, backlit LCD display with 15mm character height, Integrated programs for various functions including weighing, density determination, counting, percentage weighing, and animal weighing, Capability for weighing samples below the balance (e.g., for density measurements). Must be capable for daily laboratory work with a rugged build and easy-to-clean stainless steel parts and high stability values.</p> <p><b>Technical Data:</b></p> <table> <tr> <td>Readability (g):</td> <td>0.01 (10mg)</td> </tr> <tr> <td>Weighing capacity (g):</td> <td>3200</td> </tr> <tr> <td>Pan size (mm):</td> <td>180x180</td> </tr> <tr> <td>Repeatability (g):</td> <td>≤± 0.01</td> </tr> <tr> <td>Linearity (g);</td> <td>≤± 0.02</td> </tr> <tr> <td>Calibration:</td> <td>Internal motorized</td> </tr> <tr> <td>Interface:</td> <td>RS-232C 25-pin</td> </tr> <tr> <td>Measurement Time(s):</td> <td>Less than 1.5</td> </tr> </table>	Readability (g):	0.01 (10mg)	Weighing capacity (g):	3200	Pan size (mm):	180x180	Repeatability (g):	≤± 0.01	Linearity (g);	≤± 0.02	Calibration:	Internal motorized	Interface:	RS-232C 25-pin	Measurement Time(s):	Less than 1.5	1																										
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		Dimensions(WxLxH)mm: 230 x 310 x 91 <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	
12	<b>Analytical Balance</b>	<p><b>Analytical Balance</b></p> <p>Monolithic Weigh Cell, several integrated application programs such as piece counting, percentage weighing, animal weighing, and unit conversion. GLP/ISO Compliance, clear control panel with short, menu-driven text prompts in multiple languages (English, German, French, Italian, Spanish, Polish, Russian). Backlit, high-contrast LCD with 15 mm character height</p> <p><b>Technical Data:</b></p> <p>Readability (g): 0.0001  Weighing capacity (g): 220  Pan size (mm): 90  Repeatability (g): 0.0001  Linearity (g): 0.0002  Calibration : Automatic Internal Calibration (motorized)  Response Time (avg., sec.): 2.5  Interface: Bidirectional RS-232C 25-pin port</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
13	<b>Laboratory Freezer</b>	<p><b>Low Temperature Freezer</b></p> <p>Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving, Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b></p> <p>Cabinet Type: Vertical Climate Class:N, Cooling Type:Direct Cooling, Defrost Mode:Manual, Refrigerant: HC,R600a  Cooling performance (°C): -25, Temperature Range (°C): - 10~ -25  Interior: Galvanized steel powder coating, Exterior: Galvanized steel powder coating  Controller: Microprocessor, Display: LED  Capacity (L):260L, Interior Dimensions(W*D*H):410x450x420mm, Exterior Dimensions(W*D*H): 510x560x655mm</p> <p><b>Functions &amp; Alarms</b></p> <p>High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).  Power Supply V/Hz: 220/50, Power (W):135, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
14	<b>Refrigerator &amp; Freezer</b>	<p><b>Refrigerator &amp; Freezer</b></p> <p>Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving, Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b></p> <p>Cabinet Type:Vertical, Climate Class:ST, Cooling Type:REF: Forced air cooling; FREEZER: Manual, Defrost Mode: Auto, Refrigerant:HC,R600a  Cooling performance (°C):4/-25, Temperature Range (°C): REF: 2~8 ; FREEZER:-10~-25  Interior: Galvanized steel powder coating (white), Exterior: Galvanized steel powder coating (white)  Controller: Microprocessor, Display: LED, Alarm: Audible  Capacity(L):REF:200; FREEZER:100L  Interior Dimensions(W*D*H): REF: 516x498x730mm; FREEZER: 458x469x356mm, Exterior Dimensions(W*D*H): 600x609x1750mm</p> <p><b>Functions &amp; Alarms</b></p> <p>High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error. Protection Function: power on delay, time between stops.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).  Power Supply V/Hz: 220/50, Power (W):340, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
15	<b>Sludge level detector</b>	<p>Measurement: Activated Sludge Density, Zone Surface (Water Depth) of Sediment Tank and Sludge Density</p> <p>Measuring Method MLSS : Near-Infrared Pulse Transmission light System Sludge Level (Water Depth): Semiconductor Temperature Sensor System</p> <p>Measuring Range MLSS: 0 E0000mg/l (max.30000mg/l display) Sludge Level: 0-5m(max. 10m display with prolonged cable)</p> <p>Resolution MLSS: 10mg/l (within 0-10000mg/l) 100mg/t (within 10000-30000mg/t ) Sludge Level: 0.01m</p>	1

		<p>Accuracy MLSS: within <math>\pm 3\%</math>(FS) under certain conditions Sludge Level: within <math>\pm 3\%</math>(FS) under certain conditions Display Liquid Crystal</p> <p>Display MLSS: LCD 4 digits(upper) Memory: LCD 2 digits Sludge Level: LCD 4 digits(lower)</p> <p>Mode Select one of 6 Modes. Example 1) Food and dairy Sludge Mode A. 2) Food and dairy Sludge Mode B. 3) Sewage disposal/combine Septic Tank Sludge Mode. 4) Human Waste Disposal Sludge Mode. 5) Deposit Tank concentrated Sludge Mode A. 6) Deposit Tank concentrated Sludge Mode B.</p> <p>Zone Surface Measurement "ALM", "mg/f" blinks over 15000 mg/f. Water depth display at "ALM", "mg/f" blinking shows sludge zone surface.</p> <p>Calibration Method MLSS: 1) One-point Calibration (zero calibration only) 2) Two-point Calibration (Zero and Span Calibration)+Span Calibration should be done by Sludge of known Density. 3) 3-4 point Calibration (Zero, Span and Middle-Point Calibration)+Span calibration should be done by Sludge of known Density, and Middle-Point Calibration by diluted Sludge Water Depth : Auto Zero Calibration at the time of throwing Power Source.</p> <p>Self diagnosis Battery Voltage, Detector, Disorder Calibration Disorder, Scale Over</p> <p>Memory Max. 30 data</p> <p>Structure Dust-Proofed, Water-Proofed, corresponding to IP67 (under the condition of Connector Plug and the Meter correctly connected)</p> <p>Power Source DC4.5V(LR03 x 3) Auto power off after 30 Minutes.</p> <p>Dimensions 70(W) x 170(D) x 36(H)mm</p> <p>Weight Approx. 290g ??Because of product improvement, these specifications may be changed without notice. Detector Specifications</p>	
16	<b>Shaking Water bath with accessories</b>	<p><b>Shaking Water Bath</b></p> <p>Temperature range from ambient +5°C to 100°C (amb. +9°F to 212°F), rpm(Max 200rpm) and temperature(Max 100°C) control with accuracy. Temperature distribution by shaking motion. (50°C <math>\pm 0.1^\circ\text{C}</math>) with 3-points temperature calibration and 1-point shaking calibration. PID control for the Bath. Height for larger sample volumes up to 2.8L of flasks. Automatic On/Off timer. up to a maximum of 999 hours and 59 minutes. Operation with touch color display. USB port to connect to PC for recording and monitoring. Transparent gable roof-shape cover prevents condensed water from falling onto specimen. Corrosion resistance spring wire rack . Audio and visual alarms and heater shutdown in case of water shortage. Alarm for temperature and rpm discrepancies or abnormal condition of temperature sensor. Over-current and short circuit protection of device.</p> <p><b>Specifications:</b></p> <p>Bath volume (L / cu ft): 26/0.9</p> <p>Working temperature range (°C / °F): Amb. +5 to 100 / Amb. +9.6 to 212</p> <p>Temperature stability at 50°C (<math>\pm^\circ\text{C}</math> / °F): 0.1 / 0.18</p> <p>Motion Type: Reciprocal</p> <p>Frequency(RPM)y: 30-200</p> <p>Stroke Length (mm/inch): 25/0.98</p> <p>Bath opening / depth (W×L, D) (mm / inch): 300 x 370, 235/ 11.8 x 14.6, 9.3</p> <p>Exterior with gable cover (W×L×H) (mm / inch): 594×417×426/ 23.5×16.4×16.8</p> <p>Net weight (kg / lbs): 27/ 60</p> <p>Electrical requirements (230V, 50 / 60Hz): 8.8A</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	2
17	<b>Micropipette sets</b>	<p><b>Micro Pipettes</b></p> <p>Fully autoclave able, durable, high-performance which offer maximum reliability and comfort. Built with tough PVDF</p> <p>Micro pipettes that stand up to harsh chemicals and the damaging effects of UV light, variable volume pipettes are fully autoclave able without disassembling.</p> <p><b>Specifications:</b></p> <p>Description : 2-20<math>\mu\text{L}</math>, 20-200<math>\mu\text{L}</math> and 100-1000<math>\mu\text{L}</math></p> <p>Autoclavable Color Assorted</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	<b>2 set</b>
18	<b>Microwave Oven</b>	<p>1000 watt, with rotating tray, auto timer, air frier, Capacity: 30Ltr Unique Feature: icon Built In Air Fryer Baking: icon Yes Auto Menu: Yes Control Type: Touch Control Internal Light: Yes</p>	
19	<b>Microwave Oven, 1200-1600 Watt</b>	<p>Type: Microwave</p> <p>Product Color: Black</p> <p>Control Panel Color: Black</p>	

		Control Panel Type: Mechanical Installation Type: Free Standing Rating Power (w) (MWO): 700 W Voltage (V): 220-240 Frequency (Hz): 50-60 Width (cm): 45.2 cm Depth (cm): 33 cm Height (cm): 26.2 cm Weight (Kg): 10.2 kg capacity 32 liter	
20	<b>Quartz cuvettes pair</b>	Quartz material Volume: 3.5 ml	2
21	<b>Centrifuge Tubes</b>	Sterile: Yes Non-pyrogenic: Yes Autoclavable: Yes Volume 50mL Force (RCF)g: 6000 RNase/DNase Free: Yes	1
22	<b>Multichannel Micro Pipettes 8 channel</b>	<b>Multi-Channel Micro Pipette Eight Channel (Fully Autoclavable)</b> <ul style="list-style-type: none"> <li>• 0.5-10 µL Accuracy: ±10.0 to ±2.0% Precision: ≤8.0 to ≤1.2%</li> <li>• 10-200 µL Accuracy: ±5.0 to ±1.0% Precision: ≤3.0 to ≤0.6%</li> <li>• 30-300 µL Accuracy: ±1.6 to ±1.0% Precision: ≤1.5 to ≤0.6%</li> </ul> <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1
23	<b>Filtration Unit with Suction</b>	<b>Specification:</b> <ul style="list-style-type: none"> <li>▶ Power: DC12V, 1.0A</li> <li>▶ Max. vacuum: 313 mbar abs.</li> <li>▶ Max. liquid flow rate: 0.5 L/min</li> <li>▶ Motor: 12W Brushless DC Motor</li> <li>▶ Hose barb: ID6</li> <li>▶ Material contact with filtrate: SS316, FKM, Silicone, PP, PA66</li> <li>▶ Adaptor: Spin-lock</li> </ul> <b>Materials:</b> ▶ Housing material – SS304 Adaptor – SS316, Valve plate – EPDM (Ethylene Propylene Diene Monomer) Diaphragm: EPDM (Ethylene Propylene Diene Monomer) Fluid Path Inlet – SS316 ▶ Fluid outlet port – SS316 ▶ Fluid path hose – Silicone tube ▶ O-ring – FKM ▶ Draining hose – silicone	1
24	<b>Light chamber Temperature range</b>	<b>Plant Growth Chamber</b> <b>Features:-</b>  Ergonomically designed door construction. Inner glass door with silicone and external door with magnetic sealing for dual airtight packing. Well designed providing a smooth open for minimization of damage to plants. Wide inner tempered glass door for clear observation of plant growth without affecting inner chamber's environment. Tall plants can be grown inside of the chamber with adjustment of shelf level. Water level check indicated by water level bar in the tank. Detachable condenser air-filter for easy maintenance of refrigerating efficiency. Maintenance of air filter no longer cumbersome with our detachable condenser air filter. Casters for easy mobility during installation or relocation. Eco-friendly CFC-free refrigerant.	1

		<p><b>Safety</b> Automatic shut off after overheat alarm. Low and empty water level alarm. Power supply leakage breaker. Over current protection, Open door alarm. Control illumination values with the below lamp setting arrangements.</p> <p><b>Specifications: -</b></p> <p>Chamber volume (L / cu ft): 300 / 10.6</p> <p>Control system: Microprocessor PID controller</p> <p>Temperature Range (°C / °F): 5 to 50 / 41 to 122 - Lamp off 10 to 50 / 50 to 122 - Lamp on 20 to 50 / 68 to 122 - with humidity</p> <p>Fluctuation (±°C / °F) at 25°C: 0.1 / 0.18 - without humidity</p> <p>Variation (±°C / °F) at 25°C: 0.8 / 1.43 - without humidity Illumination</p> <p>Range (Lux): 0 to 20,000</p> <p>Control (steps): 10</p> <p>Lamp: FI lamp (32W×18ea)</p> <p>Humidity Range (% RH): 40 to 80 at 20 to 35°C 70 to 90 at 36 to 50°C</p> <p>Fluctuation (±RH) at 60% RH: 3</p> <p>Refrigerant (HP): 1/2</p> <p>Temp. heater power (W): 750×2ea</p> <p>Humid. heater power (W): 1300</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	
25	<b>Sonicator</b>	<p><b>Prob Sonicator</b> Programmable operation: Set time and amplitude for hands free operation, Pulse mode Prevent heat buildup in temperature sensitive samples, Digital amplitude / intensity control , Output intensity can be set from 20-100% Elapsed time indicator : Displays duration of sonication, Display of wattage and joules : Real-time energy monitoring Overload protection: Prevents damage to circuitry if a fault occurs</p> <p><b>Specifications:-</b></p> <p>Processing Volume: 0.2 – 1,000mL</p> <p>Power Rating: 500 watts</p> <p>Frequency: 20kHz</p> <p>Programmable Timer: 10 hours</p> <p>Adjustable Pulse On/Off: 1 second to 1 minute</p> <p>Dimensions (W x L x H): 8 x 15.25 x 8.5 in. (203 x 387 x 216 mm)</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	2
26	<b>Leaf Area Meter</b>	<p><b>Resolution:</b> 1 mm<sup>2</sup> (1 mm x 1 mm scanning area)</p> <p><b>Accuracy:</b> Within ± 2% for samples &gt;50 cm<sup>2</sup></p> <p><b>Display Capacity:</b> Area: 9,999,999.99 cm<sup>2</sup> Length: 99,999,999.9 cm Width: 12.8 cm Display: 2 line x 16 character LCD Keyboard: Sealed, 24 key tactile response with audio feedback</p> <p>Real Time Clock: Year, month, day, hour, minute, second Accuracy: ± 3 minutes per month (0 to 55 °C)</p> <p><b>Internal Memory:</b> More than 2.1MB of non-volatile FLASH; measurement data is maintained even in absence of power <b>Memory Capacity:</b> From 65,000 to 125,000 individual leaf area measurements</p> <p>Communications: USB 1.1 Compliant, Full Speed, Bus rate at 12 Mbps; RS-232 DTE, N,8,1, Baud rate set at 38400 bps,</p> <p>Hardware Flow Control Sample Dimensions: Width: 127 mm maximum, 1 mm minimum Thickness: 8 mm maximum Length: 1 meter maximum Scanning Speed: Up to 1 m/s. Power Requirement: Rechargeable 6V lead-acid battery; or 115/230VAC, 50/60 Hz, 20W maximum Battery Capacity: Typically 12-15 hours of continuous operation</p> <p>Recharging Time: 5-8 hours, instrument off; charging circuitry is built in Battery Voltage Sensor: Low battery warning occurs approximately 1 hour before automatically shutting off the instrument. Scanning Head: LED Light Source: 6.4 mm from outer edge Size: 30.5 cm overall length (12.0") Weight: 680 g (1.5 lb) Operating Temperature: 0 to 55° C, 0 to 95% RH (noncondensing) Storage Temperature: -20 to 55° C, 0 to 95% RH (noncondensing); long term storage at high temperatures will shorten life of</p>	1

		internal battery Readout-Control Unit: Size: 19.8 L x 15.5 W x 10.1 cm D (7.8" x 6.1" x 4.0") Weight: 2.0 kg (4.4 lb)	
27	<b>Melting Point Apparatus (Gallenkamp-style)</b>	<b>Temperature Range:</b> RT–400 °C <b>Temperature Resolution:</b> 0.01 °C <b>Temperature Accuracy:</b> 0.4 at 200 °C and 0.7 at 300 °C <b>Temperature Repeatability:</b> 0.2 °C <b>Temperature Gradients:</b> 0.1 °C–20 °C <b>Determination Method:</b> Automatic detection of the melting point <b>Video &amp; Camera:</b> Equipped with both a camera and video functions <b>Lens Magnification:</b> 8x <b>Display:</b> 8-inch color capacitive touch screen <b>Capillary Capacity:</b> Can test 4 samples concurrently per batch <b>Storage Capacity:</b> 128G <b>Methods Storage:</b> Can store up to 200 different method <b>Graphic Storage:</b> Can store 500 graphics/atlas <b>Regulatory Compliance:</b> Fully compliant with FDA 21 CFR part 11, GLP, and GMP (EU, UPS & CN) <b>Capillary Size:</b> Outer diameter 1.4mm, length 110mm <b>Communication Ports:</b> USB×3, RS232, Wi-Fi, and RJ45 <b>Printer Support:</b> Compatible with both Laser and Thermal printers <b>Operating System:</b> Android	1
28	<b>Graphite furnace ELF11/14B</b>	<b>Max Temperature:</b> 1100°C <b>Max Continuous Operating Temp:</b> 1000°C <b>Chamber Capacity:</b> 14 Litres <b>Heat-up Time:</b> 43 minutes (to 1000°C) <b>Temperature Uniformity:</b> ±5°C within a zone of 170×180×205 mm <b>Internal Dimensions (H x W x D),</b> 210×220×310 mm <b>External Dimensions (H x W x D),</b> 630×450×520 mm <b>Max Power: 2600 W</b> <b>Holding Power:</b> 1300 W (at continuous operating temperature) <b>Thermocouple Type:</b> Type K <b>Weight:</b> 31 kg	1
29	<b>pH Meter</b>	<b>pH Meter Desktop</b> Must be equipped with pH electrode, TRIS buffer compatible, 1-3 points & 1-5 points of auto calibration with self-diagnosis. Recognizes up to 15 types of pH standard buffer solutions (3 optional series: U.S, NIST, and CH), 2-point customized calibration. <b>Technical Specifications:</b> pH Electrode: Plastic Combination pH Electrode Measuring Range: (-2.00 to 19.99) pH Resolution: 0.1/0.01 pH Accuracy: ±0.01 pH ±1 digit Calibration: 1-5 points Auto Calibration Temp. Compensation: 0 to 100°C (32 to 212°F) Auto or Manual mV Measuring range: ±1999 mV Resolution: 1 mV Accuracy: ±0.1% F.S Storage Content: Numberings, Date, Time, Measurements, Unit, and Temperature Data Output: USB – PC-Link Software Timing Data Logging: Yes Pure Water Mode: Yes Power Supply: DC9V/300mA IP Rating: IP54 Splash proof and Dustproof Dimensions and Weight: (240*235*103) mm/1kg Electrode Connection: BNC for pH/ORP, RCA for temp. <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1
30	<b>Hot plate/magnetic stirrer ARE VELP (thermos fisher)</b>	<b>Top Plate Material:</b> Aluminum Alloy (ensures uniform heat distribution) <b>Top Plate Diameter:</b> 135 mm (approx. 5.3 inches) <b>Temperature Range:</b> Room Temperature to 310°C <b>Stirring Speed Range:</b> 100 to 1500 RPM <b>Stirring Capacity:</b> Up to 15 Liters (H2O) <b>Motor Type:</b> High-power brushless motor (longer lifespan) <b>Interface:</b> Analog (dual knobs for heat and speed) <b>Torque Compensation:</b> SpeedServo™ (maintains constant speed as viscosity changes) <b>Safety Features:</b> "Illuminated ""Hot Top"" icon (for temps >50°C), IP42 protection"	1

		<p><b>Weight:</b> 1.7 kg (3.7 lbs)  <b>Dimensions:</b> (WxHxD),160×85×270 mm</p>	
31	<b>Desiccator</b>	<p><b>Vacuum Performance:</b> Designed to hold a high vacuum, typically down to 29.9" Hg (-1 bar)  <b>Dimensions (Inner Diameter):</b> Common sizes include 150mm (6"), 200mm (8"), 250mm (10"), and 300mm (12").  <b>Stopcock/Valve:</b> Features a ground-glass stopcock on the lid (usually a 24/29 standard taper) for connecting to a vacuum pump. Modern versions often use PTFE spindles for grease-free operation.</p>	<b>1</b>
32	<b>Laboratory Orbital Shaker</b>	<p><b>Shaking Mode:</b> Cyclotron Oscillation (Orbital)  <b>Amplitude (Orbit),</b>Φ10 mm  <b>Rotary Speed Range:</b> 100 – 500 RPM  <b>Speed Precision:</b> ±1 RPM  <b>Load Capacity:</b> ≤ 5 kg (approx. 11 lbs)  <b>Tray Size:</b> 320 × 320 mm  <b>Timer Range,</b>0 – 9999 minutes (with timing function)  <b>Motor Type,</b>Intelligent Brushless DC Motor  <b>Drive Mode,</b>Four horizontal points  <b>Controller,</b>LCD with PID intelligent control  <b>Exterior Dimensions,</b>365 × 450 × 222 mm  <b>Net Weight,</b>10 kg  <b>Power Rating,</b>0.03 kW (AC 220V/0.14A)</p>	<b>1</b>
33	<b>BOD Meter</b>	<p><b>BOD Sensor System</b>  BOD Sensor Systems consist of a 6-position Stirring unit complete with 6 BOD Sensors, 6 Alkali holders for absorbing the carbon dioxide and 6 Stirring bars.  <b>Technical Data:</b>  Voltage: 230 V / 50 Hz  Power: 2W  Weight: 3 Kg (6.6 lb)  Dimension (WxHxD): 432 x 300 x 165 mm  <b>BOD Incubator</b>  <b>Technical Data:</b>  Total Volume: 120 liters  Temperature range: 3 to 50° C Internal temperature shown by a display  Temperature resolution: 0.5°C  Electronic thermoregulation system: AUTO – TUNING  1 internal electrical current sockets  Number of shelves : 2  <b>Country of Origin: USA, UK, Germany, Japan Or Equivalent</b></p>	<b>1</b>
34	<b>Colony Counter</b>	<p><b>Colony Counter</b>  Colony counter makes this process easier and faster through the use of LED lighting and a high-quality magnifying glass. Petri plates are placed in the colony counter where they are properly lit and magnified. Operators can tick or point detected colonies, meanwhile a digital display increases the total count.  <b>Specifications:</b>  Magnifying glasses: 120 mm Ø  Upper Light: Yes  Bottom Light: 4 selectable intensities  Counter: 4 digits, 9 mm LED-Display. Max. count 9999  <b>Country of Origin: USA, UK, Germany, Japan</b></p>	<b>1</b>
35	<b>Rotary Microtome</b>	<p><b>Automatic Microtom</b>  The powerful cutting motor drive with safety function ensures high section stability and precision. Sectioning modes, automatic and manual. Section thickness can be adjusted between 0.5 µm and 100 µm. The automatic mode simplifies the technical difficulties of sectioning and reduces the operator labor intensity and makes work more efficient. A change between these two modes is quickly done.  <b>Technical Specifications:-</b>  Section thickness range : 0.5 - 60 µm  Section thickness setting : 0.5 µm – 2 µm, 0.5 µm increments  2 µm – 10 µm, 1 µm increments  10 µm – 20 µm, 2 µm increments  20 µm – 60 µm, 5 µm increment  Specimen vertical stroke : 70 mm  Specimen horizontally stroke : 40 mm</p>	<b>1</b>

		<p>Coarse advance : manually by hand wheel left side  Object retraction : On upward movement 80 µm  Hand wheel locking : positioned for the user integrated in hand wheel, comfortably  Cutting Count: Integrated, with LCD-display/4 numbers  Automatic trimming : In 3 steps: 1:10 µm, 2:20 µm, 3:30 µm  Dimensions (WxDxH): 550×460×280 mm  with all necessary accessories.  <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b></p>	
36	<b>Nanodrop Spectrophotometer</b>	<p><b>Micro Volume Spectrophotometer: -</b>  Spectrophotometer for micro-volume measurement with high speed without sacrificing accuracy &amp; precision. No moving parts and in built sample port delivering a dsDNA detection limit of 1ng/µL. Pre-programmed methods for DNA, RNA, oligos and proteins. In addition, data generated using the on-board software must be stored internally or transferred using a USB memory stick. Alternatively, Instrument must have an in-built sample port for easy use with pipette 0.5µL or more in the center and measure.  <b>Technical Specification:</b>  Display: 5.7" colour capacitive touchscreen  Minimum Volume (dsDNA): 0.5L  Maximum Concentration (dsDNA): 2,500ng/L  Detection Limit (dsDNA): 1ng/L  Detector: 1024 element CCD array  Light Source: Pulsed Xenon lamp  Spectral Bandwidth: 5nm  Wavelength Range: 190 – 1100nm  Wavelength Accuracy: ± 2nm  Wavelength Reproducibility: ± 1nm  Stray Light: &lt;0.5%T at 220 nm and 340 nm using NaNO2  Absorbance Range: -0.3 to 2.5A (- 0.3A to 50A: 10mm equivalent)  Absorbance Reproducibility: ±0.003A (0 to 0.5A), ±0.007A (0.5 – 1.0A)  Noise: 0.005A peak to peak 0.002A RMS  Output: USB port for USB memory stick  Must be supplied with manual and accessories &amp; installation  <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b></p>	<b>1</b>
37	<b>Freeze Dryer &amp; Vacuum Concentrator</b>	<p><b>Freeze Dryer</b>  LCD touch screen display to show test curve of sample temperature, condenser temperature, vacuum degree and other necessary operational parameters USB interface to download the stored operational data for past one month, Low sound level Stainless steel condenser and work station for easy cleaning and maintenance Transparent drying chamber for easy observation of freezing and drying process Compatible interface for different vacuum pumps connection.  <b>Specifications:</b>  Type: Standard Chamber with 8 port manifold  Final Condenser Temp (°C): -55  Vacuum Degree (Pa): &lt;10  Freeze drying Area (m2): 0.12  Ice condenser capacity (Kg/24h): 4  Quantity of shelves: 4  Material loading capacity / shelf (ml): 300  Material Loading Capacity (ml): 1200  Freeze Drying time (h): 24  Manifold: 8 Pieces  USB interface: Yes  Control System: Microprocessor, Touch Screen  Power Supply (V/Hz): 220/50  Exterior Dimensions (WxDxH mm): 480*655*915  Certification: ISO &amp; CE  <b>With Vacuum Pump &amp; Accessories</b>  <b>Country of Origin: USA, UK, Germany, Japan, China Or Equivalent</b></p>	<b>1</b>
38	<b>Lab Oven</b>	<p><b>Heating Drying Oven</b>  Temperature range of up to 250°C. Temperature accuracy by 3-point calibration. The upper and lower temperature limits can be set, enabling alerts for deviations to trigger quick actions. Uniform temperature distribution through airflow optimized for uniform heat transfer. (Within ±3.6 °C at 100°C)  Technical Specifications:  Chamber volume (L / cu ft): 58 / 2.05  Range (°C / °F): Amb. +15 to 250 / Amb. +27 to 482  Fluctuation1) at 100°C (±°C / °F): 0.5 / 0.90</p>	<b>1</b>

		<p>Variation1) at 100°C (±°C / °F): 2.6 / 4.68  Interior (mm ): 340x390x422  Exterior (mm ): 558x648x684  No. of wire shelf (standard / max.): 2 / 5  Net weight (Kg / lbs): 53 / 116.8  Electrical requirements (230V, 50 / 60Hz): 4.3A  <b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	
39	Western Blotting Complete Set	<p>western blotting Complete:  <b>1. Electrophoresis Apparatus</b>  <input type="checkbox"/> <b>Type: Horizontal or vertical gel electrophoresis system</b>  <input type="checkbox"/> <b>Material: High-quality, non-corrosive plastic or glass</b>  <input type="checkbox"/> <b>Dimensions: Suitable for standard gel sizes (e.g., 10 x 7 cm)</b>  <input type="checkbox"/> <b>Gel Casting Tray: Integrated casting tray with a secure gel comb placement</b>  <input type="checkbox"/> <b>Electrode Configuration: High-resolution electrode design for uniform current distribution</b>  <input type="checkbox"/> <b>Cooling System: Optional integrated cooling system for heat dissipation</b>  <input type="checkbox"/> <b>Accessories: Include gel combs, casting trays, and sample loading tools</b>  <input type="checkbox"/> <b>Safety Features: Safety lid with an interlock mechanism to prevent operation without closure</b>  <input type="checkbox"/> <b>User Manual: Comprehensive user manual with assembly instructions and troubleshooting guidelines</b>  <b>2. Power Supply</b>  <input type="checkbox"/> <b>Output Voltage: Adjustable range (e.g., 0-300V)</b>  <input type="checkbox"/> <b>Output Current: Adjustable range (e.g., 0-1000 mA)</b>  <input type="checkbox"/> <b>Power Rating: Minimum 200W</b>  <input type="checkbox"/> <b>Display: Digital display for voltage and current readings</b>  <input type="checkbox"/> <b>Control Features: Programmable settings for time, voltage, and current</b>  <input type="checkbox"/> <b>Protection: Over-voltage and overcurrent protection</b>  <input type="checkbox"/> <b>Connectivity: Compatible with standard electrophoresis apparatus</b>  <input type="checkbox"/> <b>Size and Weight: Compact design for easy storage and portability</b>  <b>3. Transfer Membrane</b>  <input type="checkbox"/> <b>Type: Nitrocellulose or PVDF (Polyvinylidene fluoride)</b>  <input type="checkbox"/> <b>Size: Standard sizes (e.g., 0.2 µm pore size, 7 x 8 cm)</b>  <input type="checkbox"/> <b>Binding Capacity: High protein binding capacity</b>  <input type="checkbox"/> <b>Stability: Chemically stable and compatible with various detection methods</b>  <input type="checkbox"/> <b>Ease of Use: Pre-cut and ready-to-use membranes</b>  <b>1Page 36 of 119</b>  <input type="checkbox"/> <b>Packaging: Individually sealed to maintain sterility and integrity</b>  <input type="checkbox"/> <b>SDS-PAGE Apparatus</b>  <input type="checkbox"/> <b>Type: Vertical SDS-PAGE electrophoresis system</b>  <input type="checkbox"/> <b>Material: Durable, non-corrosive materials for long-term use</b>  <input type="checkbox"/> <b>Gel Size Compatibility: Supports standard gel sizes (e.g., 10 x 10 cm or 15 x 15 cm)</b>  <input type="checkbox"/> <b>Gel Casting: Easy gel casting system with leak-proof design</b></p>	1

		<input type="checkbox"/> <b>Sample Loading:</b> User-friendly sample loading system with multiple wells <input type="checkbox"/> <b>Cooling System:</b> Integrated cooling option to minimize heating during runs <input type="checkbox"/> <b>Safety Features:</b> Safety lid with an interlock mechanism <input type="checkbox"/> <b>Accessories:</b> Include gel combs, spacers, and a buffer reservoir	
40	<b>Laminar Flow Hood</b>	<b>Laminar Air Flow Cabinet</b> Reservation on/off control for fan and UV light, High quality quiet fan, Universal electrical outlet, Cumulative running time of HEPA filter, Audio and visual alarm for filter failure <b>Technical Specifications:</b> Laminar Flow: Vertical Cleanliness: ISO Class 5, ISO-14644-1 CFU: ≤0.5/Dish*h (90mm petri dish) Air Velocity: 0.30 0.50 m/s Noise: ≤62db Vibration: ≤4um Illumination: ≥900Lux Voltage: 220V/50Hz Power Consumption: 1000VA Internal Dimensions (WxDxH)mm: 1220x650x645 External Dimensions (WxDxH)mm: 1360x720x1760 <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	<b>1</b>

Note: All Equipment should be in warranty of minimum one year.

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

<b>A. Introduction</b>		
<b>BDS Clause Number</b>	<b>ITB Number</b>	<b>Amendments of, and Supplements to, Clauses in the Instruction to Bidders</b>
1.	2.1.1	Name of Procuring Agency: <b>Baba Guru Nanak University, Nankana Sahib.</b>  The subject of procurement: <b>Purchase of Science Lab Equipment</b>  Period for delivery of goods: <b>90 days</b>  Commencement date for delivery of Goods: <b>After Issuance of Letter of Acceptance (Award Letter)</b>
2.	2.1.2	Financial year for the operations of the Procuring Agency: 2025-2026 Name of Project/ Grant (Development or Non-Development): <b>Development</b> Name of financing institution: <b>Baba Guru Nanak University, Nankana Sahib.</b>
3.		Ineligible country(s): NA
4.	2.3.6(iii)	Demonstration of authorization by manufacturer: <b>Required</b>
<b>B. Bidding Documents</b>		
5.	2.2.2	The address for clarification of Bidding Documents: <b>Secretary Purchase Committee, Baba Guru Nanak University, Nankana Sahib.</b>
6.	2.2.2	Pre-bid meeting will not be held
<b>C. Bid Price, Currency, Language and Country of Origin</b>		
8	2.3.1	Language: English
10	2.3.4	The price quoted shall be Inclusive of all applicable Taxes
11.	2.3.4	The price shall be fixed

12.	2.1.4 (ii)	Country of origin:
<b>D. Preparation and Submission of Bids</b>		
13.	2.1.3	<p><b>Qualification Criteria/Knock down criteria</b></p> <p>Minimum requirement for a Bidder to participate in the Bidding process which, include the following:</p> <ol style="list-style-type: none"> <li>i. Minimum relevant experience of Three Years required for bidder,</li> <li>ii. At least three relevant Supply Orders received in the past.</li> <li>iii. Registration with relevant tax authority i.e., FBR/PRA etc. as active tax payer (Sales Tax and Income Tax).</li> <li>iv. Minimum average turnover for last three years = <b>10 million</b> (Income Tax Return /Bank Account statement for last three years)</li> <li>v. Affidavit to the effect that: - <ul style="list-style-type: none"> <li>● Bidder is not currently blacklisted by the procuring agency.</li> <li>● The documents/photocopies provided with Bid are authentic. In case of any fake/bogus document found at any stage, the Bidder shall be blacklisted as per Law/ Rules.</li> <li>● The provided information is correct.</li> </ul> <p style="text-align: center;"><b>(Bidder must provide the original stamp paper at the opening of the Technical Bids)</b></p> </li> <li>vi. Bidder is Manufacturer or authorized dealer / distributor for supply of science lab equipment (Manufacturer ISO Certificate and Authorize Dealer/Distributor Certificate Required)</li> <li>vii. Post supply maintenance certificate required with details of qualified technical staff.</li> </ol>
14.	2.3.6 & 2.3.7	Equipment required for No. of years of operation.: Not applicable
15.	2.2.2	<b>Bid shall be Address to: Secretary Purchase Committee</b>

		<p><b>Original Bid security shall be Submitted at Treasurer Office</b></p> <p>Baba Guru Nanak University, located at Danish Schools Hostel Buildings, Nankana Sahib.</p>
16.	2.4.2	<p>The <b>deadline for online Bid submission</b> is</p> <p>a) Day: <b>Tuesday</b></p> <p>b) Date: <b>10-02-2026</b> Time: <b>1:30 PM</b></p>
17.	2.5.1	<p><b>date/ Month/ Year/Time, and place for Bid opening.</b></p> <p><b>10-02-2026</b> Time: <b>2:00 PM</b></p> <p><b>Meeting Room, Baba Guru Nanak University, Nankana Sahib.</b></p>
18.	2.6.2	Amount of Performance Guarantee is: <b>5% (Withheld for One Year)</b>
19.	2.3.8	<p>Estimated Contract Price: <b>Rs 56.400 million</b></p> <p>Amount of Bid security is @2% of the Estimated Cost: <b>Rs. 1,128,000/-</b></p> <p>The Bidder will submit Original Bid Security drawn in the name of <b>“Treasurer Baba Guru Nanak University, Nankana Sahib.”</b></p>
20.	2.3.9	Bid validity period after opening of the Bid is: <b>120 days.</b>
21.	2.3.9	Number of copies of the Bid to be provided are: <b>Online (EPAD).</b>
<b>E. Opening and Evaluation of Bids</b>		
22.	2.5.1	<p>The Bid opening shall take place at:</p> <p><b>Meeting Room, Baba Guru Nanak University, located at Danish School Hostel Buildings, Nankana Sahib.</b></p> <p>Timing:</p> <p><b>10-02-2026</b> Time: <b>2:00 PM</b></p>
23.	2.3.5	The currency that shall be used for Bid evaluation and comparison purposes to convert all Bid prices expressed in various currencies is: <b>PKR</b>
24	2.3.6	Sample of the Quoted item: <b>N/A</b>
25.	2.5.8	<p style="text-align: center;"><b><u>BID EVALUATION SHEET</u></b></p> <p><b>(All evaluation parameters defined below are mandatory for compliance)</b></p>

Sr. No.	Evaluation Parameters	M/S ABC
1	2% Bid Security of estimated cost. Bid security Original must be submitted at the time of Online Bid opening.	Yes / No
2	Active Registration with Income Tax Authorities (National Tax Number NTN).	Yes / No
3	Copy of active Registration with Sales Tax Authorities (GST).	Yes / No
4	Copy of active Professional sales Tax Certificate (PST).	Yes / No
5	At least <u>03</u> of experiences (attach supply orders/proof) of similar nature in public organization.	Yes / No
6	Affidavit of non-black listing.	Yes / No
7	Income Tax Return/Bank Statement for last three year	Yes / No
9	Authorizes Manufacturer ISO certification	Yes / No
10	Authorized Dealership/Distribution certificate	Yes / No
11	Post Supply services/maintenance certificate	Yes / No
12	List of Technical Staff ( <b>training certificate must be provided by the bidder</b> )	Yes / No
<b>Remarks</b>		

### G. Award of Contract

<b>2.6.5</b>	Percentage for quantity increase or decrease is: <b>15%</b>
<b>2.6.2</b>	The Performance Guarantee shall be: <b>5% Withheld for one year</b>
<b>2.6.2</b>	The Performance Security (or guarantee) shall be in the form of <b>Bank Guarantee or CDR</b>

## Section-V: 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 **Baba Guru Nanak University, Nankana Sahib** and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) "The Goods" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Procuring Agency under the Contract.
- (d) "The Services" means those services ancillary and related 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, maintenance & repair and other such obligations of the Supplier covered under the Contract.
- (e) "GCC" means the General Conditions of Contract contained in this section.
- (f) "SCC" means the Special Conditions of Contract.
- (g) "The Procuring Agency" means **Baba Guru Nanak University, Nankana Sahib.**
- (h) "The Procuring Agency's country" is Pakistan
- (i) "The Supplier" means the Bidder or firm supplying the Goods and Services under this Contract.
- (j) "The Project Site," where applicable, means the place or places named in SCC.
- (k) "Day" means calendar day.

- 2. Application** 2.1. These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.
- 3. Country of Origin** 3.1. All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules, as further elaborated in the SCC.  
*[where applicable]*
- 3.2. For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced, or from **where** the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product is obtained that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3. The origin of Goods and Services is distinct from the nationality of the Supplier. In any case, the requirements of rules 10 & 26, PPR-14, shall be followed.
- 4. Standards** 4.1. The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the goods’ country of origin. Such standards shall be the latest issued by the concerned institution.
- 5. Use of Contract Documents and Information; Inspection and Audit by the procuring agency.** 5.1. The Supplier shall not, without the Procuring Agency’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring Agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 5.2. The Supplier shall not, without the Procuring Agency’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of executing the Contract.
- 5.3. Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring Agency and shall be returned (all copies) to the Procuring Agency on completion of the Supplier’s performance under the Contract if so, required by the Procuring Agency.

5.4. The Supplier shall permit the Procuring Agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the donors, if so, required by the donors.

## **6. Patent Rights**

6.1. The Supplier shall indemnify the Procuring Agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring Agency's country.

## **7. Performance Guarantee**

7.1. Within **fifteen (15) days** of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring Agency the Performance Guarantee in the amount specified in SCC/Bid Data Sheet & clause 2.6.2 of ITB.

7.2. The proceeds of the Performance Guarantee shall be payable to the Procuring Agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

7.3. As per Rule-56 of PPR-14, the performance guarantee shall be denominated in the currency of the Contract acceptable to the Procuring Agency and shall be in one of the following forms:

- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring Agency's country, in the form provided in the Bidding documents or another form acceptable to the Procuring Agency; or
- (b) a Bank Guarantee, Bank call-deposit (CDR), Demand Draft (DD), Pay Order (PO) or Banker's cheque cashier's or certified cheque or CDR.

7.4. **The performance guarantee will be discharged by the Procuring Agency and returned to the Supplier after one year following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.**

## **8. Inspections and Tests**

8.1. The Procuring Agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring Agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring Agency requires and where they are to be conducted. The

Procuring Agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives nominated 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) (if so, allowed by the Procuring Agency), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring Agency.

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

8.4. The Procuring Agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring Agency's Site shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring Agency or its representative prior to the goods' shipment from site of the Supplier.

8.5. Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

**9. Packing**

9.1. The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2. The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring Agency.

**10. Delivery and Documents**

10.1. Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of

shipping and/or other documents to be furnished by the Supplier are specified in SCC.

10.2. Upon delivery, the Procuring Agency shall give receiving certificate to the supplier with the statement that, "completion certificate along with satisfactory report shall be issued after due inspection as per clause-8 of GCC, which will enable the supplier to put up the bill".

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

**11. Insurance**

Not Required

**12. Transportation**

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

**13. Incidental Services**

13.1. The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) satisfactory performance for specified time/ quantity on-site and/or supervision of on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
- (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
- (e) training of the Procuring Agency's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.

13.2. Prices charged by the Supplier for incidental services shall be included in the Contract Price for the Goods and shall not exceed:

- (i) the prevailing rates charged for other parties by the Supplier for similar services; and

(ii) original price of goods.

**14. Spare Parts**

14.1. As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

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

**15. Warranty**

15.1. The Supplier warrants that the Goods supplied under the Contract **are new, unused, of the most recent or current models selected by the Procuring Agency**, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring Agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

15.3. The Procuring Agency shall promptly notify the Supplier in writing of any claims arising under this warranty.

15.4. Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring Agency.

15.5. If the Supplier, having been notified, fails to rectify the defect(s) within the period specified in SCC, within a reasonable period, the Procuring Agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any

other rights which the Procuring Agency may have against the Supplier under the Contract/relevant provision of PPR-14 including Blacklisting.

**16. Payment**

16.1. The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.

16.2. The Supplier's request(s) for payment shall be made to the Procuring Agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.

16.3. As per rule-62 of PPR-14, payments shall be made promptly by the Procuring Agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier, provided the work is satisfactory.

16.4. The currency of payment is PKR

**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.

**18. Change Orders**

18.1. The Procuring Agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract, only if required for the successful completion of the job, in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring Agency;
- (b) the method of shipment or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

18.2. If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be

amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring Agency's change order. But, in no case, the overall impact of the change should exceed 15% of the contract cost and no provisions of PPR-14 should be violated.

**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 the mutual consent through written amendment signed by the parties. No variation in finalized brands/ makes/models shall be allowed except in special conditions where the manufacturer has stopped producing or suspended that model or the latest model of similar series or version has been launched by the manufacturer or non-availability due to international mergers of the manufacturers or similar unavoidable constraints.

**20. Assignment**

20.1. The Supplier shall not assign the whole of contract to anybody else. However, some parts of contract or its obligations may be assigned to sub-contractors with the prior written approval of the procuring agency.

**21. Sub-contracts**

21.1. The Supplier shall notify the Procuring Agency in the Bid of all subcontracts to be assigned under this Contract. 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 20.

**22. Delays in the Supplier's Performance**

22.1. Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring Agency in the Schedule of Requirements-

22.2. If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring Agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring Agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

22.3. Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless

an extension of time is agreed upon pursuant to GCC Clause 22.2 without the imposition 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 Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to GCC Clause 24 along with other remedies available under PPR-14.

**24. Termination for Default**

24.1. The Procuring Agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring Agency pursuant to GCC Clause 22;
- (b) if the Supplier fails to perform any other obligation(s) under the Contract; or
- (c) if the Supplier, in the judgment of the Procuring Agency has engaged in corrupt practices in competing for or in executing the Contract. For the purpose of this clause, corrupt practices will be defined as per Section-2 (d) of The PPRA Act, 2009.

24.2. In the event the Procuring Agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring Agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Procuring Agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

**25. Force Majeure**

25.1. Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its Performance Guarantee, liquidated damages, or termination for default if and to the extent that its

delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

25.2. For purposes of this clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring Agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes. Both, the Procuring Agency and the Supplier, may agree to exclude certain widespread conditions e.g.: epidemics, pandemics, quarantine restrictions etc. from the purview of "Force Majeure".

25.3. If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring Agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring Agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. Any difference of opinion concerning "Force Majeure" may be decided through means given herein below.

**26. Termination for Insolvency**

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

**27. Termination for Convenience**

27.1. The Procuring Agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring Agency's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

27.2. The Goods that are complete and ready for shipment (if applicable) within thirty (30) days after the Supplier's receipt of notice of termination shall be accepted by the Procuring Agency on the Contract terms and prices. For the remaining Goods, the Procuring Agency may choose:

- (a) to have any portion completed and delivered at the Contract terms and prices; and/or

- (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

**28. Resolution of Disputes**

28.1. After signing the contract or issuance of purchase order, The Procuring Agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

28.2. If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed and/or arbitration as per rule 68 of PPR-14 and in accordance with Arbitration Act-1940.

**29. Governing Language**

29.1. The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

**30. Applicable Law**

30.1. The Contract shall be interpreted in accordance with the laws of Punjab (Pakistan) unless otherwise specified in SCC.

**31. Notices**

31.1. Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by any information technology mean for the time being in use and acceptable in ordinary course of business to the other party's address specified in SCC.

31.2. A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**32. Taxes and Duties**

32.1. Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods & Services to the Procuring Agency. In case of imposition of new taxes/duties or concession thereof after the deadlines for the submission of bids the effect thereof shall be borne or availed by the procuring agency as the case may be.

## Section-VI. Special Conditions of Contract

### Special Conditions of Contract

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

**1. Definitions (GCC Clause 1)**

GCC 1.1 (g)—The Procuring Agency is: Baba Guru Nanak University, Nankana Sahib.  
Supplier is:

**2. Country of Origin (GCC Clause 3):**

**3. Performance Guarantee (GCC Clause 7)**

GCC 7.1—As per rule 56 of PPR-14, the amount of Performance Guarantee, as a percentage of the Contract Price, shall be: **5% (will be withheld for one year)**

GCC 7.4—the Performance Guarantee shall be retained for to cover the Supplier's warranty obligations or defect liability period in accordance with Clause GCC 15.2 for minimum one year.

**4. Inspections and Tests (GCC Clause 8)**

Inspection will be conducted at the site of the Supplier prior to the delivery or after the delivery of items at the final destination.

**5. Packing (GCC Clause 9)**

GCC 9.2— Original Packing by the manufacturer

**6. Delivery**

**Delivery of items will be made to following Location(s):**

Baba Guru Nanak University, located at Danish Schools Hostel Buildings, Nankana Sahib.

The Supplier shall provide Delivery Challan showing goods' description, quantity to the Procuring Agency.

## 7. Warranty

**(GCC Clause 15):** The supplier warrants that the goods supplied are original, new and as per specifications given in the bid document. All items should be in warranty of minimum one year.

## 8. Sample provision

Sample not required.

## 9. Payment (GCC Clause 16)

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

### **Payment for Goods supplied:**

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

- After the signing of Inspection / Satisfactory Report Supplier shall provide the invoice showing goods' description, quantity, unit price, and total amount along with the Sales Tax invoice and Import documents (if applicable)
- Payment may be made in Pak. Rupees in the following manner:

Lump sum modality.

## 10. Prices (GCC Clause 17)

GCC 17.1—Prices shall be fixed and shall not be adjusted.

## 11. Liquidated Damages (GCC Clause 23)

GCC 23.1—Applicable rate: Maximum 10 Percent

Maximum deduction: Applicable rate shall be **one-half (0.5) percent per week**, and the maximum shall not exceed ten (10) percent of the Contract Price after that Procuring Agency may proceed for the termination of contract along-with other remedies available under PPR-14.]

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

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

As per rule-68 of PPR-14, in the case of a dispute between the Procuring Agency and the Supplier, the dispute shall be referred for arbitration in accordance with the Arbitration Act 1940.

**13. Governing Language (GCC Clause 29)**

GCC 29.1—The Governing Language shall be: English

**14. Applicable Law (GCC Clause 30)**

GCC 30.1-The Contract shall be interpreted in accordance with the laws applicable in the jurisdiction of the province of Punjab (Pakistan):

**15. Notices (GCC Clause 31)**

GCC 31.1—Procuring Agency’s address for notice purposes: Secretary Purchase Committee  
Baba Guru Nanak University, located at Danish Schools Hostel Buildings, Nankana Sahib.

—Supplier’s address for notice purposes:

## Section-VII. Schedule of Requirements

### 7.1 Schedule of Requirements

Delivery Period will be 90 days after issuance of Letter of Acceptance.

Sr #	Instrument/Item	Specifications	Qty
1	<b>Flame photometer</b>	<p>Microprocessor Controlled to give fast, Accurate and precise analysis of sodium, potassium, calcium, barium and lithium in one single aspiration. Embedded 7 inch Colour LCD touch screen with colour graphics such as calibration graph and data, Simultaneous analytical results. Selection of elements with concentration unit selection &amp; automatic calculation of curve coefficients. Language selection including English, Turkish, Portuguese, Polish and Russian</p> <p><b>Specifications:</b>  <b>Reproducibility:</b> ≤2% Response  <b>Time:</b> &lt; 8 seconds  <b>Sample Uptake Volume</b> &lt; 6 ml/minute  <b>Display:</b> 7 inch Color LCD touch screen  <b>Languages:</b> English, Turkish, Portuguese, Polish, Russian  <b>Gas:</b> LPG  <b>With Compressor, LPG Cylinder &amp; Regulator</b>  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
2	<b>Macro Kjeldhal Apparatus</b>	<p><b>Micro Kjeldahl Apparatus</b>  <b>Kjeldahl Digester</b>                      20 position, Corrosion-resistant, advanced insulation technology, eco-friendly, reduce energy intensity maximum limitedly. Multi-protection, Over-current protection, high temperature warning, overload protection.                      LCD display. Used with microwave reaction system, pretreat for microwave digestion or removing acid after digestion. Linear and curve temperature rise mode, up to 5 stages temperature setting. Curve temperature rise and linear temperature rise two temperature control modes.</p> <p><b>Technical Specifications:</b>                      Temperature range: Room temperature +5 - 450°C                      Temperature accuracy: ±1°C                      Heating method: Infrared heating and high-purity graphite Conduction                      Heating insulation method: Unique air duct insulation technology                      Digestion tube capacity: 300mL                      Capacity per batch: 20pcs/batch                      Power supply Power: 220 VAC±10% 50HZ 3600W                      Dimensions: 515mmX421mmX211mm                      Net weight: 25Kg                      With Gas Collection Hood</p> <p><b>Exhausting System</b>                      Anticorrosion vacuum pump, low noise, large suction, reduce wasted gas exhausting and environmentally friendly. Ternary filtration system ensures perfect neutralization and absorption performance. PTFE anticorrosion pipe design, improve using life.</p> <p><b>Kjeldahl Distillation Unit</b>                      Display: 4.3-inch color screen., Manual/Automatic mode available. Automatic Alkali pipeline washing function.                      Automatic or manual filling mode is optional according to test need. Distillation time can be edited and automatic alarming upon completion. Automatic cleaning of control system and distiller, Intelligent cooling water control system.</p> <p><b>Technical Data:</b>                      Measuring range: 0.1mg ~ 240mg N                      Analysis time: 3 ~ 6min/sample                      Recovery: ≥ 99.5%                      Sample capacity: solid ≤6g/sample, liquid ≤16mL/sample                      Cooling Water Consumption: 1.5L/min                      Operating Mode: Manual/automatic mode                      Display modes: 4.3" LCD screen                      Power supply: 220VAC±10%, 50Hz                      Power supply: 220VAC±10%, 50Hz                      Power: 1.3Kw                      Net weight: 30Kg                      Dimensions: 400mm×385mm×735mm                      With Laptop core I7, 1 TB drive, 8 GB Ram, 15.6 display, 512 SSD  <b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
3	<b>IR Spectrometer</b>	<b>FT-IR Spectrometer with Diamond ATR</b>	1

		<p>High Sensitivity Optical System Cube -Corner Michelson Interferometer combined with patented mirror fixing alignment ensures long term stability. Reflecting mirrors are gold coated to provide maximum light throughput and optimum detection sensitivity. Multiple sealed Interferometer with high capacity, easy replaceable, desiccant cartridge complete with visible window. Real time monitoring of temperature and humidity reduces the influences from chemical corrosion in the Interferometer. The high sensitivity integrated DLATGS detector module ensures high quality real-time data collection and high speed transmission</p> <p><b>Technical Specifications:-</b></p> <p>Interferometer : Cube-corner Michelson interferometer  Beam splitter : Multilayer Ge coated KBr  Detector : Room temperature DLATGS module (standard)  IR Source : High intensity, long lifetime, air-cooled IR source  Wavenumber Range: 7800cm-1-350cm-1  Resolution : 0.85 cm<sup>-1</sup>  Signal to noise ratio: : Better than 20000:1 (RMS value, at 2100cm , resolution: 4cm  2100cm<sup>-1</sup> ~ 2200cm-1 data  collection) ±0.01 cm-1-1-1 ~ 2000cm-1 or , detector: DLATGS, 1 minute  Wavenumber Accuracy: ±0.01 cm-1  Scanning Speed : Microprocessor control, different scanning, speed selectable  Software : Main FT-Win software suite workstation, compatible to all version  Windows OS  (including Windows 10 touch screen)  Communication: Ethernet interface  Data Output : Standard data format, report generation and output  Status Diagnosis: Power on self-check, real-time temperature, humidity and reminders  Certification : FDA 21 CFR Part 11 compliance,  Environment Conditions: Temperature: 10°C-30°C Humidity: Less than 70%  Power Supply : 220V±22V, 50Hz±1Hz  Accessories: Transmition sample holder</p> <p><b>With</b>  <b>Compatible PC, I7, SSD 512 GB &amp; UPS</b>  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	
4	<b>Bench top, Micro Centrifuge</b>	<p><b>Micro Centrifuge</b>  LED screen Shows RPM/ RCF and time. Speed programming in 50 RPM/ 10 xg steps. Count up/down from “0” or at “set RPM/RCF” for reproducible tests. Timer from 1 to 99 min. programmable in 1 min. steps and hold position. Deceleration control in 3 steps: fast, soft and free. Acoustic and visual messages on screen showing the equipment status to the user, Lid provided with security systems: Automatic lid lock system, motorized. Emergency lid-lock release. Locking and protection against opening along the run. Lid dropping protection. Port in the lid for calibration and operation checking. Unbalance detection and switch off. Protection safety ring between the centrifugation chamber and the housing. Chamber of centrifugation in stainless steel. Rotors and adapters autoclavable, easy to install by the user. Ventilation system to reduce temperature increasing, Automatic disconnection for energy saving, with deactivation option.</p> <p><b>Technical Data:</b>  ROTOR: ANGLE FIXED 30 °  Max. Capacity: 8x15 ml.  RPM Max.: 8000  Radius (mm): 88  RCF Max. (xg): 6511</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
5	<b>Water Bath</b>	<p><b>Water Bath</b>  Temperature range from ambient +7°C to 100°C., Microprocessor PID control / Automatic tuning / Calibration., Easy readout digital LED displays. (0.1°C resolution), Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.), Programming functions ideal for critical research quality control, and regulatory tests. Memory function of up to three frequently set temperature. Corrosion-resistant stainless-steel construction allowing other bath fluids as well as water and silicone fluids. Low-profile reservoir design with gabled cover. Isolated heater, and sensor by a baffle plate. Complete safety protection system with warning alarms. Low fluid level and dry-running, over-temperature, over-current. Splash-proof keypad.</p> <p><b>Specifications:</b>  Bath volume (L / cu ft): 11.5 / 0.4</p> <p>Working temperature range (°C / °F): Amb. +7 to 100 / Amb. +12.6 to 212</p> <p>Temperature stability at 50°C (±°C / °F): 0.3 / 0.54  Heat up time to 70°C (min) (±°C / °F): 36  Bath opening / depth (W×L, D) (mm / inch): 300×240, 200/ 11.8×9.5, 7.9</p>	1

		Exterior with gable cover (W×L×H) (mm / inch): 360×300×294 / 14.2×11.8×11.6 Net weight (kg / lbs): 10 / 22 Electrical requirements (230V, 50 / 60Hz): 4.3A <b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b>	
6	<b>Osmometer</b>	Sample type Aqueous-based solution Sample volume 30 ± 1 µL Test time 90 seconds (typical) to test single sample 40 minutes (typical) to test 20 samples Sample Capacity Multi sample Resolution 1 mOsm/kg H2O Range 0-2000 mOsm/kg H2O Accuracy2 0-400 mOsm/kg H2O: mean value ± 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: mean value ± 0.75% from normal value Within-run Repeatability2 0-400 mOsm/kg H2O: standard deviation ≤ 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: Coefficient of Variation ≤ 0.75% Temperature effects3 Less than 1 mOsm/kg H2O per 5 °C (9 °F) ambient temperature change Calibration 0*, 50, 850, and 2000* mOsm/kg H2O (* optional) Supported Languages Simple Chinese, English, French, German, Italian, Japanese, Korean, Russian, Spanish, Turkish Storage temperature -20 °C to +45 °C (-4 °F to +113 °F) Electrical voltage 100 to 240 VAC (50/60 Hz) Power consumption 60 Watts Dimensions (D x W x H) 39 cm x 25 cm x 46 cm (15.3" x 10" x 18") Net weight 13.2 kg (29 lbs.)	1
7	<b>Large External Controlled Hotplate</b>	Width (Outer): 630 mm Length (outer): 360 mm Height (outer): 150 mm Version with filter rectangular Controller Digital Housing material: Aluminum Weight: 16 kg Heating power 2000 W Plate size 310 x 620 mm Plate material Ceramic-coated aluminum Temperature control resolution Display 0.1°C, control 0.5°C Temperature range with filter 350°C Temperature accuracy ±0.3°C	1
8	<b>Compound Microscope</b>	<b>Trinocular</b> 30° inclined tube, 360° rotation. Tube length 160 mm Nosepiece for 4 objectives. Ball-bearing mechanism and click-stops Achromatic 4x N.A. 0.10, 10x N.A. 0.25, S40x N.A. 0.65 and S100x N.A. 1.25 oil DIN 35 mm parfocal objectives. The S40x and S100x objectives must be spring-mounted, Square stage 115 x 100 mm with 55 x 22 mm X-Y translation stage, Coaxial coarse and fine adjustments with 200 graduations. Precision 15 µm, 3 mm per rotation. Total travel approximately 15 mm. Friction adjustment Friction of focus control can be adjusted N.A. 1.25, Condenser with iris diaphragm and filter holder 1 W LED illumination with intensity control, rechargeable batteries with external power supply/charger, painted with antibacterial protection layer must be supplied with manual and dust cover in Styrofoam case, Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2,2 x 2.2 µm pixels ,Pixels: 2592 x 1944 (capture mode) ,1920 x 1080 pixels (live view) ,HDMI 15 fps USB 15 fps 1080p video recording mode ,Scan: Progressive scan ,Noise: 3D Noise Reduction function ,White balance: Automatic/manual ,Sensitivity: 1V ,Interfaces: Digital HDMI, USB 2 ,Storage: 4 GB SD memory card or to USB-2 ,Camera buttons On/Off ,Mounting: C-mount interface. supplied with 0,45x objective, HDMI cable, 23.2 to 30 mm and ,23.2 to 30.5 mm adapter rings for stereo microscopes and computer, Mouse Power supply: External main adapter 100-240 Vac to 12Vdc/2A, Operation: 0 to 60° C, 45-85 % humidity Dimensions: 80 x 70 x 90 mm & Latest Smart TV 32" and HDMI Interface <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1
9	<b>Inverted Microscope Trinocular</b>	Inverted trinocular microscope, Pair HWF 10x/22 mm eyepieces trinocular head, 45° inclined tubes. Tubes can be positioned in upper or lower positions Interpupillary distance 54-75 mm. Diopter adjustment on left eyepiece reversed quintuple revolving nosepiece on ball-bearings Plan phase 10x, 20x, S40x IOS objectives all optics should be anti-fungus treated and anti-reflection coated for maximum light throughput 250 x 230 mm stage with 120 x 78 mm mechanical stage Supplied with glass insert with 30 mm hole, a metallic insert with 25 mm hole, a metallic insert for 35 mm diameter Petri dish holder, a 76x26 mm slide holder with 54mm Petri dish holder and a Multiwall holder with 65 mm Petri dish holder Coaxial coarse and fine adjustments. Precision 2 µm, 0.2 mm per rotation. Total travel approximately 25 mm must be supplied with metallic insert for 35 mm Petri dishes and Terasaki holder N.A. 0.30 condenser with iris diaphragm and filter holder, working distance 72 mm Supplied with slider with phase contrast annuli and green filter Transmitted 5 W NeoLED™, intensity adjustable with internal power supply 100-240 V (CE) Supplied with power cord and transportation box Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2,2 x 2.2 µm pixels ,Pixels: 2592 x 1944 (capture mode) ,1920 x 1080 pixels (live view) ,HDMI 15 fps USB 15 fps 1080p video recording	1

		<p>mode ,Scan: Progressive scan ,Noise: 3D Noise Reduction function ,White balance: Automatic/manual ,Sensitivity: 1V ,Interfaces: Digital HDMI, USB 2 ,Storage: 4 GB SD memory card or to USB-2 ,Camera buttons On/Off ,Mounting: C-mount interface. supplied with 0,45x objective, HDMI cable, 23.2 to 30 mm and ,23.2 to 30.5 mm adapter rings for stereo microscopes and computer, Mouse Power supply: External main adapter 100-240 Vac to 12Vdc/2A, Operation: 0 to 60° C, 45-85 % humidity Dimensions: 80 x70 x 90 mm &amp; Latest Smart TV 32" and HDMI Interface</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>																																															
10	<b>Purifier</b>	<p><b>Water Purification System (ASTM I &amp; II)</b></p> <p>Ultrapure water purification system which requires external water tank that use tap water as feed water. Integrated Grade 2/ Grade 1 laboratory water system, large color touch screen, data logging capability, warning and alarm messages, a wide range of flow control options, the ability to connect multiple remote dispensers, Ethernet and USB interfaces, dispense report preparation, improved accuracy of conductivity and TOC measurements.</p> <p><b>Applications:</b></p> <p>HPLC, TOC, AAS, ICP-OES, ICP-MS and all biological applications.</p> <p><b>Feed water requirements:</b></p> <table border="0"> <tr> <td><b>Feed</b></td> <td><b>water:</b> Potable</td> <td>tap</td> <td>water</td> </tr> <tr> <td><b>Pressure:</b> 0.4–6.0</td> <td></td> <td></td> <td>bar</td> </tr> <tr> <td><b>Conductivity:</b> &lt;2000</td> <td></td> <td></td> <td>µS/cm</td> </tr> <tr> <td><b>Temperature:</b> 5–35 °C</td> <td></td> <td></td> <td></td> </tr> </table> <p><b>System Specifications:-</b></p> <table border="0"> <tr> <td><b>Grade 1 water resistivity at 25 °C:</b></td> <td>18.2 MΩ x cm</td> </tr> <tr> <td><b>Grade 1 water conductivity at 25°C:</b></td> <td>0.055 µS/cm</td> </tr> <tr> <td><b>Grade 2 water resistivity at 25 °C:</b></td> <td>&gt;10 MΩ x cm</td> </tr> <tr> <td><b>Grade 2 water conductivity at 25°C:</b></td> <td>&lt;0.1 µS/cm</td> </tr> <tr> <td><b>TDS Rejection Rate:</b></td> <td>≥97%</td> </tr> <tr> <td><b>TOC level:</b></td> <td>&lt; 5 ppb</td> </tr> <tr> <td><b>Rnase:</b></td> <td>&lt; 0.01 ng/mL</td> </tr> <tr> <td><b>Dnase:</b></td> <td>&lt; 4 pg/mL</td> </tr> <tr> <td><b>Bacteria:</b></td> <td>&lt; 0.01 CFU/mL</td> </tr> <tr> <td><b>Endotoxins:</b></td> <td>&lt; 0.001 EU/mL</td> </tr> <tr> <td><b>Particles &gt;0.22 µm:</b></td> <td>&lt; 0.05/mL</td> </tr> <tr> <td><b>Nominal flow, pure water (to storage tank):</b></td> <td>10 L/h</td> </tr> <tr> <td><b>Dispense rate, ultrapure water:</b></td> <td>1.5–2 L/min</td> </tr> <tr> <td><b>Volumetric dispense:</b></td> <td>0.01–100 L</td> </tr> <tr> <td><b>System weight, kg:</b></td> <td>29</td> </tr> </table> <p><b>Accessories:</b></p> <p>Water storage tank 30 L multipoint level sensor, Opaque housing walls for protection against the light Level switch Gravity outlet Delivery pump, Multi-position level sensor, Spare set of filter cartridges, Complete installation kit.</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	<b>Feed</b>	<b>water:</b> Potable	tap	water	<b>Pressure:</b> 0.4–6.0			bar	<b>Conductivity:</b> <2000			µS/cm	<b>Temperature:</b> 5–35 °C				<b>Grade 1 water resistivity at 25 °C:</b>	18.2 MΩ x cm	<b>Grade 1 water conductivity at 25°C:</b>	0.055 µS/cm	<b>Grade 2 water resistivity at 25 °C:</b>	>10 MΩ x cm	<b>Grade 2 water conductivity at 25°C:</b>	<0.1 µS/cm	<b>TDS Rejection Rate:</b>	≥97%	<b>TOC level:</b>	< 5 ppb	<b>Rnase:</b>	< 0.01 ng/mL	<b>Dnase:</b>	< 4 pg/mL	<b>Bacteria:</b>	< 0.01 CFU/mL	<b>Endotoxins:</b>	< 0.001 EU/mL	<b>Particles &gt;0.22 µm:</b>	< 0.05/mL	<b>Nominal flow, pure water (to storage tank):</b>	10 L/h	<b>Dispense rate, ultrapure water:</b>	1.5–2 L/min	<b>Volumetric dispense:</b>	0.01–100 L	<b>System weight, kg:</b>	29	1
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11	<b>Top Loading Balance</b>	<p><b>Precision Balance</b></p> <p>High-contrast, backlit LCD display with 15mm character height, Integrated programs for various functions including weighing, density determination, counting, percentage weighing, and animal weighing, Capability for weighing samples below the balance (e.g., for density measurements). Must be capable for daily laboratory work with a rugged build and easy-to-clean stainless steel parts and high stability values.</p> <p><b>Technical Data:</b></p> <table border="0"> <tr> <td>Readability (g):</td> <td>0.01 (10mg)</td> </tr> <tr> <td>Weighing capacity (g):</td> <td>3200</td> </tr> <tr> <td>Pan size (mm):</td> <td>180x180</td> </tr> <tr> <td>Repeatability (g):</td> <td>≤± 0.01</td> </tr> <tr> <td>Linearity (g);</td> <td>≤± 0.02</td> </tr> <tr> <td>Calibration:</td> <td>Internal motorized</td> </tr> <tr> <td>Interface:</td> <td>RS-232C 25-pin</td> </tr> <tr> <td>Measurement Time(s):</td> <td>Less than 1.5</td> </tr> <tr> <td>Dimensions(WxLxH)mm:</td> <td>230 x 310 x 91</td> </tr> </table>	Readability (g):	0.01 (10mg)	Weighing capacity (g):	3200	Pan size (mm):	180x180	Repeatability (g):	≤± 0.01	Linearity (g);	≤± 0.02	Calibration:	Internal motorized	Interface:	RS-232C 25-pin	Measurement Time(s):	Less than 1.5	Dimensions(WxLxH)mm:	230 x 310 x 91	1																												
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12	<b>Analytical Balance</b>	<p><b>Analytical Balance</b></p> <p>Monolithic Weigh Cell, several integrated application programs such as piece counting, percentage weighing, animal weighing, and unit conversion. GLP/ISO Compliance, clear control panel with short, menu-driven text prompts in multiple languages (English, German, French, Italian, Spanish, Polish, Russian). Backlit, high-contrast LCD with 15 mm character height</p> <p><b>Technical Data:</b></p> <p>Readability (g): 0.0001</p> <p>Weighing capacity (g): 220</p> <p>Pan size (mm): 90</p> <p>Repeatability (g): 0.0001</p> <p>Linearity (g): 0.0002</p> <p>Calibration : Automatic Internal Calibration (motorized)</p> <p>Response Time (avg., sec.): 2.5</p> <p>Interface: Bidirectional RS-232C 25-pin port</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
13	<b>Laboratory Freezer</b>	<p><b>Low Temperature Freezer</b></p> <p>Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving. Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b></p> <p>Cabinet Type: Vertical Climate Class:N, Cooling Type:Direct Cooling, Defrost Mode:Manual, Refrigerant: HC,R600a</p> <p>Cooling performance (°C): -25, Temperature Range (°C): - 10~ -25</p> <p>Interior: Galvanized steel powder coating, Exterior: Galvanized steel powder coating</p> <p>Controller: Microprocessor, Display: LED</p> <p>Capacity (L):260L, Interior Dimensions(W*D*H):410x450x420mm, Exterior Dimensions(W*D*H): 510×560×655mm</p> <p><b>Functions &amp; Alarms</b></p> <p>High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).</p> <p>Power Supply V/Hz: 220/50, Power (W):135, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
14	<b>Refrigerator &amp; Freezer</b>	<p><b>Refrigerator &amp; Freezer</b></p> <p>Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving. Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b></p> <p>Cabinet Type:Vertical, Climate Class:ST, Cooling Type:REF: Forced air cooling; FREEZER: Manual, Defrost Mode: Auto, Refrigerant:HC,R600a</p> <p>Cooling performance (°C):4/-25, Temperature Range (°C): REF: 2~8 ; FREEZER:-10~-25</p> <p>Interior: Galvanized steel powder coating (white), Exterior: Galvanized steel powder coating (white)</p> <p>Controller: Microprocessor, Display: LED, Alarm: Audible</p> <p>Capacity(L):REF:200; FREEZER:100L</p> <p>Interior Dimensions(W*D*H): REF: 516x498x730mm; FREEZER: 458x469x356mm, Exterior Dimensions(W*D*H): 600×609×1750mm</p> <p><b>Functions &amp; Alarms</b></p> <p>High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error. Protection Function: power on delay, time between stops.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).</p> <p>Power Supply V/Hz: 220/50, Power (W):340, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1
15	<b>Sludge level detector</b>	<p>Measurement: Activated Sludge Density, Zone Surface (Water Depth) of Sediment Tank and Sludge Density</p> <p>Measuring Method MLSS : Near-Infrared Pulse Transmission light System Sludge Level (Water Depth): Semiconductor Temperature Sensor System</p> <p>Measuring Range MLSS: 0 E0000mg/l (max.30000mg/l display) Sludge Level: 0-5m(max. 10m display with prolonged cable)</p> <p>Resolution MLSS: 10mg/l (within 0-10000mg/l) 100mg/t (within 10000-30000mg/t ) Sludge Level: 0.01m</p> <p>Accuracy MLSS: within ±3%(FS) under certain conditions Sludge Level: within ±3%(FS) under certain conditions</p> <p>Display Liquid Crystal</p>	1

		<p>Display MLSS: LCD 4 digits(upper) Memory: LCD 2 digits Sludge Level: LCD 4 digits(lower)  Mode Select one of 6 Modes. Example 1) Food and dairy Sludge Mode A. 2) Food and dairy Sludge Mode B. 3) Sewage disposal/combine Septic Tank Sludge Mode. 4) Human Waste Disposal Sludge Mode. 5) Deposit Tank concentrated Sludge Mode A. 6) Deposit Tank concentrated Sludge Mode B.  Zone Surface Measurement "ALM", "mg/f" blinks over 15000 mg/f. Water depth display at "ALM", "mg/f" blinking shows sludge zone surface.  Calibration Method MLSS: 1) One-point Calibration (zero calibration only) 2) Tow-point Calibration (Zero and Span Calibration) +Span Calibration should be done by Sludge of known Density. 3) 3-4 point Calibration (Zero, Span and Middle-Point Calibration) +Span calibration should be done by Sludge of known Density, and Middle-Point Calibration by diluted Sludge Water Depth : Auto Zero Calibration at the time of throwing Power Source.  Self diagnosis Battery Voltage, Detector, Disorder Calibration Disorder, Scale Over  Memory Max. 30 data  Structure Dust-Proofed, Water-Proofed, corresponding to IP67 (under the condition of Connector Plug and the Meter correctly connected)  Power Source DC4.5V(LRO3 x 3) Auto power off after 30 Minutes.  Dimensions70(W) x 170(D) x 36(H)mm  Weight Approx. 290g ??Because of product improvement, these specifications may be changed without notice. Detector Specifications</p>	
16	<b>Shaking Water bath with accessories</b>	<p><b>Shaking Water Bath</b>  Temperature range from ambient +5°C to 100°C (amb. +9°F to 212°F), rpm(Max 200rpm) and temperature(Max 100°C) control with accuracy. Temperature distribution by shaking motion. (50°C ±0.1°C) with 3-points temperature calibration and 1-point shaking calibration. PID control for the Bath. Height for larger sample volumes up to 2.8L of flasks. Automatic On/Off timer. up to a maximum of 999 hours and 59 minutes. Operation with touch color display. USB port to connect to PC for recording and monitoring. Transparent gable roof-shape cover prevents condensed water from falling onto specimen. Corrosion resistance spring wire rack . Audio and visual alarms and heater shutdown in case of water shortage. Alarm for temperature and rpm discrepancies or abnormal condition of temperature sensor. Over-current and short circuit protection of device.</p> <p><b>Specifications:</b></p> <p>Bath volume (L / cu ft): 26/0.9</p> <p>Working temperature range (°C / °F): Amb. +5 to 100 / Amb. +9.6 to 212</p> <p>Temperature stability at 50°C (±°C / °F): 0.1 / 0.18  Motion Type: Reciprocal  Frequency(RPM): 30-200  Stroke Length (mm/inch): 25/0.98</p> <p>Bath opening / depth (W×L, D) (mm / inch): 300 x 370, 235/ 11.8 x 14.6, 9.3</p> <p>Exterior with gable cover (W×L×H) (mm / inch): 594×417×426/ 23.5×16.4×16.8</p> <p>Net weight (kg / lbs): 27/ 60  Electrical requirements (230V, 50 / 60Hz): 8.8A  <b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	2
17	<b>Micropipette sets</b>	<p><b>Micro Pipettes</b></p> <p>Fully autoclave able, durable, high-performance which offer maximum reliability and comfort. Built with top quality PVDF</p> <p>Pipettes that stand up to harsh chemicals and the damaging effects of UV light, variable volume pipettes are fully autoclave able without disassembling.</p> <p><b>Specifications:</b>  Description : 2-20µL, 20-200µL and 100-1000µL  Autoclavable Color Assorted  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	2 set
18	<b>Microwave Oven</b>	<p>1000 watt, with rotating tray, auto timer, air frier, Capacity: 30Ltr Unique Feature: icon Built In Air Fryer  Baking: icon Yes Auto Menu: Yes Control Type: Touch Control Internal Light: Yes</p>	
19	<b>Microwave Oven, 1200-1600 Watt</b>	<p>Type: Microwave  Product Color: Black  Control Panel Color: Black  Control Panel Type: Mechanical  Installation Type: Free Standing</p>	

		<p>Rating Power (w) (MWO): 700 W  Voltage (V): 220-240  Frequency (Hz): 50-60  Width (cm): 45.2 cm  Depth (cm): 33 cm  Height (cm): 26.2 cm  Weight (Kg): 10.2 kg  capacity 32 liter</p>	
20	<b>Quartz cuvettes pair</b>	<p>Quartz material  Volume: 3.5 ml</p>	2
21	<b>Centrifuge Tubes</b>	<p>Sterile: Yes  Non-pyrogenic: Yes  Autoclavable: Yes  Volume 50mL  Force (RCF)g: 6000  RNase/DNase Free: Yes</p>	1
22	<b>Multichannel Micro Pipettes 8 channel</b>	<p><b>Multi-Channel Micro Pipette Eight Channel (Fully Autoclavable)</b></p> <ul style="list-style-type: none"> <li>• 0.5-10 µL  Accuracy: ±10.0 to ±2.0%  Precision: ≤8.0 to ≤1.2%</li> <li>• 10-200 µL  Accuracy: ±5.0 to ±1.0%  Precision: ≤3.0 to ≤0.6%</li> <li>• 30-300 µL  Accuracy: ±1.6 to ±1.0%  Precision: ≤1.5 to ≤0.6%</li> </ul> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
23	<b>Filtration Unit with Suction</b>	<p><b>Specification:</b></p> <ul style="list-style-type: none"> <li>▶ Power: DC12V, 1.0A</li> <li>▶ Max. vacuum: 313 mbar abs.</li> <li>▶ Max. liquid flow rate: 0.5 L/min</li> <li>▶ Motor: 12W Brushless DC Motor</li> <li>▶ Hose barb: ID6</li> <li>▶ Material contact with filtrate: SS316, FKM, Silicone, PP, PA66</li> <li>▶ Adaptor: Spin-lock</li> </ul> <p>Materials: ▶ Housing material – SS304  Adaptor – SS316, Valve plate – EPDM (Ethylene Propylene Diene Monomer)  Diaphragm: EPDM (Ethylene Propylene Diene Monomer)  Fluid Path Inlet – SS316 ▶ Fluid outlet port – SS316 ▶ Fluid path hose – Silicone tube ▶ O-ring – FKM  ▶ Draining hose – silicone</p>	1
24	<b>Light chamber Temperature range</b>	<p><b>Plant Growth Chamber</b></p> <p><b>Features:-</b></p> <p>Ergonomically designed door construction. Inner glass door with silicone and external door with magnetic sealing for dual airtight packing. Well designed providing a smooth open for minimization of damage to plants. Wide inner tempered glass door for clear observation of plant growth without affecting inner chamber's environment. Tall plants can be grown inside of the chamber with adjustment of shelve level. Water level check indicated by water level bar in the tank. Detachable condenser air-filter for easy maintenance of refrigerating efficiency. Maintenance of air filter no longer cumbersome with our detachable condenser air filter. Casters for easy mobility during installation or relocation. Eco-friendly CFC-free refrigerant.</p> <p><b>Safety</b>  Automatic shut off after overheat alarm. Low and empty water level alarm. Power supply leakage breaker. Over current protection, Open door alarm. Control illumination values with the below lamp setting arrangements.</p>	1

		<p><b>Specifications: -</b></p> <p>Chamber volume (L / cu ft): 300 / 10.6</p> <p>Control system: Microprocessor PID controller</p> <p>Temperature Range (°C / °F): 5 to 50 / 41 to 122 - Lamp off</p> <p>10 to 50 / 50 to 122 - Lamp on</p> <p>20 to 50 / 68 to 122 - with humidity</p> <p>Fluctuation (±°C / °F) at 25°C: 0.1 / 0.18 - without humidity</p> <p>Variation (±°C / °F) at 25°C: 0.8 / 1.43 - without humidity Illumination</p> <p>Range (Lux): 0 to 20,000</p> <p>Control (steps): 10</p> <p>Lamp: Fl lamp (32W×18ea)</p> <p>Humidity Range (% RH): 40 to 80 at 20 to 35°C</p> <p>70 to 90 at 36 to 50°C</p> <p>Fluctuation (±RH) at 60% RH: 3</p> <p>Refrigerant (HP): 1/2</p> <p>Temp. heater power (W): 750×2ea</p> <p>Humid. heater power (W): 1300</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	
25	<b>Sonicator</b>	<p><b>Prob Sonicator</b></p> <p>Programmable operation: Set time and amplitude for hands free operation, Pulse mode Prevent heat buildup in temperature sensitive samples, Digital amplitude / intensity control , Output intensity can be set from 20-100% Elapsed time indicator : Displays duration of sonication, Display of wattage and joules : Real-time energy monitoring Overload protection: Prevents damage to circuitry if a fault occurs</p> <p><b>Specifications:-</b></p> <p>Processing Volume: 0.2 – 1,000mL</p> <p>Power Rating: 500 watts</p> <p>Frequency: 20kHz</p> <p>Programmable Timer: 10 hours</p> <p>Adjustable Pulse On/Off: 1 second to 1 minute</p> <p>Dimensions (W x L x H): 8 x 15.25 x 8.5 in. (203 x 387 x 216 mm)</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	2
26	<b>Leaf Area Meter</b>	<p><b>Resolution:</b> 1 mm<sup>2</sup> (1 mm x 1 mm scanning area)</p> <p><b>Accuracy:</b> Within ± 2% for samples &gt;50 cm<sup>2</sup></p> <p><b>Display Capacity:</b> Area: 9,999,999.99 cm<sup>2</sup> Length: 99,999,999.9 cm Width: 12.8 cm Display: 2 line x 16 character LCD Keyboard: Sealed, 24 key tactile response with audio feedback</p> <p>Real Time Clock: Year, month, day, hour, minute, second Accuracy: ± 3 minutes per month (0 to 55 °C)</p> <p><b>Internal Memory:</b> More than 2.1MB of non-volatile FLASH; measurement data is maintained even in absence of power <b>Memory Capacity:</b> From 65,000 to 125,000 individual leaf area measurements</p> <p>Communications: USB 1.1 Compliant, Full Speed, Bus rate at 12 Mbps; RS-232 DTE, N,8,1, Baud rate set at 38400 bps,</p> <p>Hardware Flow Control Sample Dimensions: Width: 127 mm maximum, 1 mm minimum Thickness: 8 mm maximum Length: 1 meter maximum Scanning Speed: Up to 1 m/s. Power Requirement: Rechargeable 6V lead-acid battery; or 115/230VAC, 50/60 Hz, 20W maximum Battery Capacity: Typically 12-15 hours of continuous operation</p> <p>Recharging Time: 5-8 hours, instrument off; charging circuitry is built in Battery Voltage Sensor: Low battery warning occurs approximately 1 hour before automatically shutting off the instrument. Scanning Head: LED Light Source: 6.4 mm from outer edge Size: 30.5 cm overall length (12.0") Weight: 680 g (1.5 lb) Operating Temperature: 0 to 55° C, 0 to 95% RH (noncondensing) Storage Temperature: -20 to 55° C, 0 to 95% RH (noncondensing); long term storage at high temperatures will shorten life of internal battery Readout-Control Unit: Size: 19.8 L x 15.5 W x 10.1 cm D (7.8" x 6.1" x 4.0") Weight: 2.0 kg (4.4 lb)</p>	1

27	<b>Melting Point Apparatus (Gallenkamp-style)</b>	<p><b>Temperature Range:</b> RT–400 °C  <b>Temperature Resolution:</b> 0.01 °C  <b>Temperature Accuracy:</b> 0.4 at 200 °C and 0.7 at 300 °C  <b>Temperature Repeatability:</b> 0.2 °C  <b>Temperature Gradients:</b> 0.1 °C–20 °C  <b>Determination Method:</b> Automatic detection of the melting point  <b>Video &amp; Camera:</b> Equipped with both a camera and video functions  <b>Lens Magnification:</b> 8x  <b>Display:</b> 8-inch color capacitive touch screen  <b>Capillary Capacity:</b> Can test 4 samples concurrently per batch  <b>Storage Capacity:</b> 128G  <b>Methods Storage:</b> Can store up to 200 different method  <b>Graphic Storage:</b> Can store 500 graphics/atlas  <b>Regulatory Compliance:</b> Fully compliant with FDA 21 CFR part 11, GLP, and GMP (EU, UPS &amp; CN)  <b>Capillary Size:</b> Outer diameter 1.4mm, length 110mm  <b>Communication Ports:</b> USB×3, RS232, Wi-Fi, and RJ45  <b>Printer Support:</b> Compatible with both Laser and Thermal printers  <b>Operating System:</b> Android</p>	1
28	<b>Graphite furnace ELF11/14B</b>	<p><b>Max Temperature:</b> 1100°C  <b>Max Continuous Operating Temp:</b> 1000°C  <b>Chamber Capacity:</b> 14 Litres  <b>Heat-up Time:</b> 43 minutes (to 1000°C)  <b>Temperature Uniformity:</b> ±5°C within a zone of 170×180×205 mm  <b>Internal Dimensions (H x W x D),</b>210×220×310 mm  <b>External Dimensions (H x W x D),</b>630×450×520 mm  <b>Max Power:</b> 2600 W  <b>Holding Power:</b> 1300 W (at continuous operating temperature)  <b>Thermocouple Type:</b> Type K  <b>Weight:</b> 31 kg</p>	1
29	<b>pH Meter</b>	<p><b>pH Meter Desktop</b>  Must be equipped with pH electrode, TRIS buffer compatible, 1-3 points &amp; 1-5 points of auto calibration with self-diagnosis. Recognizes up to 15 types of pH standard buffer solutions (3 optional series: U.S., NIST, and CH), 2-point customized calibration.</p> <p><b>Technical Specifications:</b></p> <p>pH Electrode: Plastic Combination pH Electrode  Measuring Range: (-2.00 to 19.99) pH  Resolution: 0.1/0.01 pH  Accuracy: ±0.01 pH ±1 digit  Calibration: 1-5 points Auto Calibration  Temp. Compensation: 0 to 100°C (32 to 212°F) Auto or Manual  mV Measuring range: ±1999 mV  Resolution: 1 mV  Accuracy: ±0.1% F.S  Storage Content: Numberings, Date, Time, Measurements, Unit, and Temperature  Data Output: USB – PC-Link Software  Timing Data Logging: Yes  Pure Water Mode: Yes  Power Supply: DC9V/300mA  IP Rating: IP54 Splash proof and Dustproof  Dimensions and Weight: (240*235*103) mm/1kg  Electrode Connection: BNC for pH/ORP, RCA for temp.  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1
30	<b>Hot plate/magnetic stirrer ARE VELP (thermos fisher)</b>	<p><b>Top Plate Material:</b> Aluminum Alloy (ensures uniform heat distribution)  <b>Top Plate Diameter:</b> 135 mm (approx. 5.3 inches)  <b>Temperature Range:</b> Room Temperature to 310°C  <b>Stirring Speed Range:</b> 100 to 1500 RPM  <b>Stirring Capacity:</b> Up to 15 Liters (H<sub>2</sub>O)  <b>Motor Type:</b> High-power brushless motor (longer lifespan)  <b>Interface:</b> Analog (dual knobs for heat and speed)  <b>Torque Compensation:</b> SpeedServo™ (maintains constant speed as viscosity changes)  <b>Safety Features:</b> "Illuminated "Hot Top" icon (for temps &gt;50°C), IP42 protection"  <b>Weight:</b> 1.7 kg (3.7 lbs)  <b>Dimensions:</b> (W×H×D),160×85×270 mm</p>	1

31	<b>Desiccator</b>	<p><b>Vacuum Performance:</b> Designed to hold a high vacuum, typically down to 29.9" Hg (-1 bar)</p> <p><b>Dimensions (Inner Diameter):</b> Common sizes include 150mm (6"), 200mm (8"), 250mm (10"), and 300mm (12").</p> <p><b>Stopcock/Valve:</b> Features a ground-glass stopcock on the lid (usually a 24/29 standard taper) for connecting to a vacuum pump. Modern versions often use PTFE spindles for grease-free operation.</p>	<b>1</b>
32	<b>Laboratory Orbital Shaker</b>	<p><b>Shaking Mode:</b> Cyclotron Oscillation (Orbital)</p> <p><b>Amplitude (Orbit),</b>Φ10 mm</p> <p><b>Rotary Speed Range:</b> 100 – 500 RPM</p> <p><b>Speed Precision:</b> ±1 RPM</p> <p><b>Load Capacity:</b> ≤ 5 kg (approx. 11 lbs)</p> <p><b>Tray Size:</b> 320 × 320 mm</p> <p><b>Timer Range,</b>0 – 9999 minutes (with timing function)</p> <p><b>Motor Type,</b>Intelligent Brushless DC Motor</p> <p><b>Drive Mode,</b>Four horizontal points</p> <p><b>Controller,</b>LCD with PID intelligent control</p> <p><b>Exterior Dimensions,</b>365 × 450 × 222 mm</p> <p><b>Net Weight,</b>10 kg</p> <p><b>Power Rating,</b>0.03 kW (AC 220V/0.14A)</p>	<b>1</b>
33	<b>BOD Meter</b>	<p><b>BOD Sensor System</b> BOD Sensor Systems consist of a 6-position Stirring unit complete with 6 BOD Sensors, 6 Alkali holders for absorbing the carbon dioxide and 6 Stirring bars.</p> <p><b>Technical Data:</b> Voltage: 230 V / 50 Hz Power: 2W Weight: 3 Kg (6.6 lb) Dimension (WxHxD): 432 x 300 x 165 mm</p> <p><b>BOD Incubator</b> <b>Technical Data:</b> Total Volume: 120 liters Temperature range: 3 to 50° C Internal temperature shown by a display Temperature resolution: 0.5°C Electronic thermoregulation system: AUTO – TUNING 1 internal electrical current sockets Number of shelves : 2</p> <p><b>Country of Origin: USA, UK, Germany, Japan Or Equivalent</b></p>	<b>1</b>
34	<b>Colony Counter</b>	<p><b>Colony Counter</b> Colony counter makes this process easier and faster through the use of LED lighting and a high-quality magnifying glass. Petri plates are placed in the colony counter where they are properly lit and magnified. Operators can tick or point detected colonies, meanwhile a digital display increases the total count.</p> <p><b>Specifications:</b> Magnifying glasses: 120 mm Ø Upper Light: Yes Bottom Light: 4 selectable intensities Counter: 4 digits, 9 mm LED-Display. Max. count 9999</p> <p><b>Country of Origin: USA, UK, Germany, Japan</b></p>	<b>1</b>
35	<b>Rotary Microtome</b>	<p><b>Automatic Microtom</b> The powerful cutting motor drive with safety function ensures high section stability and precision. Sectioning modes, automatic and manual. Section thickness can be adjusted between 0.5 µm and 100 µm. The automatic mode simplifies the technical difficulties of sectioning and reduces the operator labor intensity and makes work more efficient. A change between these two modes is quickly done.</p> <p><b>Technical Specifications:-</b> Section thickness range : 0.5 - 60 µm Section thickness setting : 0.5 µm – 2 µm, 0.5 µm increments 2 µm – 10 µm, 1 µm increments 10 µm – 20 µm, 2 µm increments 20 µm – 60 µm, 5 µm increment</p> <p>Specimen vertical stroke : 70 mm Specimen horizontally stroke : 40 mm Coarse advance : manually by hand wheel left side Object retraction : On upward movement 80 µm Hand wheel locking : integrated in hand wheel, comfortably positioned for the user Cutting Count: Integrated, with LCD-display/4 numbers Automatic trimming : In 3 steps: 1:10 µm, 2:20 µm, 3:30 µm</p>	<b>1</b>

		Dimensions (W×D×H): 550×460×280 mm with all necessary accessories. <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b>	
36	<b>Nanodrop Spectrophotometer</b>	<p><b>Micro Volume Spectrophotometer: -</b> Spectrophotometer for micro-volume measurement with high speed without sacrificing accuracy &amp; precision. No moving parts and in built sample port delivering a dsDNA detection limit of 1ng/μL. Pre-programmed methods for DNA, RNA, oligos and proteins. In addition, data generated using the on-board software must be stored internally or transferred using a USB memory stick. Alternatively, Instrument must have an in-built sample port for easy use with pipette 0.5μL or more in the center and measure.</p> <p><b>Technical Specification:</b>  Display: 5.7" colour capacitive touchscreen  Minimum Volume (dsDNA): 0.5L  Maximum Concentration (dsDNA): 2,500ng/L  Detection Limit (dsDNA): 1ng/L  Detector: 1024 element CCD array  Light Source: Pulsed Xenon lamp  Spectral Bandwidth: 5nm  Wavelength Range: 190 – 1100nm  Wavelength Accuracy: ± 2nm  Wavelength Reproducibility: ± 1nm  Stray Light: &lt;0.5%T at 220 nm and 340 nm using NaNO2  Absorbance Range: -0.3 to 2.5A (- 0.3A to 50A: 10mm equivalent)  Absorbance Reproducibility: ±0.003A (0 to 0.5A), ±0.007A (0.5 – 1.0A)  Noise: 0.005A peak to peak 0.002A RMS  Output: USB port for USB memory stick  Must be supplied with manual and accessories &amp; installation  <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b></p>	<b>1</b>
37	<b>Freeze Dryer &amp; Vacuum Concentrator</b>	<p><b>Freeze Dryer</b> LCD touch screen display to show test curve of sample temperature, condenser temperature, vacuum degree and other necessary operational parameters USB interface to download the stored operational data for past one month, Low sound level Stainless steel condenser and work station for easy cleaning and maintenance Transparent drying chamber for easy observation of freezing and drying process Compatible interface for different vacuum pumps connection.</p> <p><b>Specifications:</b>  Type: Standard Chamber with 8 port manifold  Final Condenser Temp (°C): -55  Vacuum Degree (Pa): &lt;10  Freeze drying Area (m2): 0.12  Ice condenser capacity (Kg/24h): 4  Quantity of shelves: 4  Material loading capacity / shelf (ml): 300  Material Loading Capacity (ml): 1200  Freeze Drying time (h): 24  Manifold: 8 Pieces  USB interface: Yes  Control System: Microprocessor, Touch Screen  Power Supply (V/Hz): 220/50  Exterior Dimensions (WxDxH mm): 480*655*915  Certification: ISO &amp; CE  <b>With Vacuum Pump &amp; Accessories</b>  <b>Country of Origin: USA, UK, Germany, Japan, China Or Equivalent</b></p>	<b>1</b>
38	<b>Lab Oven</b>	<p><b>Heating Drying Oven</b> Temperature range of up to 250°C. Temperature accuracy by 3-point calibration. The upper and lower temperature limits can be set, enabling alerts for deviations to trigger quick actions. Uniform temperature distribution through airflow optimized for uniform heat transfer. (Within ±3.6 °C at 100°C)  <b>Technical Specifications:</b>  Chamber volume (L / cu ft): 58 / 2.05  Range (°C / °F): Amb. +15 to 250 / Amb. +27 to 482  Fluctuation I at 100°C (±°C / °F): 0.5 / 0.90  Variation I at 100°C (±°C / °F): 2.6 / 4.68  Interior (mm ): 340x390x422  Exterior (mm ): 558×648×684  No. of wire shelf (standard / max.): 2 / 5  Net weight (Kg / lbs): 53 / 116.8</p>	<b>1</b>

		Electrical requirements (230V, 50 / 60Hz): 4.3A Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent	
39	Western Blotting Complete Set	<p>western blotting Complete:</p> <p><b>1. Electrophoresis Apparatus</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Type:</b> Horizontal or vertical gel electrophoresis system</li> <li><input type="checkbox"/> <b>Material:</b> High-quality, non-corrosive plastic or glass</li> <li><input type="checkbox"/> <b>Dimensions:</b> Suitable for standard gel sizes (e.g., 10 x 7 cm)</li> <li><input type="checkbox"/> <b>Gel Casting Tray:</b> Integrated casting tray with a secure gel comb placement</li> <li><input type="checkbox"/> <b>Electrode Configuration:</b> High-resolution electrode design for uniform current distribution</li> <li><input type="checkbox"/> <b>Cooling System:</b> Optional integrated cooling system for heat dissipation</li> <li><input type="checkbox"/> <b>Accessories:</b> Include gel combs, casting trays, and sample loading tools</li> <li><input type="checkbox"/> <b>Safety Features:</b> Safety lid with an interlock mechanism to prevent operation without closure</li> <li><input type="checkbox"/> <b>User Manual:</b> Comprehensive user manual with assembly instructions and troubleshooting guidelines</li> </ul> <p><b>2. Power Supply</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Output Voltage:</b> Adjustable range (e.g., 0-300V)</li> <li><input type="checkbox"/> <b>Output Current:</b> Adjustable range (e.g., 0-1000 mA)</li> <li><input type="checkbox"/> <b>Power Rating:</b> Minimum 200W</li> <li><input type="checkbox"/> <b>Display:</b> Digital display for voltage and current readings</li> <li><input type="checkbox"/> <b>Control Features:</b> Programmable settings for time, voltage, and current</li> <li><input type="checkbox"/> <b>Protection:</b> Over-voltage and overcurrent protection</li> <li><input type="checkbox"/> <b>Connectivity:</b> Compatible with standard electrophoresis apparatus</li> <li><input type="checkbox"/> <b>Size and Weight:</b> Compact design for easy storage and portability</li> </ul> <p><b>3. Transfer Membrane</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Type:</b> Nitrocellulose or PVDF (Polyvinylidene fluoride)</li> <li><input type="checkbox"/> <b>Size:</b> Standard sizes (e.g., 0.2 µm pore size, 7 x 8 cm)</li> <li><input type="checkbox"/> <b>Binding Capacity:</b> High protein binding capacity</li> <li><input type="checkbox"/> <b>Stability:</b> Chemically stable and compatible with various detection methods</li> <li><input type="checkbox"/> <b>Ease of Use:</b> Pre-cut and ready-to-use membranes</li> </ul> <p>1Page 36 of 119</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Packaging:</b> Individually sealed to maintain sterility and integrity</li> </ul> <p><b>SDS-PAGE Apparatus</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Type:</b> Vertical SDS-PAGE electrophoresis system</li> <li><input type="checkbox"/> <b>Material:</b> Durable, non-corrosive materials for long-term use</li> <li><input type="checkbox"/> <b>Gel Size Compatibility:</b> Supports standard gel sizes (e.g., 10 x 10 cm or 15 x 15 cm)</li> <li><input type="checkbox"/> <b>Gel Casting:</b> Easy gel casting system with leak-proof design</li> <li><input type="checkbox"/> <b>Sample Loading:</b> User-friendly sample</li> </ul>	<b>1</b>

		<p>loading system with multiple wells</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cooling System: Integrated cooling option to minimize heating during runs</li> <li><input type="checkbox"/> Safety Features: Safety lid with an interlock mechanism</li> <li><input type="checkbox"/> Accessories: Include gel combs, spacers, and a buffer reservoir</li> </ul>	
40	<b>Laminar Flow Hood</b>	<p><b>Laminar Air Flow Cabinet</b></p> <p>Reservation on/off control for fan and UV light, High quality quiet fan, Universal electrical outlet, Cumulative running time of HEPA filter, Audio and visual alarm for filter failure</p> <p><b>Technical Specifications:</b></p> <p>Laminar Flow: Vertical</p> <p>Cleanliness: ISO Class 5, ISO-14644-1</p> <p>CFU: ≤0.5/Dish*h (90mm petri dish)</p> <p>Air Velocity: 0.30 0.50 m/s</p> <p>Noise: ≤62db</p> <p>Vibration: ≤4um</p> <p>Illumination: ≥900Lux</p> <p>Voltage: 220V/50Hz</p> <p>Power Consumption: 1000VA</p> <p>Internal Dimensions (WxDxH)mm: 1220x650x645</p> <p>External Dimensions (WxDxH)mm: 1360x720x1760</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	<b>1</b>

**NOTE: Supplier will have to deliver the items at Baba Guru Nanak University, Nankana Sahib**

## Section-VIII: Sample Forms

### Notes on the Sample Forms

The Bidder shall complete and submit with its Bid the **Bid Form** and **Price Schedules** pursuant to ITB Clause 2.2.3 & 2.3.4 and in accordance with the requirements included in the Bidding documents.

When requested in the Bid Data Sheet, the Bidder should provide the **Bid Security**, either in the form included hereafter or in another form acceptable to the Procuring Agency, pursuant to ITB Clause 2.3.8

The **Contract Form**, when it is finalized at the time of contract award, should incorporate any corrections or modifications to the accepted Bid resulting from price corrections pursuant to ITB Clause 2.5.6 and GCC Clause 17, acceptable deviations e.g., payment schedule pursuant to GCC 16, spare parts pursuant to ITB Clause 2.3.6 & 2.3.7, or quantity variations pursuant to ITB Clause 2.6.5. The Price Schedule and Schedule of Requirements, deemed to form part of the contract, should be modified accordingly.

The **Performance Guarantee** and **Bank Guarantee for Advance Payment** forms should not be completed by the Bidders at the time of their Bid preparation. Only the successful Bidder will be required to provide Performance Guarantee and bank guarantee for advance payment in accordance with one of the forms indicated herein or in another form acceptable to the Procuring Agency and pursuant to GCC Clause 7.3 and SCC 10, respectively.

The **Manufacturer's Authorization** form should be completed by the Manufacturer, as appropriate, pursuant to ITB Clause 2.3.6(iii).

### 8.1 Bid Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with the Bid, in case of Single Stage One Envelope Procedure and with the Financial Bid, in case of Single Stage Two Envelope Procedure]*

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

**To: Secretary Purchase Committee  
Baba Guru Nanak University, Nankana Sahib.**

Gentleman:

Having examined the Bidding documents including Addenda Nos. *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver *[description of goods and services]* in conformity with the said Bidding documents for the sum of *[total Bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to 5 percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to a Bid by this Bid for a period of 90 days from the date fixed to Bid opening under Clause 2.3.9 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

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

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

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

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[in the capacity of]*

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

### 8.4. Bidder Profile Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]*

Sr.#	Particulars
1.	Name of the company:
2.	<b>Registered Office:</b>
Address:	
Office Telephone Number:	
Fax Number:	
3.	<b>Contact Person:</b>
Name:	
Personal Telephone Number:	
Email Address:	
4.	<b>Local office if any:</b>
Address:	
Office Telephone Number:	
Fax Number:	
5.	<b>Registration Details:</b>

**a) Audited Financial Statement Attachment/Income Tax Returns (Last \_\_\_\_ years)**

Yes	No
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**b) Details of Experience (Last 03 Years)**

(i)	<b>Similar Project (Agency/Department)</b>	<b>Item Name</b>
(ii)	<b>Value of total Projects/Tenders/POs</b>	<b>Amount</b>

### 8.5. General Information Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]*

	Particulars			
<b>Company Name</b>				
<b>Abbreviated Name</b>				
<b>National Tax No.</b>			<b>Sales Tax Registration No</b>	
<b>PRA Tax No.</b>				
<b>No. of Employees</b>			<b>Company's Date of</b>	
			<b>Formation</b>	

\*Please attach copies of NTN, GST Registration & Professional Tax Certificate

<b>Registered Office Address</b>		<b>State/Province</b>	
<b>City/Town</b>		<b>Postal Code</b>	
<b>Phone</b>		<b>Fax</b>	
<b>Email Address</b>		<b>Website Address</b>	

## 8.6. Affidavit

*[To be printed on PKR 300 Stamp Paper, duly attested by oath commissioner. To be attached with Technical Bid]*

**Name:** \_\_\_\_\_

*(Applicant)*

I, the undersigned, do hereby certify that all the statements made in the Bidding document and in the supporting documents are true, correct and valid to the best of my knowledge and belief and may be verified by employer if the Employer, at any time, deems it necessary. The undersigned hereby authorize and request the bank, person, company or corporation to furnish any additional information requested by the *[name of Procuring Agency]* of the Punjab deemed necessary to verify this statement regarding my (our) competence and general reputation.

The undersigned understands and agrees that further qualifying information may be requested and agrees to furnish any such information at the request of the *[name of Procuring Agency]*. The undersigned further affirms on behalf of the firm that:

- (i) The firm is not currently blacklisted by the Procuring Agency.
- (ii) The documents/photocopies provided with Bid are authentic. In case, any fake/bogus document was found at any stage, the firm shall be blacklisted as per Law/ Rules.
- (iii) Affidavit for correctness of information.

*[Name of the Contractor/ Bidder/ Supplier]* undertakes to treat all information provided as confidential.

*Signed by an authorized Officer of the company*

Title of Officer: \_\_\_\_\_

Name of Company: \_\_\_\_\_

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

**8.7. Performance Guarantee Form**

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]*

To,

**Baba Guru Nanak University, Nankana Sahib**

**WHEREAS** (Name \_\_\_\_\_ of \_\_\_\_\_ the Contractor/ \_\_\_\_\_ Supplier) \_\_\_\_\_ hereinafter called "the Contractor" has undertaken, in pursuance of "INVITATION TO BID FOR THE "PROVISION OF \_\_\_\_\_" procurement of the following:

1. *[Please insert details]*.

(Here in after called "the Contract").

**AND WHEREAS** it has been stipulated by you in the Contract that the Contractor shall furnish you with a bank guarantee by a scheduled bank for the sum specified therein as security for compliance with the Contractor's performance obligations in accordance with the Contract;

**AND WHEREAS** we have agreed to give the Contractor a Guarantee;

**THEREFORE WE** hereby affirm that we are Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract, and without cavil or argument, any sum or sums as specified by you, within the limits of \_\_\_\_\_ (Amount of Guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_, or \_\_\_\_\_ [insert number of days] after the rectification of the Defects, whichever is later.

**[NAME OF GUARANTOR]**

Signature \_\_\_\_\_

Name \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

Seal \_\_\_\_\_

Date \_\_\_\_\_

## 8.8. Technical Bid Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]*

Sr #	Instrument/Item	Specifications	Qty	Technical Specification and Brand Quoted by the Bidder
1	<b>Flame photometer</b>	<p>Microprocessor Controlled to give fast, Accurate and precise analysis of sodium, potassium, calcium, barium and lithium in one single aspiration. Embedded 7 inch Colour LCD touch screen with colour graphics such as calibration graph and data, Simultaneous analytical results. Selection of elements with concentration unit selection &amp; automatic calculation of curve coefficients. Language selection including English, Turkish, Portuguese, Polish and Russian</p> <p><b>Specifications:</b>  <b>Reproducibility:</b> ≤2% Response  <b>Time:</b> &lt; 8 seconds  <b>Sample Uptake Volume</b> &lt; 6 ml/minute  <b>Display:</b> 7 inch Color LCD touch screen  <b>Languages:</b> English, Turkish, Portuguese, Polish, Russian  <b>Gas:</b> LPG  <b>With Compressor, LPG Cylinder &amp; Regulator</b>  <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1	
2	<b>Macro Kjeldhal Apparatus</b>	<p><b>Micro Kjeldahl Apparatus</b>  <b>Kjeldahl Digester</b>                      20 position, Corrosion-resistant, advanced insulation technology, eco-friendly, reduce energy intensity maximum limitedly. Multi-protection, Over-current protection, high temperature warning, overload protection.                      LCD display. Used with microwave reaction system, pretreat for microwave digestion or removing acid after digestion. Linear and curve temperature rise mode, up to 5 stages temperature setting. Curve temperature rise and linear temperature rise two temperature control modes.</p> <p><b>Technical Specifications:</b>                      Temperature range: Room temperature +5 - 450°C                      Temperature accuracy: ±1°C                      Heating method: Infrared heating and high-purity graphite Conduction                      Heating insulation method: Unique air duct insulation technology                      Digestion tube capacity: 300mL                      Capacity per batch: 20pcs/batch                      Power supply Power: 220 VAC±10% 50HZ 3600W                      Dimensions: 515mmX421mmX211mm                      Net weight: 25Kg                      With Gas Collection Hood</p> <p><b>Exhausting System</b>                      Anticorrosion vacuum pump, low noise, large suction, reduce wasted gas exhausting and environmentally friendly. Ternary filtration system ensures perfect neutralization and absorption performance. PTFE anticorrosion pipe design, improve using life.</p> <p><b>Kjeldahl Distillation Unit</b>                      Display: 4.3-inch color screen., Manual/Automatic mode available. Automatic Alkali pipeline washing function.                      Automatic or manual filling mode is optional according to test need. Distillation time can be edited and automatic alarming upon completion. Automatic cleaning of control system and distiller, Intelligent cooling water control system.</p> <p><b>Technical Data:</b>                      Measuring range: 0.1mg ~ 240mg N                      Analysis time: 3 ~ 6min/sample                      Recovery: ≥ 99.5%                      Sample capacity: solid≤6g/sample, liquid≤16mL/sample                      Cooling Water Consumption: 1.5L/min                      Operating Mode: Manual/automatic mode                      Display modes: 4.3" LCD screen                      Power supply: 220VAC±10%, 50Hz                      Power supply: 220VAC±10%, 50Hz</p>	1	

		Power: 1.3Kw Net weight: 30Kg Dimensions: 400mm×385mm×735mm With Laptop core I7, 1 TB drive, 8 GB Ram, 15.6 display, 512 SSD <b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b>		
3	<b>IR Spectrometer</b>	<b>FT-IR Spectrometer with Diamond ATR</b> High Sensitivity Optical System Cube -Corner Michelson Interferometer combined with patented mirror fixing alignment ensures long term stability. Reflecting mirrors are gold coated to provide maximum light throughput and optimum detection sensitivity. Multiple sealed Interferometer with high capacity, easy replaceable, desiccant cartridge complete with visible window. Real time monitoring of temperature and humidity reduces the influences from chemical corrosion in the Interferometer. The high sensitivity integrated DLATGS detector module ensures high quality real-time data collection and high speed transmission <b>Technical Specifications:-</b> Interferometer : Cube-corner Michelson interferometer Beam splitter : Multilayer Ge coated KBr Detector : Room temperature DLATGS module (standard) IR Source : High intensity, long lifetime, air-cooled IR source Wavenumber Range: 7800cm-1-350cm-1 Resolution : 0.85 cm <sup>-1</sup> Signal to noise ratio: : Better than 20000:1 (RMS value, at 2100cm , resolution: 4cm 2100cm <sup>-1</sup> ~ 2200cm-1 data collection) ±0.01 cm-1-1-1 ~ 2000cm-1 or , detector: DLATGS, 1 minute Wavenumber Accuracy: ±0.01 cm-1 Scanning Speed : Microprocessor control, different scanning, speed selectable Software : Main FT-Win software suite workstation, compatible to all version Windows OS (including Windows 10 touch screen) Communication: Ethernet interface Data Output : Standard data format, report generation and output Status Diagnosis: Power on self-check, real-time temperature, humidity and reminders Certification : FDA 21 CFR Part 11 compliance, Environment Conditions: Temperature: 10°C-30°C Humidity: Less than 70% Power Supply : 220V±22V, 50Hz±1Hz Accessories: Transmition sample holder <b>With</b> <b>Compatible PC, I7, SSD 512 GB &amp; UPS</b> <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1	
4	<b>Bench top, Micro Centrifuge</b>	<b>Micro Centrifuge</b> LED screen Shows RPM/ RCF and time. Speed programming in 50 RPM/ 10 xg steps. Count up/down from “0” or at “set RPM/RCF” for reproducible tests. Timer from 1 to 99 min. programmable in 1 min. steps and hold position. Deceleration control in 3 steps: fast, soft and free. Acoustic and visual messages on screen showing the equipment status to the user, Lid provided with security systems: Automatic lid lock system, motorized. Emergency lid-lock release. Locking and protection against opening along the run. Lid dropping protection. Port in the lid for calibration and operation checking. Unbalance detection and switch off. Protection safety ring between the centrifugation chamber and the housing. Chamber of centrifugation in stainless steel. Rotors and adapters autoclavable, easy to install by the user. Ventilation system to reduce temperature increasing, Automatic disconnection for energy saving, with deactivation option. <b>Technical Data:</b> ROTOR: ANGLE FIXED 30 ° Max. Capacity: 8x15 ml. RPM Max.: 8000 Radius (mm): 88 RCF Max. (xg): 6511 <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1	

5	<b>Water Bath</b>	<p><b>Water Bath</b>  Temperature range from ambient +7°C to 100°C.,Microprocessor PID control / Automatic tuning / Calibration., Easy readout digital LED displays. (0.1°C resolution),Dual wait on/off timer modes. (1 min. to 99 hr. 59 min.),Programming functions ideal for critical research quality control, and regulatory tests. Memory function of up to three frequently set temperature. Corrosion-resistant stainless-steel construction allowing other bath fluids as well as water and silicone fluids. Low-profile reservoir design with gabled cover. Isolated heater, and sensor by a baffle plate. Complete safety protection system with warning alarms. Low fluid level and dry-running, over-temperature, over-current. Splash-proof keypad.</p> <p><b>Specifications:</b>  Bath volume (L / cu ft): 11.5 / 0.4</p> <p>Working temperature range (°C / °F): Amb. +7 to 100 / Amb. +12.6 to 212</p> <p>Temperature stability at 50°C (±°C / °F): 0.3 / 0.54  Heat up time to 70°C (min) (±°C / °F): 36  Bath opening / depth (W×L, D) (mm / inch): 300×240, 200/ 11.8×9.5, 7.9  Exterior with gable cover (W×L×H) (mm / inch): 360×300×294 / 14.2×11.8×11.6  Net weight (kg / lbs): 10 / 22  Electrical requirements (230V, 50 / 60Hz): 4.3A  <b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	1	
6	<b>Osmometer</b>	<p>Sample type Aqueous-based solution  Sample volume 30 ± 1 µL  Test time 90 seconds (typical) to test single sample 40 minutes (typical) to test 20 samples  Sample Capacity Multi sample  Resolution 1 mOsm/kg H2O  Range 0-2000 mOsm/kg H2O  Accuracy<sup>2</sup> 0-400 mOsm/kg H2O: mean value ± 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: mean value ± 0.75% from normal value  Within-run Repeatability<sup>2</sup> 0-400 mOsm/kg H2O: standard deviation ≤ 3 mOsm/kg H2O from nominal value 400-2000 mOsm/kg H2O: Coefficient of Variation ≤ 0.75%  Temperature effects<sup>3</sup> Less than 1 mOsm/kg H2O per 5 °C (9 °F) ambient temperature change  Calibration 0*, 50, 850, and 2000* mOsm/kg H2O (* optional)  Supported Languages Simple Chinese, English, French, German, Italian, Japanese, Korean, Russian, Spanish, Turkish Storage temperature -20 °C to +45 °C (-4 °F to +113 °F)  Electrical voltage 100 to 240 VAC (50/60 Hz)  Power consumption 60 Watts  Dimensions (D x W x H) 39 cm x 25 cm x 46 cm (15.3" x 10" x 18")  Net weight 13.2 kg (29 lbs.)</p>	1	
7	<b>Large External Controlled Hotplate</b>	<p>Width (Outer): 630 mm  Length (outer): 360 mm  Height (outer): 150 mm  Version with filter rectangular  Controller Digital  Housing material: Aluminum  Weight: 16 kg  Heating power 2000 W  Plate size 310 x 620 mm  Plate material Ceramic-coated aluminum  Temperature control resolution  Display 0.1°C, control 0.5°C  Temperature range with filter 350°C  Temperature accuracy ±0.3°C</p>	1	
8	<b>Compound Microscope</b>	<p><b>Trinocular</b> 30° inclined tube, 360° rotation. Tube length 160 mm Nosepiece for 4 objectives. Ball-bearing mechanism and click-stops Achromatic 4x N.A. 0.10, 10x N.A. 0.25, S40x N.A. 0.65 and S100x N.A.1.25 oil DIN 35 mm parfocal objectives, The S40x and S100x objectives must be spring-mounted, Square stage 115 x 100 mm with 55 x 22 mm X-Y translation stage, Coaxial coarse and fine adjustments with 200 graduations. Precision 15 µm, 3 mm per rotation. Total</p>	1	

		<p>travel approximately 15 mm. Friction adjustment Friction of focus control can be adjusted N.A. 1.25, Condenser with iris diaphragm and filter holder 1 W LED illumination with intensity control, rechargeable batteries with external power supply/charger, painted with antibacterial protection layer must be supplied with manual and dust cover in Styrofoam case,</p> <p>Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2,2 x 2.2 µm pixels ,Pixels: 2592 x 1944 (capture mode) ,1920 x 1080 pixels (live view) ,HDMI 15 fps USB 15 fps 1080p video recording mode ,Scan: Progressive scan ,Noise: 3D Noise Reduction function ,White balance: Automatic/manual ,Sensitivity: 1V ,Interfaces: Digital HDMI, USB 2 ,Storage: 4 GB SD memory card or to USB-2 ,Camera buttons On/Off ,Mounting: C-mount interface. supplied with 0,45x objective, HDMI cable, 23.2 to 30 mm and ,23.2 to 30.5 mm adapter rings for stereo microscopes and computer, Mouse Power supply: External main adapter 100-240 Vac to 12Vdc/2A, Operation: 0 to 60° C, 45-85 % humidity Dimensions: 80 x70 x 90 mm &amp; Latest Smart TV 32" and HDMI Interface</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>		
9	<b>Inverted Microscope Trinocular</b>	<p>Inverted trinocular microscope, Pair HWF 10x/22 mm eyepieces trinocular head, 45° inclined tubes. Tubes can be positioned in upper or lower positions Interpupillary distance 54-75 mm. Diopter adjustment on left eyepiece reversed quintuple revolving nosepiece on ball-bearings Plan phase 10x, 20x, S40x IOS objectives all optics should be anti-fungus treated and anti-reflection coated for maximum light throughput 250 x 230 mm stage with 120 x 78 mm mechanical stage Supplied with glass insert with 30 mm hole, a metallic insert with 25 mm hole, a metallic insert for 35 mm diameter Petri dish holder, a 76x26 mm slide holder with 54mm Petri dish holder and a Multiwall holder with 65 mm Petri dish holder Coaxial coarse and fine adjustments. Precision 2 µm, 0.2 mm per rotation. Total travel approximately 25 mm must be supplied with metallic insert for 35 mm Petri dishes and Terasaki holder N.A. 0.30 condenser with iris diaphragm and filter holder, working distance 72 mm Supplied with slider with phase contrast annuli and green filter Transmitted 5 W NeoLED™, intensity adjustable with internal power supply 100-240 V (CE) Supplied with power cord and transportation box</p> <p>Camera: Color HD High definition 5MP high speed camera with Image focus software with 0.45x objective. Sensor: Aptina ,Format: 1/2.5", HDTV 1080p (50/60 Hz) Pixel size: 2,2 x 2.2 µm pixels ,Pixels: 2592 x 1944 (capture mode) ,1920 x 1080 pixels (live view) ,HDMI 15 fps USB 15 fps 1080p video recording mode ,Scan: Progressive scan ,Noise: 3D Noise Reduction function ,White balance: Automatic/manual ,Sensitivity: 1V ,Interfaces: Digital HDMI, USB 2 ,Storage: 4 GB SD memory card or to USB-2 ,Camera buttons On/Off ,Mounting: C-mount interface. supplied with 0,45x objective, HDMI cable, 23.2 to 30 mm and ,23.2 to 30.5 mm adapter rings for stereo microscopes and computer, Mouse Power supply: External main adapter 100-240 Vac to 12Vdc/2A, Operation: 0 to 60° C, 45-85 % humidity Dimensions: 80 x70 x 90 mm &amp; Latest Smart TV 32" and HDMI Interface</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1	
10	<b>Purifier</b>	<p><b>Water Purification System (ASTM I &amp; II)</b></p> <p>Ultrapure water purification system which requires external water tank that use tap water as feed water. Integrated Grade 2/ Grade 1 laboratory water system, large color touch screen, data logging capability, warning and alarm messages, a wide range of flow control options, the ability to connect multiple remote dispensers, Ethernet and USB interfaces, dispense report preparation, improved accuracy of conductivity and TOC measurements.</p> <p><b>Applications:</b></p> <p>HPLC, TOC, AAS, ICP-OES, ICP-MS and all biological applications.</p> <p><b>Feed water requirements:</b></p> <p><b>Feed water:</b> Potable tap water  <b>Pressure:</b> 0.4–6.0 bar  <b>Conductivity:</b> &lt;2000 µS/cm  <b>Temperature:</b> 5–35 °C</p>	1	

		<p><b>System Specifications:-</b></p> <p><b>Grade 1 water resistivity at 25 °C:</b> 18.2 MΩ x cm</p> <p><b>Grade 1 water conductivity at 25°C:</b> 0.055 μS/cm</p> <p><b>Grade 2 water resistivity at 25 °C:</b> &gt;10 MΩ x cm</p> <p><b>Grade 2 water conductivity at 25°C:</b> &lt;0.1 μS/cm</p> <p><b>TDS Rejection Rate:</b> ≥97%</p> <p><b>TOC level:</b> &lt; 5 ppb</p> <p><b>Rnase:</b> &lt; 0.01 ng/mL</p> <p><b>Dnase:</b> &lt; 4 pg/mL</p> <p><b>Bacteria:</b> &lt; 0.01 CFU/mL</p> <p><b>Endotoxins:</b> &lt; 0.001 EU/mL</p> <p><b>Particles &gt;0.22 μm:</b> &lt; 0.05/mL</p> <p><b>Nominal flow, pure water (to storage tank):</b> 10 L/h</p> <p><b>Dispense rate, ultrapure water:</b> 1.5–2 L/min</p> <p><b>Volumetric dispense:</b> 0.01–100 L</p> <p><b>System weight, kg:</b> 29</p> <p><b>Accessories:</b> Water storage tank 30 L multipoint level sensor, Opaque housing walls for protection against the light Level switch Gravity outlet Delivery pump, Multi-position level sensor, Spare set of filter cartridges, Complete installation kit.</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>		
11	<b>Top Loading Balance</b>	<p><b>Precision Balance</b></p> <p>High-contrast, backlit LCD display with 15mm character height, Integrated programs for various functions including weighing, density determination, counting, percentage weighing, and animal weighing, Capability for weighing samples below the balance (e.g., for density measurements). Must be capable for daily laboratory work with a rugged build and easy-to-clean stainless steel parts and high stability values.</p> <p><b>Technical Data:</b></p> <p>Readability (g): 0.01 (10mg)</p> <p>Weighing capacity (g): 3200</p> <p>Pan size (mm): 180x180</p> <p>Repeatability (g): ≤± 0.01</p> <p>Linearity (g): ≤± 0.02</p> <p>Calibration: Internal motorized</p> <p>Interface: RS-232C 25-pin</p> <p>Measurement Time(s): Less than 1.5</p> <p>Dimensions(WxLxH)mm: 230 x 310 x 91</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1	
12	<b>Analytical Balance</b>	<p><b>Analytical Balance</b></p> <p>Monolithic Weigh Cell, several integrated application programs such as piece counting, percentage weighing, animal weighing, and unit conversion. GLP/ISO Compliance, clear control panel with short, menu-driven text prompts in multiple languages (English, German, French, Italian, Spanish, Polish, Russian).</p> <p>Backlit, high-contrast LCD with 15 mm character height</p> <p><b>Technical Data:</b></p> <p>Readability (g): 0.0001</p> <p>Weighing capacity (g): 220</p> <p>Pan size (mm): 90</p> <p>Repeatability (g): 0.0001</p> <p>Linearity (g): 0.0002</p> <p>Calibration : Automatic Internal</p> <p>Calibration (motorized)</p> <p>Response Time (avg., sec.): 2.5</p> <p>Interface: Bidirectional RS-232C 25-pin port</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	1	

13	<b>Laboratory Freezer</b>	<p><b>Low Temperature Freezer</b>  Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving, Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b>  Cabinet Type: Vertical Climate Class:N, Cooling Type:Direct Cooling, Defrost Mode:Manual, Refrigerant: HC,R600a  Cooling performance (°C): -25, Temperature Range (°C): - 10~ -25  Interior: Galvanized steel powder coating, Exterior: Galvanized steel powder coating  Controller: Microprocessor, Display: LED  Capacity (L):260L, Interior Dimensions(W*D*H):410x450x420mm, Exterior Dimensions(W*D*H): 510×560×655mm</p> <p><b>Functions &amp; Alarms</b>  High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).  Power Supply V/Hz: 220/50, Power (W):135, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1	
14	<b>Refrigerator &amp; Freezer</b>	<p><b>Refrigerator &amp; Freezer</b>  Microprocessor control for temperature regulation. Large <b>LED temperature display</b> for easy reading. Adjustable shelving, Built-in alarms/alerts: high-/low-temperature, sensor failure, power failure, low-battery, door-ajar, etc. Safety door lock to prevent unauthorized access</p> <p><b>Specifications:</b>  Cabinet Type:Vertical, Climate Class:ST, Cooling Type:REF: Forced air cooling; FREEZER: Manual, Defrost Mode: Auto, Refrigerant:HC,R600a  Cooling performance (°C):4/-25, Temperature Range (°C): REF: 2~8 ; FREEZER:-10~-25  Interior: Galvanized steel powder coating (white), Exterior: Galvanized steel powder coating (white)  Controller: Microprocessor, Display: LED, Alarm: Audible  Capacity(L):REF:200; FREEZER:100L  Interior Dimensions(W*D*H): REF: 516x498x730mm; FREEZER: 458x469x356mm, Exterior Dimensions(W*D*H): 600×609×1750mm</p> <p><b>Functions &amp; Alarms</b>  High/Low Temperature, Power Failure, Remote Alarm, Door Ajar, Lock &amp; Key, Inner LED light, Low Battery Alarm, Sensor Error. Protection Function: power on delay, time between stops.</p> <p><b>Accessories:</b> Foot, Test Hole, 5 Shelves, USB Interface, Temperature Recorder (optional).  Power Supply V/Hz: 220/50, Power (W):340, Certification: CE &amp; ISO</p> <p><b>Country of Origin: USA, UK, Europe, Japan, China or Equivalent</b></p>	1	
15	<b>Sludge level detector</b>	<p>Measurement: Activated Sludge Density, Zone Surface (Water Depth) of Sediment Tank and Sludge Density  Measuring Method MLSS : Near-Infrared Pulse Transmission light System Sludge Level (Water Depth): Semiconductor Temperature Sensor System  Measuring Range MLSS: 0 E0000mg/l (max.30000mg/f display) Sludge Level: 0-5m(max. 10m display with prolonged cable)  Resolution MLSS: 10mg/f (within 0-10000mg/E ) 100mg/t (within 10000-30000mg/t ) Sludge Level: 0.01m  Accuracy MLSS: within ±3%(FS) under certain conditions Sludge Level: within ±3%(FS) under certain conditions Display Liquid Crystal  Display MLSS: LCD 4 digits(upper) Memory: LCD 2 digits Sludge Level: LCD 4 digits(lower)  Mode Select one of 6 Modes. Example 1) Food and dairy Sludge Mode A. 2) Food and dairy Sludge Mode B. 3) Sewage disposal/combine Septic Tank Sludge Mode. 4) Human Waste Disposal Sludge Mode. 5) Deposit Tank concentrated Sludge Mode A. 6) Deposit Tank concentrated Sludge Mode B.  Zone Surface Measurement "ALM", "mg/f" blinks over 15000 mg/f. Water depth display at "ALM", "mg/f" blinking shows sludge zone surface.  Calibration Method MLSS: 1) One-point Calibration (zero calibration only) 2) Two-point Calibration (Zero and Span Calibration) +Span Calibration should be done by Sludge of known Density. 3) 3-4 point Calibration (Zero, Span and Middle-Point Calibration) +Span calibration should be done by Sludge of known Density, and</p>	1	

		<p>Middle-Point Calibration by diluted Sludge Water Depth : Auto Zero Calibration at the time of throwing Power Source.</p> <p>Self diagnosis Battery Voltage, Detector, Disorder Calibration Disorder, Scale Over</p> <p>Memory Max. 30 data</p> <p>Structure Dust-Proofed, Water-Proofed, corresponding to IP67 (under the condition of Connector Plug and the Meter correctly connected)</p> <p>Power Source DC4.5V(LRO3 x 3) Auto power off after 30 Minutes.</p> <p>Dimensions 70(W) x 170(D) x 36(H)mm</p> <p>Weight Approx. 290g ??Because of product improvement, these specifications may be changed without notice. Detector Specifications</p>		
16	<b>Shaking Water bath with accessories</b>	<p><b>Shaking Water Bath</b></p> <p>Temperature range from ambient +5°C to 100°C (amb. +9°F to 212°F), rpm(Max 200rpm) and temperature(Max 100°C) control with accuracy. Temperature distribution by shaking motion. (50°C ±0.1°C) with 3-points temperature calibration and 1-point shaking calibration. PID control for the Bath. Height for larger sample volumes up to 2.8L of flasks. Automatic On/Off timer. up to a maximum of 999 hours and 59 minutes. Operation with touch color display. USB port to connect to PC for recording and monitoring. Transparent gable roof-shape cover prevents condensed water from falling onto specimen. Corrosion resistance spring wire rack . Audio and visual alarms and heater shutdown in case of water shortage. Alarm for temperature and rpm discrepancies or abnormal condition of temperature sensor. Over-current and short circuit protection of device.</p> <p><b>Specifications:</b></p> <p>Bath volume (L / cu ft): 26/0.9</p> <p>Working temperature range (°C / °F): Amb. +5 to 100 / Amb. +9.6 to 212</p> <p>Temperature stability at 50°C (±°C / °F): 0.1 / 0.18</p> <p>Motion Type: Reciprocal</p> <p>Frequency(RPM)y: 30-200</p> <p>Stroke Length (mm/inch): 25/0.98</p> <p>Bath opening / depth (W×L, D) (mm / inch): 300 x 370, 235/ 11.8 x 14.6, 9.3</p> <p>Exterior with gable cover (W×L×H) (mm / inch): 594×417×426/ 23.5×16.4×16.8</p> <p>Net weight (kg / lbs): 27/ 60</p> <p>Electrical requirements (230V, 50 / 60Hz): 8.8A</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	2	
17	<b>Micropipette sets</b>	<p><b>Micro Pipettes</b></p> <p>Fully autoclave able, durable, high-performance which offer maximum reliability and comfort. Built with tough PVDF</p> <p>stands that stand up to harsh chemicals and the damaging effects of UV light, variable volume pipettes are fully autoclave able without disassembling.</p> <p><b>Specifications:</b></p> <p>Description : 2-20µL, 20-200µL and 100-1000µL</p> <p>Autoclavable Color Assorted</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	2 set	
18	<b>Microwave Oven</b>	<p>1000 watt, with rotating tray, auto timer, air frier, Capacity: 30Ltr Unique Feature: icon Built In Air Fryer</p> <p>Baking: icon Yes Auto Menu: Yes Control Type: Touch Control Internal Light: Yes</p>		
19	<b>Microwave Oven, 1200-1600 Watt</b>	<p>Type: Microwave</p> <p>Product Color: Black</p> <p>Control Panel Color: Black</p> <p>Control Panel Type: Mechanical</p> <p>Installation Type: Free Standing</p>		

		Rating Power (w) (MWO): 700 W Voltage (V): 220-240 Frequency (Hz): 50-60 Width (cm): 45.2 cm Depth (cm): 33 cm Height (cm): 26.2 cm Weight (Kg): 10.2 kg capacity 32 liter		
20	<b>Quartz cuvettes pair</b>	Quartz material Volume: 3.5 ml	2	
21	<b>Centrifuge Tubes</b>	Sterile: Yes Non-pyrogenic: Yes Autoclavable: Yes Volume 50mL Force (RCF)g: 6000 RNase/DNase Free: Yes	1	
22	<b>Multichannel Micro Pipettes 8 channel</b>	<b>Multi-Channel Micro Pipette Eight Channel (Fully Autoclavable)</b> <ul style="list-style-type: none"> <li>• 0.5-10 µL Accuracy: ±10.0 to ±2.0% Precision: ≤8.0 to ≤1.2%</li> <li>• 10-200 µL Accuracy: ±5.0 to ±1.0%  Precision: ≤3.0 to ≤0.6%</li> <li>• 30-300 µL Accuracy: ±1.6 to ±1.0%  Precision: ≤1.5 to ≤0.6%</li> </ul> <b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b>	1	
23	<b>Filtration Unit with Suction</b>	<b>Specification:</b> <ul style="list-style-type: none"> <li>▶ Power: DC12V, 1.0A</li> <li>▶ Max. vacuum: 313 mbar abs.</li> <li>▶ Max. liquid flow rate: 0.5 L/min</li> <li>▶ Motor: 12W Brushless DC Motor</li> <li>▶ Hose barb: ID6</li> <li>▶ Material contact with filtrate: SS316, FKM, Silicone, PP, PA66</li> <li>▶ Adaptor: Spin-lock</li> </ul> Materials: ▶ Housing material – SS304 Adaptor – SS316, Valve plate – EPDM (Ethylene Propylene Diene Monomer) Diaphragm: EPDM (Ethylene Propylene Diene Monomer) Fluid Path Inlet – SS316 ▶ Fluid outlet port – SS316 ▶ Fluid path hose – Silicone tube ▶ O-ring – FKM ▶ Draining hose – silicone	1	
24	<b>Light chamber Temperature range</b>	<b>Plant Growth Chamber</b> <b>Features:-</b>  Ergonomically designed door construction. Inner glass door with silicone and external door with magnetic sealing for dual airtight packing. Well designed providing a smooth open for minimization of damage to plants. Wide inner tempered glass door for clear observation of plant growth without affecting inner chamber's environment. Tall plants can be grown inside of the chamber with adjustment of shelf level. Water level check indicated by water level bar in the tank. Detachable condenser air-filter for easy maintenance of refrigerating efficiency. Maintenance of air filter no longer cumbersome with our detachable condenser air filter. Casters for easy mobility during installation or relocation. Eco-friendly CFC-free refrigerant.	1	

		<p><b>Safety</b> Automatic shut off after overheat alarm. Low and empty water level alarm. Power supply leakage breaker. Over current protection, Open door alarm. Control illumination values with the below lamp setting arrangements.</p> <p><b>Specifications: -</b></p> <p>Chamber volume (L / cu ft): 300 / 10.6</p> <p>Control system: Microprocessor PID controller</p> <p>Temperature Range (°C / °F): 5 to 50 / 41 to 122 - Lamp off 10 to 50 / 50 to 122 - Lamp on 20 to 50 / 68 to 122 - with humidity</p> <p>Fluctuation (±°C / °F) at 25°C: 0.1 / 0.18 - without humidity</p> <p>Variation (±°C / °F) at 25°C: 0.8 / 1.43 - without humidity</p> <p><b>Illumination</b></p> <p>Range (Lux): 0 to 20,000</p> <p>Control (steps): 10</p> <p>Lamp: FI lamp (32W×18ea)</p> <p>Humidity Range (% RH): 40 to 80 at 20 to 35°C 70 to 90 at 36 to 50°C</p> <p>Fluctuation (±RH) at 60% RH: 3</p> <p>Refrigerant (HP): 1/2</p> <p>Temp. heater power (W): 750×2ea</p> <p>Humid. heater power (W): 1300</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>		
25	<b>Sonicator</b>	<p><b>Prob Sonicator</b> Programmable operation: Set time and amplitude for hands free operation, Pulse mode Prevent heat buildup in temperature sensitive samples, Digital amplitude / intensity control , Output intensity can be set from 20-100% Elapsed time indicator : Displays duration of sonication, Display of wattage and joules : Real-time energy monitoring Overload protection: Prevents damage to circuitry if a fault occurs</p> <p><b>Specifications:-</b></p> <p>Processing Volume: 0.2 – 1,000mL</p> <p>Power Rating: 500 watts</p> <p>Frequency: 20kHz</p> <p>Programmable Timer: 10 hours</p> <p>Adjustable Pulse On/Off: 1 second to 1 minute</p> <p>Dimensions (W x L x H): 8 x 15.25 x 8.5 in. (203 x 387 x 216 mm)</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>	2	
26	<b>Leaf Area Meter</b>	<p><b>Resolution:</b> 1 mm<sup>2</sup> (1 mm x 1 mm scanning area)</p> <p><b>Accuracy:</b> Within ± 2% for samples &gt;50 cm<sup>2</sup></p> <p><b>Display Capacity:</b> Area: 9,999,999.99 cm<sup>2</sup> Length: 99,999,999.9 cm Width: 12.8 cm Display: 2 line x 16 character LCD Keyboard: Sealed, 24 key tactile response with audio feedback</p> <p>Real Time Clock: Year, month, day, hour, minute, second Accuracy: ± 3 minutes per month (0 to 55 °C)</p> <p><b>Internal Memory:</b> More than 2.1MB of non-volatile FLASH; measurement data is maintained even in absence of power <b>Memory Capacity:</b> From 65,000 to 125,000 individual leaf area measurements Communications: USB 1.1</p>	1	

		Compliant, Full Speed, Bus rate at 12 Mbps; RS-232 DTE, N,8,1, Baud rate set at 38400 bps, Hardware Flow Control Sample Dimensions: Width: 127 mm maximum, 1 mm minimum Thickness: 8 mm maximum Length: 1 meter maximum Scanning Speed: Up to 1 m/s. Power Requirement: Rechargeable 6V lead-acid battery; or 115/230VAC, 50/60 Hz, 20W maximum Battery Capacity: Typically 12-15 hours of continuous operation Recharging Time: 5-8 hours, instrument off; charging circuitry is built in Battery Voltage Sensor: Low battery warning occurs approximately 1 hour before automatically shutting off the instrument. Scanning Head: LED Light Source: 6.4 mm from outer edge Size: 30.5 cm overall length (12.0") Weight: 680 g (1.5 lb) Operating Temperature: 0 to 55° C, 0 to 95% RH (noncondensing) Storage Temperature: -20 to 55° C, 0 to 95% RH (noncondensing); long term storage at high temperatures will shorten life of internal battery Readout-Control Unit: Size: 19.8 L x 15.5 W x 10.1 cm D (7.8" x 6.1" x 4.0") Weight: 2.0 kg (4.4 lb)		
27	<b>Melting Point Apparatus (Gallenkamp-style)</b>	<b>Temperature Range:</b> RT-400 °C <b>Temperature Resolution:</b> 0.01 °C <b>Temperature Accuracy:</b> 0.4 at 200 °C and 0.7 at 300 °C <b>Temperature Repeatability:</b> 0.2 °C <b>Temperature Gradients:</b> 0.1 °C-20 °C <b>Determination Method:</b> Automatic detection of the melting point <b>Video &amp; Camera:</b> Equipped with both a camera and video functions <b>Lens Magnification:</b> 8x <b>Display:</b> 8-inch color capacitive touch screen <b>Capillary Capacity:</b> Can test 4 samples concurrently per batch <b>Storage Capacity:</b> 128G <b>Methods Storage:</b> Can store up to 200 different method <b>Graphic Storage:</b> Can store 500 graphics/atlas <b>Regulatory Compliance:</b> Fully compliant with FDA 21 CFR part 11, GLP, and GMP (EU, UPS & CN) <b>Capillary Size:</b> Outer diameter 1.4mm, length 110mm <b>Communication Ports:</b> USB×3, RS232, Wi-Fi, and RJ45 <b>Printer Support:</b> Compatible with both Laser and Thermal printers <b>Operating System:</b> Android	1	
28	<b>Graphite furnace ELF11/14B</b>	<b>Max Temperature:</b> 1100°C <b>Max Continuous Operating Temp:</b> 1000°C <b>Chamber Capacity:</b> 14 Litres <b>Heat-up Time:</b> 43 minutes (to 1000°C) <b>Temperature Uniformity:</b> ±5°C within a zone of 170×180×205 mm <b>Internal Dimensions (H x W x D),</b> 210×220×310 mm <b>External Dimensions (H x W x D),</b> 630×450×520 mm <b>Max Power:</b> 2600 W <b>Holding Power:</b> 1300 W (at continuous operating temperature) <b>Thermocouple Type:</b> Type K <b>Weight:</b> 31 kg	1	
29	<b>pH Meter</b>	<b>pH Meter Desktop</b> Must be equipped with pH electrode, TRIS buffer compatible, 1-3 points & 1-5 points of auto calibration with self-diagnosis. Recognizes up to 15 types of pH standard buffer solutions (3 optional series: U.S, NIST, and CH), 2-point customized calibration. <b>Technical Specifications:</b> pH Electrode: Plastic Combination pH Electrode Measuring Range: (-2.00 to 19.99) pH Resolution: 0.1/0.01 pH Accuracy: ±0.01 pH ±1 digit Calibration: 1-5 points Auto Calibration Temp. Compensation: 0 to 100°C (32 to 212°F) Auto or Manual mV Measuring range: ±1999 mV Resolution: 1 mV Accuracy: ±0.1% F.S Storage Content: Numberings, Date, Time, Measurements, Unit, and Temperature Data Output: USB – PC-Link Software Timing Data Logging: Yes	1	

		<p>Pure Water Mode: Yes</p> <p>Power Supply: DC9V/300mA</p> <p>IP Rating: IP54 Splash proof and Dustproof</p> <p>Dimensions and Weight: (240*235*103) mm/1kg</p> <p>Electrode Connection: BNC for pH/ORP, RCA for temp.</p> <p><b>Country of Origin: USA, UK, Europe, Japan or Equivalent</b></p>		
30	<b>Hot plate/magnetic stirrer ARE VELP (thermos fisher)</b>	<p><b>Top Plate Material:</b> Aluminum Alloy (ensures uniform heat distribution)</p> <p><b>Top Plate Diameter:</b> 135 mm (approx. 5.3 inches)</p> <p><b>Temperature Range:</b> Room Temperature to 310°C</p> <p><b>Stirring Speed Range:</b> 100 to 1500 RPM</p> <p><b>Stirring Capacity:</b> Up to 15 Liters (H2O)</p> <p><b>Motor Type:</b> High-power brushless motor (longer lifespan)</p> <p><b>Interface:</b> Analog (dual knobs for heat and speed)</p> <p><b>Torque Compensation:</b> SpeedServo™ (maintains constant speed as viscosity changes)</p> <p><b>Safety Features:</b> "Illuminated "Hot Top" icon (for temps &gt;50°C), IP42 protection"</p> <p><b>Weight:</b> 1.7 kg (3.7 lbs)</p> <p><b>Dimensions:</b> (WxHxD),160x85x270 mm</p>	<b>1</b>	
31	<b>Desiccator</b>	<p><b>Vacuum Performance:</b> Designed to hold a high vacuum, typically down to 29.9" Hg (-1 bar)</p> <p><b>Dimensions (Inner Diameter):</b> Common sizes include 150mm (6"), 200mm (8"), 250mm (10"), and 300mm (12").</p> <p><b>Stopcock/Valve:</b> Features a ground-glass stopcock on the lid (usually a 24/29 standard taper) for connecting to a vacuum pump. Modern versions often use PTFE spindles for grease-free operation.</p>	<b>1</b>	
32	<b>Laboratory Orbital Shaker</b>	<p><b>Shaking Mode:</b> Cyclotron Oscillation (Orbital)</p> <p><b>Amplitude (Orbit),</b>Φ10 mm</p> <p><b>Rotary Speed Range:</b> 100 – 500 RPM</p> <p><b>Speed Precision:</b> ±1 RPM</p> <p><b>Load Capacity:</b> ≤ 5 kg (approx. 11 lbs)</p> <p><b>Tray Size:</b> 320 × 320 mm</p> <p><b>Timer Range,</b>0 – 9999 minutes (with timing function)</p> <p><b>Motor Type,</b>Intelligent Brushless DC Motor</p> <p><b>Drive Mode,</b>Four horizontal points</p> <p><b>Controller,</b>LCD with PID intelligent control</p> <p><b>Exterior Dimensions,</b>365 × 450 × 222 mm</p> <p><b>Net Weight,</b>10 kg</p> <p><b>Power Rating,</b>0.03 kW (AC 220V/0.14A)</p>	<b>1</b>	
33	<b>BOD Meter</b>	<p><b>BOD Sensor System</b></p> <p>BOD Sensor Systems consist of a 6-position Stirring unit complete with 6 BOD Sensors, 6 Alkali holders for absorbing the carbon dioxide and 6 Stirring bars.</p> <p><b>Technical Data:</b></p> <p>Voltage: 230 V / 50 Hz</p> <p>Power: 2W</p> <p>Weight: 3 Kg (6.6 lb)</p> <p>Dimension (WxHxD): 432 x 300 x 165 mm</p> <p><b>BOD Incubator</b></p> <p><b>Technical Data:</b></p> <p>Total Volume: 120 liters</p> <p>Temperature range: 3 to 50° C Internal temperature shown by a display</p> <p>Temperature resolution: 0.5°C</p> <p>Electronic thermoregulation system: AUTO – TUNING</p> <p>1 internal electrical current sockets</p> <p>Number of shelves : 2</p> <p><b>Country of Origin: USA, UK, Germany, Japan Or Equivalent</b></p>	<b>1</b>	
34	<b>Colony Counter</b>	<p><b>Colony Counter</b></p> <p>Colony counter makes this process easier and faster through the use of LED lighting and a high-quality magnifying glass. Petri plates are placed in the colony counter where they are properly lit and magnified. Operators can tick or point detected colonies, meanwhile a digital display increases the total count.</p> <p><b>Specifications:</b></p> <p>Magnifying glasses: 120 mm Ø</p>	<b>1</b>	

		Upper Light: Yes Bottom Light: 4 selectable intensities Counter: 4 digits, 9 mm LED-Display. Max. count 9999  <b>Country of Origin: USA, UK, Germany, Japan</b>		
35	<b>Rotary Microtome</b>	<b>Automatic Microtom</b> The powerful cutting motor drive with safety function ensures high section stability and precision. Sectioning modes, automatic and manual. Section thickness can be adjusted between 0.5 µm and 100 µm. The automatic mode simplifies the technical difficulties of sectioning and reduces the operator labor intensity and makes work more efficient. A change between these two modes is quickly done. <b>Technical Specifications:-</b> Section thickness range : 0.5 - 60 µm Section thickness setting : 0.5 µm – 2 µm, 0.5 µm increments 2 µm – 10 µm, 1 µm increments 10 µm – 20 µm, 2 µm increments 20 µm – 60 µm, 5 µm increment Specimen vertical stroke : 70 mm Specimen horizontally stroke : 40 mm Coarse advance : manually by hand wheel left side Object retraction : On upward movement 80 µm Hand wheel locking : integrated in hand wheel, comfortably positioned for the user Cutting Count: Integrated, with LCD-display/4 numbers Automatic trimming : In 3 steps: 1:10 µm, 2:20 µm, 3:30 µm Dimensions (W×D×H): 550×460×280 mm with all necessary accessories. <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b>	<b>1</b>	
36	<b>Nanodrop Spectrophotometer</b>	<b>Micro Volume Spectrophotometer: -</b> Spectrophotometer for micro-volume measurement with high speed without sacrificing accuracy & precision. No moving parts and in built sample port delivering a dsDNA detection limit of 1ng/µL. Pre-programmed methods for DNA, RNA, oligos and proteins. In addition, data generated using the on-board software must be stored internally or transferred using a USB memory stick. Alternatively, Instrument must have an in-built sample port for easy use with pipette 0.5µL or more in the center and measure. <b>Technical Specification:</b> Display: 5.7" colour capacitive touchscreen Minimum Volume (dsDNA): 0.5L Maximum Concentration (dsDNA): 2,500ng/L Detection Limit (dsDNA): 1ng/L Detector: 1024 element CCD array Light Source: Pulsed Xenon lamp Spectral Bandwidth: 5nm Wavelength Range: 190 – 1100nm Wavelength Accuracy: ± 2nm Wavelength Reproducibility: ± 1nm Stray Light: <0.5%T at 220 nm and 340 nm using NaNO2 Absorbance Range: -0.3 to 2.5A (- 0.3A to 50A: 10mm equivalent) Absorbance Reproducibility: ±0.003A (0 to 0.5A), ±0.007A (0.5 – 1.0A) Noise: 0.005A peak to peak Output: USB port for USB memory stick	<b>1</b>	

		Must be supplied with manual and accessories & installation <b>Country of Origin: USA, UK, Germany, Japan or equivalent</b>		
37	<b>Freeze Dryer &amp; Vacuum Concentrator</b>	<p><b>Freeze Dryer</b> LCD touch screen display to show test curve of sample temperature, condenser temperature, vacuum degree and other necessary operational parameters USB interface to download the stored operational data for past one month, Low sound level Stainless steel condenser and work station for easy cleaning and maintenance Transparent drying chamber for easy observation of freezing and drying process Compatible interface for different vacuum pumps connection.</p> <p><b>Specifications:</b> Type: Standard Chamber with 8 port manifold Final Condenser Temp (°C): -55 Vacuum Degree (Pa): &lt;10 Freeze drying Area (m2): 0.12 Ice condenser capacity (Kg/24h): 4 Quantity of shelves: 4 Material loading capacity / shelf (ml): 300 Material Loading Capacity (ml): 1200 Freeze Drying time (h): 24 Manifold: 8 Pieces USB interface: Yes Control System: Microprocessor, Touch Screen Power Supply (V/Hz): 220/50 Exterior Dimensions (WxDxH mm): 480*655*915 Certification: ISO &amp; CE</p> <p><b>With Vacuum Pump &amp; Accessories</b> <b>Country of Origin: USA, UK, Germany, Japan, China Or Equivalent</b></p>	<b>1</b>	
38	<b>Lab Oven</b>	<p><b>Heating Drying Oven</b> Temperature range of up to 250°C. Temperature accuracy by 3-point calibration. The upper and lower temperature limits can be set, enabling alerts for deviations to trigger quick actions. Uniform temperature distribution through airflow optimized for uniform heat transfer. (Within ±3.6 °C at 100°C) Technical Specifications: Chamber volume (L / cu ft): 58 / 2.05 Range (°C / °F): Amb. +15 to 250 / Amb. +27 to 482 Fluctuation1) at 100°C (±°C / °F): 0.5 / 0.90 Variation1) at 100°C (±°C / °F): 2.6 / 4.68 Interior (mm ): 340x390x422 Exterior (mm ): 558x648x684 No. of wire shelf (standard / max.): 2 / 5 Net weight (Kg / lbs): 53 / 116.8 Electrical requirements (230V, 50 / 60Hz): 4.3A</p> <p><b>Country of Origin: USA, UK, Europe, Japan, Korea or Equivalent</b></p>	<b>1</b>	
39	<b>Western Blotting Complete Set</b>	<p><b>western blotting Complete:</b> <b>1. Electrophoresis Apparatus</b> <input type="checkbox"/> <b>Type: Horizontal or vertical gel electrophoresis system</b> <input type="checkbox"/> <b>Material: High-quality, non-corrosive plastic or glass</b> <input type="checkbox"/> <b>Dimensions: Suitable for standard gel sizes (e.g., 10 x 7 cm)</b> <input type="checkbox"/> <b>Gel Casting Tray: Integrated casting tray with a secure gel comb placement</b> <input type="checkbox"/> <b>Electrode Configuration: High-resolution electrode design for uniform current distribution</b> <input type="checkbox"/> <b>Cooling System: Optional integrated cooling system for heat dissipation</b> <input type="checkbox"/> <b>Accessories: Include gel combs, casting trays, and sample loading tools</b> <input type="checkbox"/> <b>Safety Features: Safety lid with an interlock mechanism to prevent operation without closure</b> <input type="checkbox"/> <b>User Manual: Comprehensive user manual with assembly instructions and</b></p>	<b>1</b>	

		<p>troubleshooting guidelines</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>2. Power Supply</b></li> <li><input type="checkbox"/> <b>Output Voltage:</b> Adjustable range (e.g., 0-300V)</li> <li><input type="checkbox"/> <b>Output Current:</b> Adjustable range (e.g., 0-1000 mA)</li> <li><input type="checkbox"/> <b>Power Rating:</b> Minimum 200W</li> <li><input type="checkbox"/> <b>Display:</b> Digital display for voltage and current readings</li> <li><input type="checkbox"/> <b>Control Features:</b> Programmable settings for time, voltage, and current</li> <li><input type="checkbox"/> <b>Protection:</b> Over-voltage and overcurrent protection</li> <li><input type="checkbox"/> <b>Connectivity:</b> Compatible with standard electrophoresis apparatus</li> <li><input type="checkbox"/> <b>Size and Weight:</b> Compact design for easy storage and portability</li> <li><input type="checkbox"/> <b>3. Transfer Membrane</b></li> <li><input type="checkbox"/> <b>Type:</b> Nitrocellulose or PVDF (Polyvinylidene fluoride)</li> <li><input type="checkbox"/> <b>Size:</b> Standard sizes (e.g., 0.2 µm pore size, 7 x 8 cm)</li> <li><input type="checkbox"/> <b>Binding Capacity:</b> High protein binding capacity</li> <li><input type="checkbox"/> <b>Stability:</b> Chemically stable and compatible with various detection methods</li> <li><input type="checkbox"/> <b>Ease of Use:</b> Pre-cut and ready-to-use membranes</li> </ul> <p>1Page 36 of 119</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Packaging:</b> Individually sealed to maintain sterility and integrity</li> <li><input type="checkbox"/> <b>SDS-PAGE Apparatus</b></li> <li><input type="checkbox"/> <b>Type:</b> Vertical SDS-PAGE electrophoresis system</li> <li><input type="checkbox"/> <b>Material:</b> Durable, non-corrosive materials for long-term use</li> <li><input type="checkbox"/> <b>Gel Size Compatibility:</b> Supports standard gel sizes (e.g., 10 x 10 cm or 15 x 15 cm)</li> <li><input type="checkbox"/> <b>Gel Casting:</b> Easy gel casting system with leak-proof design</li> <li><input type="checkbox"/> <b>Sample Loading:</b> User-friendly sample loading system with multiple wells</li> <li><input type="checkbox"/> <b>Cooling System:</b> Integrated cooling option to minimize heating during runs</li> <li><input type="checkbox"/> <b>Safety Features:</b> Safety lid with an interlock mechanism</li> <li><input type="checkbox"/> <b>Accessories:</b> Include gel combs, spacers, and a buffer reservoir</li> </ul>																								
40	<b>Laminar Flow Hood</b>	<p><b>Laminar Air Flow Cabinet</b></p> <p>Reservation on/off control for fan and UV light, High quality quiet fan, Universal electrical outlet, Cumulative running time of HEPA filter, Audio and visual alarm for filter failure</p> <p><b>Technical Specifications:</b></p> <table border="0"> <tr> <td>Laminar Flow:</td> <td>Vertical</td> </tr> <tr> <td>Cleanliness:</td> <td>ISO Class 5, ISO-14644-1</td> </tr> <tr> <td>CFU:</td> <td>≤0.5/Dish*h (90mm petri dish)</td> </tr> <tr> <td>Air Velocity:</td> <td>0.30 0.50 m/s</td> </tr> <tr> <td>Noise:</td> <td>≤62db</td> </tr> <tr> <td>Vibration:</td> <td>≤4µm</td> </tr> <tr> <td>Illumination:</td> <td>≥900Lux</td> </tr> <tr> <td>Voltage:</td> <td>220V/50Hz</td> </tr> <tr> <td>Power Consumption:</td> <td>1000VA</td> </tr> <tr> <td>Internal Dimensions (WxDxH)mm:</td> <td>1220x650x645</td> </tr> <tr> <td>External Dimensions (WxDxH)mm:</td> <td>1360x720x1760</td> </tr> </table> <p><b>Country of Origin:</b> USA, UK, Europe, Japan or Equivalent</p>	Laminar Flow:	Vertical	Cleanliness:	ISO Class 5, ISO-14644-1	CFU:	≤0.5/Dish*h (90mm petri dish)	Air Velocity:	0.30 0.50 m/s	Noise:	≤62db	Vibration:	≤4µm	Illumination:	≥900Lux	Voltage:	220V/50Hz	Power Consumption:	1000VA	Internal Dimensions (WxDxH)mm:	1220x650x645	External Dimensions (WxDxH)mm:	1360x720x1760	<b>1</b>	
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**Stamp & Signature of Bidder** \_\_\_\_\_

### 8.9. Contract Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Technical Bid]*

THIS AGREEMENT made on the \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between *[name of Procuring Agency]* of *[country of Procuring Agency]* (hereinafter called "the Procuring Agency") on the one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called "the Supplier") on the other part:

WHEREAS the Procuring Agency invited Bids for certain goods and ancillary services, viz., *[brief description of goods and services]* and has accepted a Bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

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

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

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Procuring Agency)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Supplier)

### 8.10. Financial Bid Form/Price Schedule

/Bidders are required to provide financial bid in the following format. The document must be printed on the company's letterhead, duly signed, and stamped, and it should be included with the Financial Bid

Sr no	Item Name	Specification quoted by the bidder	Quantity	Unit Price (with GST)	Total price (with GST)
01					
Total price in figures					
Total price in words					

Total Bid value (against which a Bid shall be evaluated) in figure.  
 Total Bid value (against which a Bid shall be evaluated) in words.

**Note:**

In case of difference between unit price and total price, unit price shall prevail and total price shall be "final". *(Please refer ITB clause 2.5.6).*

In case of difference between amount in "words" and amount in "figures", amount in "words" shall be considered final.

**Stamp & Signature of Bidder** \_\_\_\_\_

## 8.11. Bid Security Form

*[To be signed & stamped by the Bidder and reproduced on the letter head. To be attached with Financial Bid]*

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

KNOW ALL PEOPLE by these presents that WE *[name of bank]* of *[name of country]*, having our registered office at *[address of bank]* (hereinafter called "the Bank"), are bound unto *[name of Procuring Agency]* (hereinafter called "the Procuring Agency") in the sum of for which payment well and truly to be made to the said Procuring Agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

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

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

This guarantee will remain in force up to and including thirty (30) days after the period of Bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

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*[Signature of the bank]*

## Section IX- Check List

*[To be signed and stamped and presented on Bidder's letter head pad]*

The provision of this checklist is essential prerequisite along with submission of tenders (with technical proposal).

Sr. #	Detail	Responsive	Non-responsive
1	2% Bid Security of estimated cost of articles / items given by the department. The Original Bid security must be submitted at the time of online bid opening.		
2	Active Registration with Income Tax Authorities (National Tax Number NTN) at least three years old		
3	Copy of active Registration with Sales Tax Authorities (STRN)		
4	Copy of active Registration (Professional Tax Certificate)		
5	Technical Bid Form (as per <b>form 8.8</b> of Bidding documents) on letter head of the firm duly signed and stamped.		
6	Financial Bid Form (as per <b>form 8.10</b> of Bidding documents) on letter head of the firm, duly signed and stamped.		
7	Bid Security Form (as per <b>form 8.11</b> of Bidding documents) on letter head of the firm, duly signed and stamped.		
8	Performance Guarantee Form (as per <b>form 8.7</b> of Bidding documents) on letter head of the firm, duly signed and stamped.		
9	General Information Form (as per <b>form 8.5</b> of Bidding documents) on letter head of the firm duly signed and stamped.		
10	<p>Affidavit (as per <b>form 8.6</b>) on non-judicial Stamp Paper of Minimum Rs. 300/-</p> <ul style="list-style-type: none"> <li>(i) The firm is not blacklisted by the procuring agency.</li> <li>(ii) The documents/photocopies provided with Bid are authentic. In case of any fake/bogus document look at any stage. They shall be black listed as per Rules / Laws.</li> <li>(iii) Affidavit for correctness of information.</li> </ul> <p>Affidavit for correction of information Form (as per <b>form</b> of Bidding documents) on letter head of the firm, duly signed and stamped.</p>		
11	<ul style="list-style-type: none"> <li>i. Work order / supply order / purchase order of previous relevant experience.</li> <li>ii. Company profile. Staff list along with location and address <i>[where applicable]</i>.</li> </ul>		

	iii. Bidders profile Form (as per <b>form</b> of Bidding documents) on letter head of the firm, duly signed and stamped.		
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**Stamp & Signature of Bidder** \_\_\_\_\_