



## **BIDDING DOCUMENT**

*Single Stage - Two Envelope Bidding Procedure*

### **PROCUREMENT OF LAB. EQUIPMENT / INSTRUMENTS**

**For**

**Establishment of Department of Serobiology and  
providing Power Generation by Gas along with Heat  
Recovery System at Ojha Campus of Dow University of  
Health Sciences**

**NIT No. DUHS/DP/2019/-75 Dated 08 May 2019**

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# A: Instructions to Bidders. (ITB)

## 1. INTRODUCTION

### 1. GENERAL

1.1 Dow University of Health Sciences (DUHS), Karachi has allocated fund towards the cost of **“Procurement of Lab. Equipment / Instruments for Establishment of Department of Serobiology and providing Power Generation by Gas along with Heat Recovery System at Ojha Campus of Dow University of Health Sciences”**. It is intended that part of the proceeds of this fund will be applied to eligible payments under the contract for the Procurement of goods.

### 2. ELIGIBLE BIDDERS

2.1. This Invitation for Bids is open to all original Manufacturers, within Pakistan and abroad, and their Authorized Agents / Importers / Bidders / Distributors.

2.2. Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the University to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.

2.3. Government-owned enterprises may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Federal Govt. or Provincial Govt.

2.4. Bidder should not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by any Government organization in accordance with sub **clause 35.1**.

### 3. ELIGIBLE GOODS

3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries and all expenditures made under the contract shall be limited to such goods and services. For this purpose, the term “Goods” includes any Goods that are the subject of this Invitation for Bids and the term “Services” shall include related services such as transportation, insurance etc. **The “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 through manufacturing or processing, or substantial and major assembly of ingredients / components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

## **2. THE BIDDING PROCEDURE**

### **4. Single Stage - Two Envelope Procedure**

- (a) Bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal;
- (b) Envelopes shall be marked as “FINANCIAL PROPOSAL” and TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion;
- (c) Initially, only the envelope marked “TECHNICAL PROPOSAL” shall be opened;
- (d) Envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of the procuring agency without being opened;
- (e) Procuring agency shall evaluate the technical proposal in a manner prescribed in advance, without reference to the price and reject any proposal which does not conform to the specified requirements;
- (f) No amendments in the technical proposal shall be permitted during the technical evaluation;
- (g) Financial proposals of technically qualified bids shall be opened publicly at a time, date and venue announced and communicated to the bidders in advance;
- (h) Financial proposal of bids found technically non-responsive shall be returned un-opened to the respective bidders; and
- (j) Bid found to be the lowest evaluated or best evaluated bid shall be accepted.

4.2 The bids shall be opened in the presence of bidders or their authorized representative at the prescribed time, date and venue.

## **3. THE BIDDING DOCUMENTS**

### **5. CONTENTS OF BIDDING DOCUMENTS**

#### **5.1 The Bidding Documents:**

In addition to the Invitation for Bids (IFB) / Tender Notice, the bidding documents include:

- i. Instructions to Bidders (ITB);
- ii. General Conditions of Contract (GCC);
- iii. Special Conditions of Contract (SCC);
- iv. Schedule of Requirements;
- v. Technical Specifications;
- vi. Contract Form;
- vii. Manufacturer's Authorization Form;
- viii. Performance Guarantee Form;
- ix. Bid Form; and
- x. Price Schedules.

5.2 In case of discrepancies between the Invitation for Bids (IFB) / Tender Notice and the Bidding Documents, the Bidding Documents shall take precedence.

5.3 The bidders are expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish complete

information required in the bidding documents or to submit a bid not substantially responsive to the bidding documents may result in rejection.

## 6. AMENDMENT OF BIDDING DOCUMENTS

- 6.1 At any time prior to the deadline for submission of bids, the Procuring Agency may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the bidding documents by amendment.
- 6.2 All prospective bidders that have received the bidding documents will be notified the amendment(s) in writing, which will be binding on them.
- 6.3 In order to allow prospective bidders reasonable time to take the amendment(s) into account in preparing their bids, the Procuring Agency may, at its discretion, extend the deadline for submission of the bids.

## 4. PREPARATION OF BIDS

### 7. LANGUAGE OF BID

- 7.1 Preparation of Bids  
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 in English. Supporting documents and printed literature furnished by the bidder may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case for purposes of interpretation of the Bid, the translated version shall prevail.

### 8. DOCUMENTS COMPRISING THE BID

- 8.1 The bid prepared by the Bidder shall comprise the following:
  - (a) Bid Form;
  - (b) Price Schedule;
  - (c) Documentary evidence to the effect that the Bidder is eligible to bid and is qualified to perform the Contract if its bid is accepted;
  - (d) Documentary evidence to the effect that the goods to be supplied by the Bidder are eligible goods and related services as defined in clause-3 and conform to the bidding documents; and
  - (e) Bid Security.

### 9. BID PRICES

- 9.1 The prices and discounts quoted by the Bidder in the Bid Form and in the Price Schedules shall conform to the requirements specified below.
- 9.2 All items in the Schedule of Supply must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their

prices shall be assumed to be included in the prices of other items. Items not listed in the Price Schedule shall be assumed not to be included in the Bid.

- 9.3 The price to be quoted in the Bid Form shall be the total price of the Bid excluding any discounts offered.
- 9.4 The Bidder shall quote any unconditional discounts and the methodology for their application in the Bid Form.
- 9.5 Prices proposed in the Price Schedule Forms for Goods, shall be disaggregated, when appropriate. This disaggregation shall be solely for the purpose of facilitating the comparison of Bids by the Procuring Agency. This shall not in any way limit the Procuring Agency's right to contract on any of the terms offered:
  - (a) Price Schedule For Goods offered from within the Procuring Agency's country:
    - (i) Detailed Specification of Stores
    - (ii) Model / Cat No.
    - (iii) Name of Manufacturer.
    - (iv) Country of Origin
    - (v) Quantity of Stores
    - (vi) Unit
    - (vii) the unit price of the goods quoted on delivered duty paid (DDP) basis, including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of goods, or on the previously imported goods of foreign origin;
    - (viii) If there is no mention of taxes, the offered/quoted price will be considered as inclusive of all prevailing taxes/duties. The benefit of exemption from or reduction in the GST or other taxes during the contract period shall be passed on to the Procuring Agency; and
    - (ix) the total price for the item.
  - (b) Price Schedule For Goods offered from outside the Procuring Agency's country:
    - (i) Detailed Specification of Stores
    - (ii) Model / Cat No.
    - (iii) Name of Manufacturer.
    - (iv) Country of Origin
    - (v) Quantity of Stores
    - (vi) Unit
    - (vii) Currency of Bid

- (viii) the unit price of the goods quoted on CFR / CNF/ C&F / CPT basis (Karachi Port), in the Procuring Agency's country;
- (ix) the total price for the item in foreign currency.

- 9.6 Final Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected.
- 9.7 If it was proved during the contract period that bidder has supplied the contracted item(s) to any other purchasing agency in Pakistan at the prices lower than the contracted prices, the balance amount will be deducted from the bill and / or security deposit of the bidder.

## 10. BID CURRENCIES

- 10.1 Prices shall be quoted in Pakistani Rupees for goods offered within the Procuring Agency's country on delivered duty paid (DDP).
- 10.2 Price shall be quoted in foreign currency for goods offered outside the Procuring Agency's country on CFR / CNF/ C&F / CPT Basis.

## 11. DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATION

- 11.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring Agency's satisfaction:
  - (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in the Procuring Agency's country;
  - (b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
  - (c) that, in the case of a Bidder not doing business within the Procuring Agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Bidder's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
  - (d) that the Bidder meets the evaluation & qualification criteria of bidding document.

## 12. DOCUMENTS ESTABLISHING GOODS' ELIGIBILITY AND CONFORMITY TO BIDDING DOCUMENTS

- 12.1 Pursuant to ITB Clause 8, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.

- 12.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.
- 12.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:
- (a) a detailed description of the essential technical and performance characteristics of the goods; and
  - (b) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.
- 12.4 For purposes of the commentary to be furnished pursuant to ITB Clause 12.3(b) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring Agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

### 13. BID SECURITY

- 13.1 The Bidder shall furnish, as part of its proposal, a Bid Security in the amount and currency specified in the Bid Data Sheet and SCC. Unsuccessful bidders' Bid Security will be returned soon after approval of the successful Bidder. The successful Bidder's Bid Security will be discharged upon signing of contract and furnishing the Performance Security bond, duly guaranteed by a scheduled bank.
- 13.2 The Bid Security shall remain valid for a period of 28 days beyond the bid validity period.
- 13.2 The Bid Security is required to protect the Procuring Agency against the risk of Bidder's conduct, which would warrant the Security's forfeiture;
- 13.3 The Bid Security may be forfeited:
- (a) if a Bidder withdraws its bid during the period of bid validity; or
  - (b) in the case of a successful Bidder, the Bidder fails:
    - (i) to sign the Contract; or
    - (ii) to complete the supplies in accordance with the General Conditions of Contract.



14. BID VALIDITY

14.1 Bids shall remain valid for 90 days from the date of its opening. A bid valid for a shorter period shall be treated as non-responsive and rejected.

14.2 The Procuring Agency shall ordinarily be under an obligation to process and evaluate the bids within the stipulated bid validity period. However, for any reasons to be recorded in writing, if an extension is considered necessary, all those who have submitted their bids shall be asked to extend their respective bid validity period.

15. ALTERNATIVE BIDS

15.1 If any bidder elects to submit alternative proposal(s), complete information on the alternative items including all data relating to technical specifications shall be given as per following table.

Sr. No.	Description of Stores	Statement of Variation from Specifications	Reasons for Variations

**5. SUBMISSION OF BIDS**

16. SEALING AND MARKING OF BIDS

16.1 The envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) bear the specific identification Name and Number of this bidding process indicated in the Bid Data Sheet; and
- (c) bear the Procuring Agency's name and address i.e. Dow University of Health Sciences (Ojha Campus), Procurement Directorate, Prof. Masood Hameed Khan Library Building, SUPARCO Road, off Main University Road, Gulzar-e-Hijri, Scheme No. 33, Karachi and a statement: "DO NOT OPEN BEFORE," the time and date specified in the Bid Data Sheet.

16.2 If all envelopes are not sealed and marked as required, the Procuring Agency will assume no responsibility for the misplacement or premature opening of the bid.

17. DEADLINE FOR SUBMISSION OF BIDS

17.1 Bids must be submitted by the bidders and received by the Procuring Agency at the specified address not later than the time and date specified in the Bid Data Sheet.

17.2 The Procuring Agency may, at its convenience, extend this deadline for submission of bids by amending the bidding documents in which case all rights and obligations of the Procuring Agency and the Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

18. LATE BID

18.1 Any bid received by the Procuring Agency after the deadline for submission of bids prescribed by the Procuring Agency shall not be entertained and returned unopened to the bidder.

19. WITHDRAWAL OF BIDS

19.1 The Bidder may after its submission withdraw prior to the expiry of the deadline prescribed for submission of bids.

**6. OPENING AND EVALUATION OF BIDS**

20. OPENING OF BIDS BY THE PROCURING AGENCY

22.1 The Procuring Agency will open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register evidencing their attendance.

22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring Agency, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 18.

22.3 Bids (and modifications sent pursuant to ITB Clause 19) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.

21. CLARIFICATION OF BIDS

21.1 An interested bidder, who has obtained bidding documents, may request for clarification of contents of the bidding document in writing, provided they are received at least five (05) calendar days prior to the date of opening of bid. The clarification and its replies will be shared with all prospective bidders.

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

## 22. PRELIMINARY EXAMINATION

- 22.1 The Procuring Agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 22.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 22.3 The Procuring Agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.
- 22.4 Prior to the detailed evaluation, pursuant to ITB Clause 23 the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security, Applicable Law, and Taxes and Duties, 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.
- 22.5 If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

## 23. EVALUATION AND COMPARISON OF BIDS

- 23.1 The Procuring Agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 22.
- 23.2 The Procuring Agency's evaluation of a bid will be on delivered duty paid (DDP) inclusive of prevailing duties/taxes and CFR / CNF/ C&F / CPT basis and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 23.3 The Procuring Agency's evaluation of a bid will take into account, in addition to the bid price quoted, one or more of the following factors, and quantified in ITB Clause 24:
- (a) **Incidental costs**  
Incidental costs provided by the bidder will be added by Procuring Agency to the bid price at the final destination.

- (b) **Delivery schedule offered in the bid**  
The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement.
- (c) **Deviations in payment schedule from that specified in the Special Conditions of Contract**  
Bidders shall state their bid price for the payment schedule outlined in the SCC. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Procuring Agency may consider the alternative payment schedule offered by the selected Bidder.
- (d) **Cost of components, mandatory spare parts, and service**  
The Procuring Agency will estimate the cost of spare parts usage in the initial period of operation, based on information furnished by each Bidder, as well as on past experience of the Procuring Agency or other procuring agencies in similar situations. Such costs shall be added to the bid price for evaluation.
- (e) **Availability of spare parts and after sales services for the equipment offered in the bid**  
The cost to the Procuring Agency of establishing the minimum service facilities and parts inventories, as outlined in the Bid Data Sheet or elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.
- (f) **Projected operating and maintenance costs during the life of the equipment;**  
Since the operating and maintenance costs of the goods under procurement form a major part of the life cycle cost of the equipment, these costs will be evaluated in accordance with the criteria specified in the Bid Data Sheet or in the Technical Specifications.
- (g) **Performance and productivity of the equipment offered**  
Bidders shall state the guaranteed performance or efficiency in response to the Technical Specification. For each drop in the performance or efficiency below the norm of 100, an adjustment for an amount will be added to the bid price, representing the capitalized cost of additional operating costs over the life of the plant, using the methodology specified in the Bid Data Sheet or in the Technical Specifications.

23.4 For the purpose of comparison of bids quoted in different currencies, price shall be converted into Pakistani Rupees. The rate of exchange shall be the selling rate prevailing seven working days before the date of opening of the bids, as notified by the National Bank of Pakistan (NBP) / State Bank of Pakistan (SBP).

## 24. EVALUATION / QUALIFICATION CRITERIA

- 24.1 The procuring agency reserves the right to evaluate and compare the bids on itemized basis OR on the basis of a group of similar nature goods OR goods compatible with each other.
- 24.2 The following merit point system for weighing evaluation factors/criteria will be applied for technical proposals.
- 24.3 Bidders achieving minimum 70 marks will be considered only for further process. Documentary evidence must be attached in support of each parameter.
- 24.4 Any Bid not meeting the mandatory requirements of evaluation criteria will be disqualified / rejected straight away and will not be considered for further evaluation.**

### A. PRODUCT EVALUATION

S#	PARAMETERS / SUB-PARAMETERS	Total Marks
<b>1</b>	<b>Conformity to the Purchaser's Specifications (Mandatory)</b>	<b>25</b>
1.1	Fully compliant with the required specifications	25
1.2	Compliant with minor deviation (up to 10% subject to main function is not effected)	20
1.3	Non-compliant to required specifications	Disqualify
<b>2</b>	<b>Product Certification</b>	<b>15</b>
2.1	USA Food & Drug Administration (USA-FDA) and European Community (CE) MDD or Japan Industrial Standard (JIS) / Japan Quality Assurance Organization (JQAO) / Certificate issued by Ministry of Health, Labour and Welfare Govt. of Japan	15
2.2	European Community (CE) MDD and Japan Industrial Standard (JIS) / Japan Quality Assurance Organization (JQAO) / Certificate issued by Ministry of Health, Labour and Welfare Govt. of Japan	12
2.3	USA - Food and Drug Administration (USA-FDA)	10
2.4	European Community (CE) MDD	08
2.5	Japan Industrial Standard (JIS)/Japan Quality Assurance Organization (JQAO)/ Certificate issued by Ministry of Health, Labour and Welfare Govt. of Japan	08
	<b>TOTAL MARKS PRODUCT EVALUATION (A)</b>	<b>40</b>

## B. BIDDER EVALUATION

S#	PARAMETERS / SUB-PARAMETERS	Total Marks
<b>3.</b>	<b>Manufacturer's Authorization (Mandatory)</b>	<b>10</b>
3.1	Valid Authorization of Manufacturer of goods	10
3.2	Non-submission of valid manufacturer's authorization	Disqualify
<b>4.</b>	<b>Legal Requirement (Mandatory)</b>	<b>08</b>
4.1	Bid Form ( <b>without prices</b> )	2
4.2	Tender Purchase Receipt	2
4.3	Taxation Certificate (NTN and GST)	2
4.4	Affidavit on Stamp Paper of Rs. 100/- that: - Bidder is not involved in any litigation with the Public / Private Sector University / Government / Semi Government Organization (Provincial / Federal / Local). - Bidder is not black listed by any Public / Private Sector University / Government / Semi Government Organization (Provincial/Federal / Local).	2
<b>5.</b>	<b>Technical Staff</b>	<b>10</b>
5.1	Diploma Engineers in relevant field (1 mark for each)	4
5.2	Graduate Engineers in relevant field, for High Tech / Critical equipment (2 marks for each)	6
<b>6.</b>	<b>Networking and Training</b>	<b>6</b>
6.1	Networking setup across Pakistan (1 mark for each setup)	4
6.2	Certificate to the effect that the firm will provide training in the use of equipment to the relevant technical staff. Training plan must be attached with certificate	2
<b>7.</b>	<b>Delivery Schedule</b>	<b>4</b>
7.1	Up to 8 Weeks (CFR / CNF/ C&F / CPT or DDP)	4
7.2	More than 8 Weeks	0
<b>8.</b>	<b>Past Experience / Performance of Last 3 years</b>	<b>5</b>
8.1	Bidder's prior experience for supplying the <b>quoted or better equipment</b> to the Public / Private Sector Universities / Government / Semi-Government Organization (Provincial / Federal / Local) in Pakistan <b>during the last 3 years</b> . Documentary evidence in shape of Purchase Order and Installation Report / Satisfactory performance certificate must be attached. <b>(1 mark for supply of each equipment / instrument)</b>	5
<b>9.</b>	<b>Average Annual Turnover during the last three (03) years (financial year 2015-16, 2016-17 &amp; 2017-18)</b>	<b>8</b>
9.1	Turn over below 50 million	0
9.2	Turn over above 50 million	2
9.3	Turn over above 75 million	4
9.4	Turn over above 100 million	8
<b>10.</b>	<b>Financial Statements for financial year 2015-16, 2016-17 &amp; 2017-18</b>	<b>4</b>
10.1	Audited statement of Accounts, for last three years	2
10.2	Provision of copy of Income Tax Return Forms, for last three years	2

S#	PARAMETERS / SUB-PARAMETERS	Total Marks
<b>11.</b>	<b>Bonus points</b>	<b>5</b>
11.1	Extended Warranty period free of cost (at least one year) (the bidder who offered greater period will get the marks)	5
	<b>TOTAL BIDDER EVALUATION (B)</b>	<b>60</b>
	<b>GRAND TOTAL (A + B)</b>	<b>100</b>

24.5 Only those item's Financial offer will be announced / considered which were technically qualify by the Committee. Bidders are advised to give separate sealed envelope (s) of every quoted item and should mention the name of the item and tender serial number on the front of the sealed envelope in **BOLD and legible letters** to avoid confusion, otherwise, the Financial Proposal Envelope will be opened on qualified item basis and it will not be challenged by the bidder that procuring agency has opened the Financial Proposal of the disqualified items besides qualified items.

24.6 Litigation History  
The Bidder should not be involved in any litigation with the Public / Private Sector University / Government Organization (Provincial / Federal / Local), else their bid will be rejected.

25. CONTACTING THE PROCURING AGENCY

25.1 No bidder shall contact the Procuring Agency on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded. If any bidder wishes to bring additional information to the notice of the Procuring Agency, it may do so in writing.

25.2 Any direct or indirect effort by a bidding firm to influence the Procuring Agency during the process of selection of a bidder or award of contract may besides rejection of its bid result into its disqualification from participation in the Procuring Agency's future bids.

26. REJECTION OF BIDS

26.1 Notwithstanding anything stated here-before after the Procuring Agency may reject any or all bids at any time prior to the acceptance of a bid. The Procuring Agency may upon request, communicate to a bidder, the grounds for its rejection, but shall not be under obligation to justify those grounds.

27. RE-BIDDING

27.1 If the Procuring Agency has rejected all bids, it may move for a re-bidding or may seek any alternative method of procurement under the provisions of the prevailing Rules.

28. ANNOUNCEMENT OF EVALUATION REPORT

28.1 The Procuring Agency will announce the Evaluation Report and the resultant acceptance or rejection of bids at least seven days prior to the award of procurement contract.

**25 AWARD OF CONTRACT**

29. ACCEPTANCE OF BID AND AWARD CRITERIA

29.1 The bidder with lowest evaluated bid under clause 22, 23 & 24, if not in conflict with any other law, rules, regulations or policy of the Government, will be awarded the contract within the original or extended period of bid validity.

30. PROCURING AGENCY'S RIGHT TO VARY QUANTITIES

30.1 The Procuring Agency reserves the right to increase or decrease the quantity of stores originally specified in the Price Schedule and Schedule of Requirements without any change in unit price or other terms and conditions.

31. LIMITATIONS ON NEGOTIATIONS

31.1 The Procuring Agency reserves the right to hold negotiation of rates, delivery schedule or completion schedule for all the items or any item.

31.2 Negotiations will not be used to change substantially:

- i. the technical quality or details of the requirement, including the tasks or responsibilities of the bidder or the performance of the goods;
- ii. the terms and conditions of the Contract and;
- iii. anything affecting the crucial or deciding factors in the evaluation of the proposals / bid and / or selection of successful bidder..

32. NOTIFICATION OF AWARD

32.1 Prior to the expiry of the original or extended period of bid validity, the successful bidder will be informed in writing of acceptance of its bid by the Procuring Agency.

33. SIGNING OF CONTRACT

33.1 While conveying acceptance of bid to the successful bidder, the Procuring Agency will send the bidder Contract Form provided in the bidding documents, incorporating all points of agreement between the Parties.

33.2 Ten days after the official announcement of the award, both the successful Bidder and the Procuring Agency will sign and date the Contract on legal stamp paper valuing 0.35% of the value of contract, (cost shall be borne by the bidder). In case the successful Bidder, after completion of all codal



formalities, shows inability to sign the Contract, its Bid Security shall be forfeited. The firm may also be blacklisted from taking part in any future bidding of Procuring Agency for a period upto five Years. In such a situation, the Procuring Agency may make the award to the next lowest evaluated responsive bidder or move for re-bid.

34. PERFORMANCE SECURITY

34.1 The successful Bidder shall furnish Performance Security. Upon submission of Performance Security the Bid Security will be returned to the Bidder. The amount of Performance Security is specified at Bid Data Sheet.

34.2 Failure of the successful Bidder to comply with any of the requirements specified in this document shall be considered as sufficient grounds for the annulment of the award and forfeiture of the Bid Security, in which event the Procuring Agency may make the award to the next lowest evaluated Bidder at the risk and cost of the former.

35. CORRUPT OR FRAUDULENT PRACTICES

- 35.1 (a) the Procuring Agency and the Bidders / Manufacturers / Contractors are expected to observe the highest standard of ethics during the procurement and execution of the Contract. In pursuance of this policy, the relevant terms / phrases as may apply are defined below:
- (i) "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in Contract execution; and
  - (ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract to the detriment of the Procuring Agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non competitive levels and to deprive the Procuring Agency of the benefits of free and open competition;
- (b) the Procuring Agency will take all possible administrative / legal measures if it is found that the Bidder recommended for award was / is engaged in corrupt or fraudulent practice(s) before or after signing of the contract resulting into the conviction of the proprietor under criminal case besides blacklisting of the firm either indefinitely or for such period of time as may be determined by the Procuring Agency.
- (c) will declare a firm ineligible, either indefinitely or for a stated period of time, for the award of a Contract if it, at any time, determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing a Contract.

## **B: General Conditions of Contract (GCC)**

### **1. DEFINITIONS**

1.1 In this Contract, the following terms shall be interpreted as indicated:

- (a) "The Contract" means the agreement entered into between the Procuring Agency and the Bidder, 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 Bidder under the Contract for the full and proper performance of its Contractual obligations.
- (c) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Procuring Agency under the Contract.
- (d) "Related Services" means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance, printing of special instructions on the label and packing, design and logo of the Procuring Agency, transportation of goods up to the desired destinations and other such obligations of the Bidder covered under the Contract.
- (e) "GCC" means the General Conditions of Contract contained in this section.
- (f) "SCC" means the Special Conditions of Contract.
- (g) "The Procuring Agency" means the Dow University of Health Sciences, Karachi.
- (h) "The Bidder" means the individual or firm supplying the goods under this Contract.
- (i) "Day" means official working day excluding national holidays.

### **2. APPLICATION**

2.1 These General Conditions shall apply to the extent that they are not inconsistent with provisions of other parts of the Contract.

### **3. STANDARDS**

3.1 The goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications goods eligibility criteria.

#### 4. USE OF CONTRACT DOCUMENTS AND INFORMATION

- 4.1 The Bidder 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 Bidder in the performance of the Contract. Disclosure to such employed person shall be made in confidence and shall extend only, as far as may be necessary, to such performance and not further or otherwise.
- 4.2 Any document, other than the Contract itself, shall remain the property of the Procuring Agency and shall be returned (all copies) on completion of the Bidder's performance under the Contract.
- 4.3 The Bidder shall permit the Procuring Agency to inspect the Bidder's accounts and records relating to the performance of the Supplies.

#### 5. PATENT RIGHTS

- 5.1 The Bidder 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 country.

#### 6. ENSURING STORAGE ARRANGEMENTS

- 6.1 To ensure storage arrangements for the intended supplies, the Bidder shall inform the Procuring Agency at least two weeks prior to the arrival of the consignments at its store/warehouse. However, in case no space is available at its store/warehouse at the time of supply, the Procuring Agency shall, seven days prior to such a situation, inform the Bidder, in writing, of the possible time-frame of availability of space by which the supplies could be made. In case the Bidder abides by the given time frame, he will not be penalized for delay.

#### 7. INSPECTIONS, TESTS AND TRAINING

- 7.1 The Procuring Agency or its representative shall have the right to inspect and/or test the goods to confirm their conformity to the Contract specifications at the cost payable by the Bidder.
- 7.2 The Procuring Agency's right to inspect, test and, where necessary, reject the goods either at Bidder's premises or upon arrival at Procuring Agency's destinations shall in no way be limited or waived by reasons of the goods having previously been inspected, tested, and approved by the Procuring Agency or its representative prior to the goods shipment from the manufacturing point.
- 7.3 Any specialized training required for the smooth operation of the goods shall be the responsibility of the Bidder.

8. DELIVERY AND DOCUMENTS

8.1 The Bidder shall in accordance with the terms specified in the Schedule of Requirements make delivery of the goods. Details of documents to be furnished by the Bidder are specified in SCC.

9. INSURANCE

9.1 The goods supplied under the Contract shall be delivered to the Procuring Agency after the payment of all taxes and customs duty, cess, octroi charges etc. Risk will be transferred to the Procuring Agency only after the delivery of these goods has been made to the Procuring Agency. Hence, payment of insurance premium, if any, shall be the responsibility of the Bidder.

10. TRANSPORTATION

10.1 The Bidder shall arrange such transportation of the goods as is required to prevent them from damage or deterioration during transit to their final destination as indicated in the Schedule of Requirements.

10.2 The goods shall be supplied on "**D.D.P**" basis at the Dow University of Health Sciences, Karachi AND / OR "**CFR / CNF/ C&F / CPT**" Basis at Karachi Port as per Schedule of Requirements on the risk and cost of the Bidder. Transportation including loading/unloading of goods shall be the responsibility of Bidder.

11. INCIDENTAL SERVICES

11.1 The Bidder will be required to provide to the Procuring Agency incidental services the cost of which should be included in the total bid price.

12. WARRANTY / GUARANTEE

12.1 The term period of warranty / guarantee mean the period of twelve (**12**) **months or in accordance with extended warranty period** from the date on which the Stores have been put into operation and demonstrated to the University staff. In any case this period shall not exceed six months beyond the warranty expiration period from the date of taking-over of goods.

12.2 During the period of warranty / guarantee, the Contractor shall remedy, at his / her expense, all defects in design, materials, and workmanship that may develop or are revealed under normal use of the goods upon receiving written notice from the University; the notice shall indicate in what respect the goods are faulty.

12.3 The provisions of this Clause include all the expenses that the Contractor may have to incur for delivery and installation of such replacement parts, material and equipment as are needed for satisfactory operation of the goods at the University premises.

- 12.4 The contractor shall provide warranty / guarantee for supply of kits and chemicals, consumables, films etc. for at least 05 years (where applicable).
- 12.5 The contractor shall remain responsible for providing after sale services even after expiry of warranty / guarantee period and sign a Service Contract including Parts with Procuring Agency for 05 years (minimum). Bidder shall separately quote the price of service contract inclusive of parts.
- 12.6 In case of consumable items, kits, chemicals, films etc. the contractor shall remain responsible for specificity, efficacy & sensitivity with maximum period of expiry as much allowed by manufacturer.
- 12.7 The Procuring Agency shall promptly notify the Bidder in writing of any claims arising out of this warranty.

### 13. PAYMENT

- 13.1 The method and conditions of payment to be made to the Bidder under this Contract are specified in SCC.

### 14. ASSIGNMENT

- 14.1 The Bidder shall not assign, in whole or in part, its obligations to perform to another party under this Contract, except with the Procuring Agency's prior written consent.

### 15. DELAYS IN THE BIDDER'S PERFORMANCE

- 15.1 Delivery of the goods shall be made by the Bidder in accordance with the time schedule prescribed by the Procuring Agency in the Schedule of Requirements / Contract Award.
- 15.2 If at any time in the course of performance of the Contract, the Bidder encounters anything impeding timely delivery of the goods, he shall promptly notify the Procuring Agency in writing of the causes of delay and its likely duration. As soon as practicable, after receipt of the Bidder's notice, the Procuring Agency shall evaluate the situation and may, depending on merits of the situation, extend the Bidder's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the Parties by a supplementary Contract to be treated as an addendum to the original contract.
- 15.3 Any undue delay by the Bidder in the performance of its delivery obligations shall render it liable to the imposition of liquidated damages.

### 16. PENALTIES LIQUIDATED DAMAGES

- 16.1 In case of late delivery, even for reasons beyond control, penalty as specified in SCC will be imposed upon the Bidder / Manufacturer. The Procuring Agency may consider termination of the Contract in case there is an unusual

delay in the delivery of the goods whereby the ongoing activity is likely to be affected seriously.

## 17. TERMINATION FOR DEFAULT

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

- (a) the Bidder fails to deliver any or all installments of the goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring Agency;
- (b) the Bidder fails to perform any other obligation(s) under the Contract to the satisfaction of the Procuring Agency; and
- (c) the Bidder, in the judgment of the Procuring Agency, has engaged itself in corrupt or fraudulent practices before or after executing the Contract.

## 18. FORCE MAJEURE

18.1 The Bidder shall not be liable for forfeiture of its Performance Guaranty/ Bid Security, or termination / blacklisting for default if and to the extent that this delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure. For the purposes of this Clause Force Majeure means an act of God or an event beyond the control of the Bidder and not involving the Bidder's fault or negligence directly or indirectly purporting to mal-planning, mismanagement and /or lack of foresight to handle the situation. Such events may include but are not restricted to acts of the Procuring Agency in its sovereign capacity, wars or revolutions, fires, floods, earthquakes, strikes, epidemics, quarantine restrictions and freight embargoes. If a Force Majeure situation arises, the Bidder shall promptly notify the Procuring Agency in writing with sufficient and valid evidence of such condition and the cause thereof. The Committee, constituted for redressing grievances, will examine the pros and cons of the case and all reasonable alternative means for completion of purchase order under the Contract and will submit its recommendations to the competent authority. However, unless otherwise directed by the Procuring Agency in writing, the Bidder shall continue to perform its obligations under the Contract as far as is reasonably practical and shall seek reasonable' alternative means for performance not prevented by the Force Majeure event.

## 19. TERMINATION FOR INSOLVENCY

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

## 20. ARBITRATION AND RESOLUTION OF DISPUTES

20.1 The Procuring Agency and the Bidder shall make every effort to resolve amicably by direct informal negotiations any disagreement or dispute arising between them under or in connection with the Contract.

20.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring Agency and the Bidder have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred to the Arbitrator for resolution through arbitration.

20.3 In case of any dispute concerning the interpretation and/or application of this Contract is to be settled through arbitration, the arbitrator to be appointed with the approval of the University's Syndicate. The decisions taken and/or award given by the sole arbitrator shall be final and binding on the Parties.

## 21. PACKING

21.1 The Bidder 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.

21.2 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.

## 22. GOVERNING LANGUAGE

22.1 The Contract shall be written in English language. All correspondence and other documents pertaining to the Contract, which are exchanged by the Parties, shall be written in English.

## 23. APPLICABLE LAW

23.1 This Contract shall be governed by the laws of Pakistan and the courts of Karachi - Pakistan shall have exclusive jurisdiction.

## C: NOTICE INVITING TENDER (NIT)

No. DUHS/DP/2019/-75 Dated 08 May 2019

Dow University of Health Sciences (DUHS), Karachi invites bids for the **Procurement of Lab. Equipment / Instruments for Establishment of Department of Serobiology and providing Power Generation by Gas along with Heat Recovery System at Ojha Campus of Dow University of Health Sciences** on DDP / CFR / CNF/ C&F / CPT basis from authorized Dealers / Distributors / Manufacturers, having registration with Federal Board of Revenue (FBR) for Income Tax and Sales Tax.

Tender Fee	Rs. 2,000/- (Rupees two thousand only) Non-Refundable in shape of Pay Order / Demand Draft in favor of Dow University of Health Sciences, Karachi
Bidding Procedure	Single Stage – Two Envelope Procedure
Bid Security	2% of the total bid value.
Purchasing Date & Time	Upto 24 <sup>th</sup> May 2019
Bids Delivery Date & Time	25 <sup>th</sup> May 2019 up to 10:30 a.m.
Bid Opening Date & Time	25 <sup>th</sup> May 2019 at 11:00 a.m. In case of any unforeseen situation or government holiday resulting in closure of office on the date of opening, bids shall be submitted / opened on next working day at the given time.

Bidding document may be purchased by interested bidders on the submission of a written application, NTN, GST Certificates and Pay Order / Demand Draft of tender fee during office hours. Tender Notice and bidding document are also available for information and can be downloaded from the websites of Dow University of Health Sciences ([duhs.edu.pk](http://duhs.edu.pk)) and Sindh Public Procurement Regulatory Authority (<http://pprasindh.gov.pk>) websites.

Conditional Bids, Telegraphic Bids, Bids not accompanied by Bid Security of required amount and form, bids received after specific date and time and bids of Black Listed firms will be rejected.

The Dow University of Health Sciences, Karachi (DUHS) reserves the right to reject any or all the bids subject to the relevant provisions of SPP Rules 2010 (Amended upto date).

Director Procurement  
Dow University of Health Sciences (Ojha Campus)  
Procurement Directorate at Library Block,  
SUPARCO Road, off Main University Road,  
Gulzar-e-Hijri, Scheme No. 33, Karachi.  
Phone No. + 92-21-99261497  
Email: [director.procurement@duhs.edu.pk](mailto:director.procurement@duhs.edu.pk)



## D: Bid Data Sheet

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

### INTRODUCTION

- ITB 1.1** Name of Procuring Agency: Dow University of Health Sciences, Karachi.
- ITB 1.1** Name of Contract:  
**Procurement of Lab. Equipment / Instruments for Establishment of Department of Serobiology and providing Power Generation by Gas along with Heat Recovery System at Ojha Campus of Dow University of Health Sciences**

### THE BIDDING PROCEDURE

- ITB 4.1** Bids shall be accepted under the **Single Stage - Two Envelope Procedure**.

### PREPARATION OF BIDS

- ITB 7.1** Language of the bid shall be English
- ITB 9.6** **For the Goods offered within the Procuring Agency's Country:** the price quoted shall be on **delivered duty paid (DDP) Basis** at Consignee's End.
- For the Goods offered from Outside the Procuring Agency's Country:** the price quoted shall be on **CFR / CNF/ C&F / CPT Karachi Basis**.
- ITB 10.1** **For the Goods offered within the Procuring Agency's Country:** the price quoted shall be in **Pak Rupees**.
- ITB 10.2** **For the Goods offered from Outside the Procuring Agency's Country:** the price quoted shall be in **Foreign Currency**.
- ITB 13.1** The Bid Security shall not be less than **2%** of the total Bid price in Pak Rupees.
- ITB 14.1** Bid validity period shall be **90 days**.
- ITB 15.1** If any bidder elects to submit alternative proposal(s), complete information on the alternative items including all data relating to technical specifications shall be provided.

## SUBMISSION OF BIDS

**ITB 16.1 (b)** The identification of this bidding process is:  
**Procurement of Lab. Equipment / Instruments for Establishment of Department of Serobiology and providing Power Generation by Gas along with Heat Recovery System at Ojha Campus of Dow University of Health Sciences**  
**NIT No. DUHS/DP/2019/-75 Dated 08 May 2019**

**ITB 16.1 (c)** Dow University of Health Sciences (Ojha Campus), Procurement Directorate at Library Block, SUPARCO Road, off Main University Road, Gulzar-e-Hijri, Scheme No. 33, Karachi.

“Must bear the name of the bidder” and a warning “Do Not Opened Before the time and date of bid opening”.

**ITB 17.1** Deadline for bid submission: **25 May 2019 upto 10:30 a.m.**

## OPENING & EVALUATION OF BIDS

**ITB 20.1** The bid opening shall take place at:  
Dow University of Health Sciences (Ojha Campus), Procurement Directorate at Library Block, SUPARCO Road, off Main University Road, Gulzar-e-Hijri, Scheme No. 33, Karachi.

Date: **25 May 2019**

Time: **11:00 a.m.**

## CONTRACT AWARD

**ITB 31.1** Qty. could be increased or decreased during the contract period (including extended period) according to the actual requirement.

**ITB 34.1** The successful Bidder shall furnish the Performance Security equivalent to 5% of the total Contract amount from any scheduled banks in shape of Pay Order / Demand Draft / Call Deposit / Bank Guarantee. The Performance Guarantee/Security Form is provided in the bidding documents. Upon submission of Performance Security / Guarantee the Bid Security would be returned to the Bidder.

## **E: Special Conditions of Contract (SCC)**

### 1. DEFINITIONS (GCC CLAUSE 1)

GCC 1.1 (g) The Procuring Agency is the Dow University of Health Sciences, Karachi.

GCC 1.1 (h) The Bidder is: \_\_\_\_\_  
(name and address of the successful bidder)

### 2. BID SECURITY (ITB CLAUSE 13)

ITB 13.1 The Bidder shall furnish, as part of its financial proposal/bid, refundable Bid Security in Pak Rupees @ 2% of the total bid value in the shape of Bank Draft / Pay Order / Call Deposit / Bank Guarantee in the name of the Dow University of Health Sciences, Karachi. The financial bid found deficient of the Bid Security will be rejected. No personal cheque in lieu thereof will be acceptable at any cost. The previous Bid Security, if any, will not be considered or carried forward. However, the Bid Security of the successful Bidder will be returned upon submission of Performance Security equal to 5% of the Contract amount that will remain with the Dow University of Health Sciences, Karachi till satisfactory completion of the Contract period. After delivery and acceptance of the Goods, the performance security shall be reduced to two (2) percent of the Contract Price to cover the Supplier's warranty obligations

### 3. INSPECTIONS, TESTS AND TRAINING (GCC CLAUSE 7)

GCC 7.1, 7.2 & 7.3 The goods received in the Dow University of Health Services, Karachi from the Bidder will be thoroughly inspected and examine by a Committee to make sure that the goods received conform to the specifications laid down in the bid documents and which have been approved by the Procurement Committee for procurement. The Committee will submit its inspection report, any deficiency pointed out by the Committee shall have to be rectified by the Bidder free of cost. The Bidder will be responsible to provide the Foreign and or Local Training to the University Staff for the specialized Equipment.

### 4. DELIVERY AND DOCUMENTS (GCC CLAUSE 8)

GCC Clause 8.1 *(a) For Goods from within the Procuring Agency's country:*

The Bidder shall provide the following documents at the time of delivery of goods to the Store / Warehouse of the Dow University of Health Sciences, Karachi for verification duly completed in all respects:

- i. Original copies of Delivery Note (Delivery Challan) (in duplicate) showing item's description, make, model, quantity as well as Lot Number, Batch Number, Registration Number, manufacturing and expiry dates (if applicable).
- ii. Original copies of the Bidder's invoices (in duplicate) showing warranty, item's description, make, model as well as Lot Number, Batch Number, Registration Number, manufacturing and expiry dates (if applicable) per unit cost, and total amount.
- iii. Original copies of the Sales Tax Invoices (where applicable) in duplicate showing item's description, quantity, per unit cost (without GST), amount of GST and total amount (with GST).
- iv. Manufacturer's or Bidder's warranty certificate.
- v. Inspection certificate issued by the nominated inspection committee along with Bidder's factory inspection report.
- vi. Certificate of origin.

***(b) For Goods supplied from abroad as per INCOTERM CFR / CNF/ C&F / CPT Karachi:***

Details of shipping and documents to be furnished by the Bidder shall be:

Upon shipment, the Bidder shall notify the Procuring Agency and the Insurance Company by telex or fax or email the full details of the shipment, including Contract number, description of Goods, quantity, the vessel / flight, the Bill of Lading / Air Way Bill number and date, port of loading, date of shipment, port of discharge, etc. The Bidder shall send the following documents to the Procuring Agency, with a copy to the Insurance Company:

- i. 04 copies of the Bidder's invoice showing the description of the Goods, quantity, unit price, and total amount.
- ii. Original and 04 copies of the negotiable, clean, on-board bill of lading / air way bill marked "freight prepaid" and 04 copies of non-negotiable bill of lading / air way bill.
- iii. 04 copies of the packing list identifying contents of each package.
- iv. Insurance certificate.
- v. Manufacturer's or Bidder's warranty certificate.
- v. Inspection certificate, issued by the nominated inspection agency along with Bidder's factory inspection report.
- vi. Certificate of origin.

The Procuring Agency shall receive the above documents at least one week before arrival of the Goods at the port or place of arrival and, if

not received, the Bidder will be responsible for any consequent expenses.

5. INSURANCE (GCC CLAUSE 9)

GCC 9.1 The goods supplied under the Contract shall be on DDP / CFR / CNF/ C&F / CPT basis at consignee's end under which risk will be transferred to the Procuring Agency only after it has taken delivery of the goods. Hence insurance coverage is Bidder's responsibility.

6. WARRANTY / GUARANTEE (GCC CLAUSE 12)

GCC 12.1 The goods shall be accompanied by manufacturer standard warranty / guarantee or 1 year or extended warranty, whichever is more.

GCC 12.2 The Procuring Agency shall promptly notify the Bidder in writing of any claims arising out of this warranty.

GCC 12.5 **The bidder shall separately quote the price of post warranty service contract inclusive of parts for 5 years (minimum) in term of %age for total contract value.**

7. PAYMENT (GCC CLAUSE 13)

GCC 13.1 The method and conditions of payment to be made to the Bidder under this Contract shall be as follows:

*i. For Goods supplied from within the Procuring Agency's country:*

- (a) Payment shall be made in Pak Rupees.
- (b) The payment will be made to the Bidder within 30 days of the receipt of original delivery challan(s) and invoice(s) in duplicate duly completed in all respect and signed and stamped by the Chairman of the Inspection Committee. The Inspection Committee will prepare and submit a report of physical inspection with a certificate to the effect that the goods conform to the specifications laid down in the bidding documents.

**OR**

*ii. For Goods supplied from outside the Procuring Agency's country:*

- (a) The Procuring Agency shall pay the Bidder or its Principal through irrevocable letter of credit opened in favor of the Bidder or Its Principal in a bank in its country, upon submission of all the requisite documents.
- (b) Bidder will bear all the additional bank charges inside and outside the Procuring Agency country on account of Confirmation of L/C, if he desire to establish a Confirmed L/C etc.

**OR**

*iii. For Goods supplied from outside the Procuring Agency's country:*

- (a) The Procuring Agency shall pay the Bidder or its Principal through **3 years deferred payment** by irrevocable letter of credit opened in favor

of the Bidder or Its Principal in a bank in its country, upon submission of all the requisite documents.

- (b) Bidder will bear all the additional bank charges inside and outside the Procuring Agency country on account of Confirmation of L/C, if he desire to establish a Confirmed L/C etc.

8. PENALTIES/ LIQUIDATED DAMAGES (GCC CLAUSE 16)

GCC 16.1 In case deliveries are not completed within the time frame specified in the schedule of requirements / contract, a Show Cause Notice will be served on the Bidder which will be following by cancellation of the Contract to the extent of non-delivered portion of installments. No supplies will be accepted and the amount of Performance Guarantee / Security to the extent of non-delivered portion of supplies of relevant installments will be forfeited. If the firm fails to supply the whole installments, the entire amount of Performance Guarantee/Security will be forfeited to the Government Account and the firm will be blacklisted at least for two years for future participation in bids:

The liquidated damage shall be 0.5 % per week or part thereof. The maximum amount of liquidated damages shall be 10% of the amount of contract. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of the contract, the Procuring Agency shall rescind the contract, without prejudice to other courses of action and remedies open to it.

9. "ARBITRATION" AND RESOLUTION OF DISPUTES (GCC CLAUSE 20)

GCC 20.3 Dispute resolution mechanism to be applied shall be as follows:

In case of any dispute concerning the interpretation and/or application of this Contract is to be settled through arbitration, the arbitrator to be appointed with the approval of the University's Syndicate. The decisions taken and/or award given by the sole arbitrator shall be final and binding on the Parties

10. PACKING (GCC CLAUSE 21)

GCC 21.1 The packing, marking and documentation within and outside the packages shall be as per manufacturer standards meeting the safety requirements of the goods.

12. GOVERNING LANGUAGE (GCC CLAUSE 22)

GCC 22.1 The language of this Contract shall be English.

11. APPLICABLE LAWS (GCC CLAUSE 23)

GCC 23.1 The Contract shall be governed by the Laws of Pakistan and the Courts of Pakistan shall have exclusive jurisdiction.

12. NOTICES

***Procuring Agency's address for notice purposes:***

Director Procurement  
Dow University of Health Sciences (Ojha Campus)  
Procurement Directorate at Library Block,  
SUPARCO Road, off Main University Road,  
Gulzar-e-Hijri, Scheme No. 33, Karachi.  
Phone No. + 92-21-99261497  
Email: director.procurement@duhs.edu.pk

***Bidder's address for notice purposes:***

Name of Bidder: \_\_\_\_\_

Name of Contact Person & Designation: \_\_\_\_\_

Phone No. \_\_\_\_\_

Fax No. \_\_\_\_\_

Mobile Phone No. \_\_\_\_\_

Email Address \_\_\_\_\_

# F: Schedule of Requirements

## 1. SCHEDULE OF REQUIREMENTS

### 1.1 For Goods supplied from within the Procuring Agency's country (DDP Basis)

- i) The entire quantity of the ordered goods shall be delivered within **45 days** or earlier from the date of issuance of supply order / contract award.
- ii) The delivery period shall start from the date of contract signature.

### 1.2 For Goods supplied from outside the Procuring Agency's country (C&F / CFR / CNF / CPT Basis):

- i. The shipment of the items of Stores which are to be imported shall be started as early as possible (**goods must be delivered within the approved delivery period**); the shipment schedule shall be submitted along with the offer, and shall be negotiable and subject to approval by the University.
- ii. The bidder must indicate in his offer the port **from where** the Stores will be **shipped**.
- iii. The shipment period shall start from the date of opening of Irrevocable letter of credit. The bidder must provide the Proforma Invoice and Marine Cover Note within 7 calendar days from the signing of contract agreement.



## G: Technical Specifications

### (SECTION – A)

### FOR LABORATORY ANIMAL SCIENCES (LAS)

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
1.	<b>Individually ventilated cages for mice with air handling unit (54 cages in one complete set)</b> Rack Dimensions: 1422 x 512 x 1998 (2052*) mm 55.98 x 20.16 x 78.65 (80.80*) Inches Cage Dimensions: 396 x 215 x 172 ( 188*) mm 15.59 x 8.46 x 6.77 ( 7.41 *) Inches Floor Area: 542 cm <sup>2</sup> 84 sq inches.	1 Set	
2.	<b>Open cages for mice</b> Polycarbonate Cage Body – mm 425x266x155 h Stainless Steel Inner fitting lid with hinged divider Polycarbonate Water Bottle with silicon ring- ml 500 Stainless Steel Bottle Cap - mm 25 nozzle - hole mm 1.8	10 Nos.	
3.	<b>Racks (trolleys) for open cages of rats</b> Each trolley must have 4 shelves and each shelf can accommodate 6 cages, so the total of 24 cages can be accommodated in single trolley. Dimensions (L x W x H): 1214 x 515 x 1873 Material: Stainless steel	02 Nos.	
4.	<b>Far Infrared Warming Pads Battery</b> 110V-240V AC 10 disposable non-sterile sleeve protectors (14" x 14" (35.6 cm x 35.6 cm) Pad) Including charger	01 No.	
5.	<b>Mouse Dissection Surgical Kit with Storage Case</b> Tweezer #5, stainless steel, 11 cm long Needle holder, serrated, straight, 12.5 cm long McPherson-Vannas scissors, straight, 8 cm long Wire speculum Dissecting scissors, straight, 10 cm long Iris forceps, serrated, 10 cm long Stainless steel blunt probe, 14 cm long, 1.0 mm dia. Leather storage case	02 Nos.	
6.	<b>Rat Dissection Surgical Kit with Storage Case</b> Tweezer #5, stainless steel, 11 cm long Needle holder, serrated, straight, 12.5 cm long McPherson-Vannas scissors, straight, 8 cm long Iris scissors, straight, 12.5 cm ALM self-retaining retractor Iris forceps, serrated, 10 cm long Stainless steel blunt probe, 14 cm long, 1.0 mm dia. Leather storage case	02 Nos.	
7.	<b>Armour Touch Metal Mesh® Gloves</b> MMG-100 M Medium, Size 9	02 Nos.	

<b>Item No.</b>	<b>Name of Goods, Technical Description, Specifications and Standards</b>	<b>Quantity Required</b>	<b>Minor / Major deviation (if any)</b>
8.	<b>Flat Bottomed Restrainers (For Rats)</b> FB M 2" dia x 5" 30 -125 gm rats	02 Nos.	
9.	<b>Flat Bottomed Restrainers (For Mice)</b> FB S 1.5" dia x 4" 15-30gm Mice	02 Nos.	
10.	<b>Blue Wax" Dissection Tray</b> DTW 5 9" x 6.5" x 1" Dissection Tray, 5 pc / pk	1 Pk.	
11.	<b>Brav Mini+ Cordless Trimmer</b> CLP-41590 P Purple Along with CLP-41590 7370B #30 Replacement blade only CLP-41590 7840B Designer 1/4" replacement blade only	01 No.	
12.	<b>Snakes handling equipment set</b> ASI PRO 100 Collapsible Snake Tong Total length 110 cm Weight 670 gm Material: Aluminum Mini Snake Hook & Pinner Combined (steel shaft and new rubber grip with aluminum hook) 27" (68.5cm) in length Pinning width is 3" (8cm) Diameter of Hook 1.5" (4cm)	04 Nos.	
13.	<b>Reusable Stainless Feeding Needle</b> N-PK 006 18G-3" Curved 2.25mm Ball tip 4/pk	02 pk	
14.	<b>Reusable Stainless Feeding Needle</b> N-PK 010 20G-1.5" curved 2.25mm ball 4/pk	02 pk	
15.	<b>Equi Resp Nebulizer Complete</b> Equine Nebulizer Mask 1 bottle of EquiSilver 2 medicine cups and tubing 1 bottle Pure Cleaner for the mask (100% natural cleaner) Carry bag	01 No.	
16.	<b>Snakes Feeding equipment set</b> Stainless steel snake feeding clamp 70cm, 100cm, 120cm Foldable clamp snake catcher Ceramic snake bowl (large & medium sizes) Swell forceps for reptiles 50cm Snake tongs reptiles grabber 60" Anti-bite gloves 60cm, long size	01 No.	

<b>Item No.</b>	<b>Name of Goods, Technical Description, Specifications and Standards</b>	<b>Quantity Required</b>	<b>Minor / Major deviation (if any)</b>
	Python snake hooks 45"		
17.	<b>Racks (trolleys) for open cages of mice.</b> Each trolley must have 4 shelves and each shelf can accommodate 6 cages, so the total of 24 cages can be accommodated in single trolley. Dimensions (L x W x H): 1250x520x1870 Material: Stainless steel	02 Nos.	
18.	<b>RO water plant (Laboratory Portable RO Water Purification Filtration Treatment System)</b> Automatic Grade: Automatic Material: Stainless Steel Voltage: 220-380V Power Source : Electric Frequency: 50-60Hz Flow rate: 500 litres per Hour Inlet TDS: Less than 100 ppm pH: 7.6 Raw Water Feed Flow: 1500 litres per Hour <b>With mineralization system</b>	02 Nos.	
19.	<b>Hand portable air electric Dust blower and Vacuum Suction</b> Variable electronic speed control Lock-on switch Blower and vacuum function Long blow pipe with extension (total length 52cm) Stand for stationary use 3m rubber cable	01 No.	
20.	<b>Farm fork 4-prong with wooden handle</b> Total length: 125 cm Working part dimensions: 21×33 cm Weight : 1,6 kg Handle: straight Number of prongs: 4	05 Nos.	
21.	<b>Heavy-Duty Steel Tray Wheelbarrow</b> Extra heavy duty powder coated Steel Tray Extra wide 16" x 7.5 -8 pneumatic wheel 200 kg Capacity	04 Nos.	
22.	<b>Stall Forks</b> Plastic head and wooden handle. Measure 15" wide and 12" deep.	04 Nos.	
23.	<b>Hard-bristled Brushes</b> Strong molded wood body with natural bristles such as rice stems Brush measures 18cm x 5.5cm. Bristles 4cm long.	10 Nos.	
24.	<b>Large Plastic Buckets</b> Plastic 100% 5 Gallons in Volume 90 Mils Thickness (.09 inches) - 14.5" Height, 12" Diameter Metal Handle with Plastic Grip All Purpose - Heavy Duty	05 Nos.	
25.	<b>Plastic Pipe</b> Material: PVC	100 meter	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	Specification: 1-1/4" 1 inch plastic flexible Thickness: 1mm-4mm Length: 100m		
26.	<b>LED Lighting and Magnification Kit</b> 3 mini flexible LED lights 1 Clip-on magnifier with light, 4x magnification; includes battery 1 USB strip (connect up to 7 USB devices) 1 power supply for USB strip	01 No.	
27.	<b>Cleaning &amp; Mopping equipment set for animal house</b> Spin mop with easy wheels and twin buckets Spray pump for indoor use 10 liters Spray pump for outdoor use 16 liters Floor microfiber super mop Wipers and brushes	01 No.	
28.	<b>Cleaning &amp; Mopping equipment set for snake house</b> Spin mop with easy wheels and twin buckets Wipers and brushes Floor microfiber super mop	01 No.	
29.	<b>Open cages for housing of rats</b> Polycarbonate Cage Body – mm 480x375x210h Stainless Steel Inner fitting lid with hinged divider Polycarbonate Water Bottle with silicon ring- ml 700 Stainless Steel Bottle Cap - mm 25 nozzle - hole mm 1.8	48 Nos.	
30.	<b>Heating oven with forced convection FED 240 UL</b> Internal Dimensions 23.6 x 31.5 x 19.7" Temperature range 5 °C / 9 °F above ambient up to 300 °C / 572 °F Patented APT.line® preheating chamber assuring temperature accuracy and reproducible results Fast and uniform drying with mechanical convection of large sample amounts with a digitally adjustable fan MS controller, timer and one adjustable temperature ramp Timer functions: 0 to 99 h 59 min delayed ON, 0 to 99 h 59 min delayed OFF, 0 to 99 h 59 min temperature-dependent delayed OFF Digital temperature setting with an accuracy of one degree Adjustable fan speed (0 - 100 %) Front ventilation flap slide and rear exhaust duct (50 mm / 1.97 inch) 2 chrome-plated racks included Units are stackable	01 No.	
31.	<b>Climate chambers with large temperature / humidity range</b> Temperature range: 0 °C to 70 °C Humidity range: 10 % to 80 % RH Interior Volume - ~100L Preheating chamber technology Humidity regulation with capacitive humidity sensor and vapor humidification Intuitive touchscreen controller with time-segment and real-	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>time programming</p> <p>Internal data logger, measured values can be read out in open format via USB</p> <p>Unit self-test for comprehensive status analysis</p> <p>Tight-sealing inner door made of safety glass</p> <p>Avoidance of glass corrosion by special coating</p> <p>Inner chamber made of stainless steel</p> <p>stainless steel racks</p> <p>Access port with silicone plug, 30 mm, left</p> <p>4 stable castors, two with brakes, from 240 liters</p> <p>Temperature safety device with visual and audible temperature alarm</p> <p>Computer interface</p> <p>Door heating</p>		
32.	<p><b>PowerLab 8/35 with LabChart Pro (PL3508/P)</b></p> <p>8 analog input channels (4 of which can be used in differential mode), 8 digital inputs, 8 digital outputs and a maximum sampling rate of 200 kS/s per channel.</p>	01 No.	
33.	SP3925 NIBP Rat Tail Cuff Membranes (10 k) and O-rings (8pk)	02 Nos.	
34.	MLT125/R Pulse Transducer/Pressure Cuff for NIBP (Rat)	01 No.	
35.	SP3802 NIBP Mouse Tail Cuff Membranes (10pk)	02 Nos.	
36.	160171 Glass Tissue Hook for 5-10mL Chambers (6 pk)	02 Nos.	
37.	160172 Glass Tissue Hook for 25-50mL Chambers (6 pk)	02 Nos.	
38.	159906 Radnoti Transducer Positioner	02 Nos.	
39.	166006 Radnoti 1660 Series Hi-Tech Tissue Bath (5 mL). The Radnoti 1600 series Hi-Tech Tissue Bath (5 ml, O.D. 32 mm, I.D. 15 mm, Depth 45 mm, Overall length 70 mm).	04 Nos.	
40.	166011 Radnoti 1660 Series Hi-Tech Tissue Bath (10 ml). The Radnoti 1600 series Hi-Tech Tissue Bath (10 ml, O.D. 45 mm, I.D. 22 mm, Depth 60 mm, Overall length 85 mm).	04 Nos.	
41.	166026 Radnoti 1660 Series Hi-Tech Tissue Bath (25 ml). The Radnoti 1600 series High Tech Tissue Bath (25 ml, O.D. 51 mm, I.D. 25 mm, Depth 80 mm, Overall length 105 mm).	04 Nos.	
42.	120157 Radnoti Tygon Perfusate Tubing (0.093" x 0.156", 50 ft). Tygon Perfusate Tubing has the dimensions of 5/32" (4 mm) O.D. and 3/32" (2.4 mm) I.D.	01 No.	
43.	120159 Radnoti Water Jacketed Tubing (0.187" x 0.312", 50 ft). Tygon Water Jacketed Tubing has the dimensions of 5/16"(8 mm) O.D. and 3/16" (4.8 mm) I.D.	01 No.	
44.	159920-TK Radnoti Tubing Kit (159920) necessary tubing for 4 Chamber Tissue-Organ Bath	01 No.	
45.	158817Tri-Shape Upper Support (10x10mm, 0.015" SS, Close, 12 pk)	01 No.	
46.	158819Tri-Shape Upper Support (for 25-50 mL chambers, 12 pk)	01 No.	
47.	158816"L" Glass Support (0.015" SST Wire, 5-10mL, 6pk)	01 No.	
48.	158818"L" Glass Support (0.015" SST Wire, 25-50mL, 6pk)	01 No.	
49.	<p><b>Activity Cage With Software</b></p> <p><b>Material:</b> Transparent Acrylic</p> <p><b>Dimensions:</b> 27(w) x16(d) x19(h) cm – (Electronic Unit)</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	54(w) x50(d) x37(h) cm – (Animal Cage) <b>Power Requirement:</b> 115 or 230 V, 50/60 Hz, 20W max. <b>Sound Level:</b> < 60 dB (A) <b>Operating Temperature:</b> 18° to 40° C <b>Connection to PC:</b> Through DELTA 9-pin connector		
50.	<b>Conditioned Place Preference with software</b> <b>Material:</b> White and black Acrylic (pattern) <b>External Dimensions (handles excluded):</b> 63x32x35(h) cm <b>Internal Dimensions (of each compartment):</b> 30x30x30(h) cm <b>Patterned Floors:</b> 4 interchangeable floors for each cage <b>Context Walls:</b> 2 interchangeable context kits provided with each cage (striped and checkered)	01 No.	
51.	<b>Morris Water Maze Compatible with Maze-Software</b> <b>Material:</b> White Acrylic <b>Dimensions:</b> Diameter: 180 cm Height: 76 cm Support with 4 wheels for better displacement Non cloggable drain placed on side or under. 1 Platform included	01 No.	
52.	<b>Barnes Maze</b> <b>Material:</b> White Acrylic <b>Diameter:</b> 122cm <b>Holes:</b> 20 <b>Hole diameter:</b> 10cm <b>Stand height:</b> 95cm (adjustable) Removable Top Black Nesting Chamber w clear nest holder included Matted finish <b>Starting Cylinder:</b> Diameter: 30 cm Height: 25 cm 1 unit <b>Goal Box:</b> 27 (D) x 11.4 (W) x 13 (H) cm	01 No.	
53.	<b>Y-Maze</b> <b>Material:</b> White Acrylic <b>Arms (L x W x H):</b> 50 x 10 x 30 cm Black floor with grey walls	01 No.	
54.	<b>T- Maze</b> <b>Material:</b> White Acrylic <b>Arms (L x W x H):</b> 50 x 10 x 30cm <b>Length Across T:</b> 110 cm Black floor with grey walls	01 No.	
55.	<b>Open Field Box</b> <b>Material:</b> White Acrylic <b>Outside Dimensions:</b> 100x100cm <b>Inside Dimensions:</b> 92x92cm <b>Walls:</b> 40cm tall	01 No.	
56.	<b>Elevated Plus Maze Compatible with Maze Software.</b> <b>Material:</b> White Acrylic <b>Dimensions:</b> 1000 (W) x 1000 (D) x 500 (H) mm <b>Arm Length:</b> 100 (W) x 450 (D) mm <b>Wall height:</b> 350 (H) mm <b>Border height:</b> 30 (H) mm	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<b>Elevation:</b> 650 (H) mm		
57.	<b>Forced Swim Test (FST) Cylinder</b> <b>Material:</b> White Acrylic <b>Dimensions:</b> 30 x 50 cm (12 x 20 in) Medium Cylinder with Base for FST Experiments	01 No.	
58.	<b>Active Avoidance/ Passive Avoidance</b> <b>Material:</b> White + Black Acrylic <b>Box dimensions:</b> <ul style="list-style-type: none"> <li>• <b>White Compartment:</b> 310 (W) x 310 (D) x 240 (H) mm</li> <li>• <b>Black compartment:</b> 195 x 108 x 120 mm</li> </ul> <b>Minimum weight detected:</b> 40 grams <b>Maximum number of stations:</b> 8 stations connected to a PC <b>Power Supply:</b> 110V/220V, 50/60Hz	01 No.	
59.	<b>Plethysmometer</b> <b>Control Unit Dimensions:</b> 280 (W) x 280 (D) x 110 (H) <b>Stimulation Unit Dimensions:</b> 230 (W) x 220 (D) x 300 (H) <b>Power Supply:</b> 220V/110V, 50/60Hz <b>Starting:</b> By panel key or pedal switch <b>Resolution:</b> 3 digits, 0.01 steps <b>Cell Volume:</b> 5 ml <b>Cell Inner Diameter:</b> 24 mm <b>Computer Requirements:</b> PC (Windows W7, W8) <b>Material Composition:</b> Clear methacrylate (cell), satinless steel (stand), platinum (electrode) <b>Maximum number of stations:</b> 1 per computer (multiple set-ups also available under request) <b>Certifications:</b> CE Compliant	01 No.	
60.	ANY-Maze Tracking Software	01 No.	
61.	<b>Aspirations Polythene bottles with caps</b> Capacity: 40 litres	24 Nos.	
62.	<b>Beakers (Pyrex)</b> 100ml	12 Nos.	
63.	<b>Beakers (Pyrex)</b> 250ml	12 Nos.	
64.	<b>Beakers (Pyrex)</b> 500ml	24 Nos.	
65.	<b>Beakers (Pyrex)</b> 1000ml	24 Nos.	
66.	<b>Graduated Polypropylene Beakers (1000ml)</b> Transparency: Translucent Graduation Range: 100 - 1000mL Graduation Interval: 20mL Autoclavable: Yes Graduated in Metric and English in attractive blue print with scales on both sides - easy to read for right and left handed use Durable handle and thumb grip for easy dispensing Melting Point: 338°F (170°C) Upper Extreme Temp: 275°F (135°C) Lower Working Temp: 32°F (0°C) 168 x 127mm Capacity: 1000ml	12 Nos.	

<b>Item No.</b>	<b>Name of Goods, Technical Description, Specifications and Standards</b>	<b>Quantity Required</b>	<b>Minor / Major deviation (if any)</b>
67.	<b>Volume Calibration Cuvette (Rat PV Catheters)</b> Volume Calibration Cuvette with 2, 3, 4, 5, 6, 7, 8, 9, 11, 13, 15 mm well diameter	01 No.	
68.	<b>Water Jacketed Reservoir</b> Material: Glass Dimensions: Water-jacket O.D.: 150 mm W/J Height: 240 mm Overall Height: 340 mm Company preferred: Radnoti	01 No.	
69.	<b>Flat bottom flask (Pyrex)</b> 20 litres	08 Nos.	
70.	<b>Flat bottom flask (Pyrex)</b> 10 litres	08 Nos.	
71.	<b>Flat bottom flask (Pyrex)</b> 5 litres	08 Nos.	
72.	<b>Practice Catheters</b> PV Practice Catheter (1.4F, PI, 3 pk) 2F Polyimide catheters that approximates the SPR-838 catheter	03 Nos.	
73.	<b>Glass funnel (Pyrex)</b> Short Stem Diameter: 50mm	12 Nos.	
74.	<b>Glass funnel (Pyrex)</b> Short Stem Diameter: 200mm	12 Nos.	
75.	<b>SPR-838 PV Single Segment Catheters Rat PV Catheter (2F, 4E, 9mm, 12.5cm, PI)</b> Length: 12.5 cm Pressure sensor: 2F Four electrodes (electrode spacing 9.0 mm). The pressure sensor must centered between E2 & E3. Catheter body: 1.1F. It should be used with the MPVS-Ultra Foundation System. Reusable and can be repaired.	01 No.	
76.	<b>Measuring cylinder with spout, (Pyrex)</b> 100 ml - Class A Accuracy: 0.50 mL	48 Nos.	
77.	<b>Measuring cylinder with spout, (Pyrex)</b> 500 ml - Class A Accuracy: 2.5 mL	48 Nos.	
78.	<b>Measuring cylinder with spout, (Pyrex)</b> 1000 ml - Class A Accuracy: 5.0 mL	48 Nos.	
79.	<b>Graduated pipettes</b> Individually Wrapped, 1/100 Divisions, Sterile Material: AR-GLASS Class: A Type: Type 2 graduated pipet 1, 2, 5, 10 ml & 50ml	12 Nos.	
80.	<b>Screw cap bottles (Pyrex)</b> Supplied with linerless GL 45 screw thread caps	01 No.	



Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	Type I, Class A requirements 100ml		
81.	<b>Tissue Bath</b> 25 ml O.D.: 32 mm I.D.: 15 mm Depth: 45 mm Overall length:70 mm Pre-heating coil built within the water jacket	01 No.	
82.	<b>Local cages for Rats</b> 480 x 375 x 210 mm 18.89 x 14.76 x 8.27 Floor area: 1500 cm <sup>2</sup> /232.5 in <sup>2</sup>	06 Nos.	

## SECTION (B)

### SEROBIOLOGY R&D AND EQUINE PLASMA/ BIOLOGICAL RAW MATERIAL LAB (QUALITY CONTROL CELL)

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
83.	<p><b>ELECTROPHORESIS EQUIPMENT VERTICAL (With Power Supply)</b>            Number of gels: 1–4            Precast gels: Ready Gel precast gels            Hand cast gels: Cast using Mini- spacer plates            Gel size (W x L):            Precast: 8.6 x 6.8 cm            Hand cast: 8.3 x 7.3 cm            Glass plate size (W x L): Short plate: 10.1 x 7.3 cm            Spacer plate: 10.1 x 8.2 cm            Total buffer volume for 2 gels: 700 ml            Total buffer volume for 4 gels: 1,000 ml            Typical run times for SDS-PAGE: 35–45 min (at 200 V constant)  <b>Recommended power supply:</b> Power Pac Basic or Power Pac HC (High Current)            Dimensions (W x L x H): 12 x 16 x 18 cm            Weight: 1.0 kg (2.2 lb)</p>	01 No.	
84.	<p><b>ELECTROPHORESIS EQUIPMENT HORIZONTAL (Medium (10 x 15 cm) Horizontal Electrophoresis Assembly with Power Pack)</b>            Complete Set - Including base gel running unit, safety lid, at least two casting trays and combs. Gel Casting Tray: Two 15 x 10 cm UV transparent tray, casting gates, gel caster. Standard form; Trans illuminator, UV            Combs sizes: two 15 and 20 well compatible with multichannel pipettes <b>Power Supply:</b> Power Supply suitable for horizontal gel electrophoresis, Constant voltage and constant current modes , Output Voltage: Adjustable from 0/5/10V to 500V/600V with an increment of 1 V or less , Output Current: up to 800/1000 mA with increment of 1 mA , Terminals/ Sockets : 4 Pairs/4 ,            Safety: All necessary safety provisions like Over load, No load, Sudden change in load, power failure indication, Over Temperature and safe plugs and sockets            Equipment should have USA FDA / CE / JIS.            Origin: Europe / UK / USA / Japan</p>	01 No.	
85.	<p><b>U.V MONITORS</b>            Light source: Low-pressure mercury lamp Optical Device:            Silicone Photo Diode Wavelength: 254 nm, 280 nm            Absorbance Range 0.1/ 0.2/ 0.5/ 1.0/ 2.0 Abs (5 steps selectable)</p>	02 Nos.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p><b>UV wavelength range</b>  190–700 nm in steps of 1 nm,  3 wavelengths simultaneously  Wavelength accuracy <math>\pm 2</math> nm  Wavelength precision <math>\pm 0.01</math> nm  Cell Path length: 1 mm, 2 mm, 5 mm  Cell Max. pressure: 2 MPa (20 bar, 290 psi)  Cell Max. back pressure: 0.03 MPa (0.3 bar, 4.2 psi)</p> <p>Event Marker About - 1.5mV, MARK Switch ON Time,  Balance Adjustment 10 Rotation  Potentiometer Flow Cell: Quartz,  Optical Path Length (5 mm),  Volume (60 <math>\mu</math>L),  Inner Diameter <math>\phi 1.7 - 0.9</math> mm Teflon Tube  Absorbance Output Recorder (0 - 10 mV)  <b>Environmental Condition Room Temperature:</b> 2 - 35 °C /  <b>Power:</b> AC100<math>\pm</math>10V 50/60Hz 7 VA  <b>Dimensions AC-5100S (Optical Device):</b>  69(W)x144(D)x74(H)mm AC-5100L (Control Device):  114(W)x184(D)x74(H)mm</p>		
86.	<p><b>Peristaltic Pump</b>  Pump head to accepts 1.6mm wall thickness tubing, five materials in sizes from 0.5 to 4.8mm internal diameter, the pumps give flow rates up to 170 ml/min, compact footprint requires minimal bench top space, manual remote control or automatic control, manual control, 1-200 rpm in 1 rpm increments. Flow rates 0.001 to 170 ml/min at 2 bar (30psi)</p>	02 Nos.	
87.	<p><b>Gradient mixture with software</b>  pH range: 0–14 (spec. valid between 2 and 12)  Response time Max.: 10 s (0–95% of step)  Conductivity range: 1 <math>\mu</math>S/cm to 999.9 mS/cm  Deviation from theoretical Max. <math>\pm 2\%</math> of full scale range or conductivity <math>\pm 10</math> <math>\mu</math>S/cm whichever is greater in the range 1 <math>\mu</math>S/cm to 300 mS/cm  Max. backpressure 0.05 MPa (0.5 bar, 7 psi)  Mixing principle Chamber with a stirrer  Hold up volume 4.2 ml</p>	02 Nos.	
88.	<p><b>Chromatographic Columns of various sizes with fittings (Large)</b></p> <ul style="list-style-type: none"> <li>• High-speed analysis with ultra-high inertness and high durability.</li> <li>• High retentivity, lower column back pressure.</li> <li>• Columns packed with newly developed high-purity porous spherical silica.</li> <li>• Should be capable of tolerating a wider pH (1-10) situation,</li> </ul>	04 Nos.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>and various allowable particle size ranges.</p> <ul style="list-style-type: none"> <li>• 2.0 ml/min - 6.0 ml/min flow rate</li> <li>• Bed volume 8 mL column I.D. 10 mm matrix monodisperse porous polystyrene/divinyl benzene beads avg. part. size 10 µm</li> </ul>		
89.	<p><b>Columns of various sizes with fittings (Medium)</b></p> <ul style="list-style-type: none"> <li>• High-speed analysis with ultra-high inertness and high durability.</li> <li>• High retentivity, lower column back pressure.</li> <li>• Columns packed with newly developed high-purity porous spherical silica.</li> <li>• Should be capable of tolerating a wider pH (1-10) situation, and various allowable particle size ranges.</li> <li>• &lt;10 mL/min flow rate</li> <li>• Bed size 16 mm × 100 mm bed volume 20 mL column I.D. 16 mm matrix monodisperse porous polystyrene/divinyl benzene beads matrix active group ammonium ion, quaternary phase avg. part. size 10 µm</li> </ul>	04 Nos.	
90.	<p><b>Columns of various sizes with fittings (small)</b></p> <ul style="list-style-type: none"> <li>• High-speed analysis with ultra-high inertness and high durability.</li> <li>• High retentivity, lower column back pressure.</li> <li>• Columns packed with newly developed high-purity porous spherical silica.</li> <li>• Should be capable of tolerating a wider pH (1-10) situation, and various allowable particle size ranges.</li> <li>• 0.5 ml/min - 3.0 ml/min flow rate</li> <li>• 580 psi</li> <li>• bed volume 1 mL</li> <li>• column I.D. 5.7 mm</li> <li>• Matrix monodisperse porous polystyrene/divinyl benzene beads matrix active group ammonium ion, quaternary phase avg. part. size 10 µm</li> </ul>	04 Nos.	
91.	<p><b>Programmable Immune Globulin Operating System</b></p> <p>An automated or semi-automated tangential flow filtration/cross flow filtration system for concentration and ultrafiltration / diafiltration with detection of immunoglobulins</p> <ul style="list-style-type: none"> <li>• Recirculation Volume 15/21 mL</li> <li>• Operating pressure max. 4 bar Width 460 mm Connections Luer Lock Hold-Up Volume Recirculation Line 10/17 mL</li> <li>• Mixing Principle Magnetic Stirbar</li> <li>• Main Voltage 100-120/220-240 V AC,</li> </ul>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<ul style="list-style-type: none"> <li>• Power consumption Max 300 VA</li> <li>• Permeate Flow Rate Min. 1@1 bar/ 3@1 bar</li> <li>• Permeate Flow Rate Max. 20@1 bar/ 50@1 bar</li> <li>• Transfer Flow Rate Min. 1 mL/min</li> <li>• Transfer Flow Rate Max. 50 mL/min Material Polypropylene, Silicone, EPDM, PTFE, PVDF</li> <li>• For detection of IgG we will need <b>Elisa Plate Reader which must meet the following specifications</b>  Mono-chromator based absorbance with high performance filter-based, wavelength 200-1100nm range, fluorescence/luminescence option, low volume (2 µL) nucleic acid and protein quantification, incubation to 50 °C, dual reagent injector option, software for reader control, both linear and orbital shaking  Equipment should have USA FDA / CE / JIS.  Origin: Europe / UK / USA / Japan</li> <li>• <b>ELISA Plate Washer with following specifications</b>  <b>Number of wash buffer bottles:</b> 1  <b>Bottles:</b> 2 l wash bottle, 2 l waste bottle  <b>Wash heads:</b> 1 x 8 or 1 x 12 wash head for 96-well plate supplied with the instrument depending on the model  <b>Plate type:</b> 96-well plates  <b>Wash volume:</b> 50-1000 µl  <b>Prime volume/Rinsing Volume:</b> 5-100 ml/- 5-100 ml/5-100 ml  <b>Dispensing volume:</b> 50-400 µl  <b>Residual volume:</b>&lt; 2 µl  <b>Data Transfer:</b> USB port  <b>Dispense accuracy:</b>&lt; 5% @ 300 µl with 1 x 8 or 1 x 12 wash head  <b>Dispense precision:</b>&lt; 3% (CV) @ 300 µl (96-well plate), with 1 x 8 or 1 x 12 wash head  <b>Number of wash protocols:</b> Up to 99  <b>Dimensions (H x W x D):</b> 345 x 385 x 240 mm (13.6 x 15.2 x 9.4 in.)  <b>Weight:</b> 8 kg (17.6 lbs.)</li> <li>• <b>Moreover, we will need to acquire microplate Shakers with the following specifications</b>  <b>Height:</b> 127mm  <b>Hertz:</b> 50/60Hz  <b>Orbit:</b> 3mm (0.12 in.)  <b>Speed:</b> 150 to 1,200rpm</li> </ul>		

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p><b>Timer:</b> 1 min. to 99 hr. 59 min. /continuous  <b>Voltage:</b> 100 to 240V  <b>Certifications/Compliance:</b> CE  <b>Accuracy:</b> ± 15rpm at 500rpm  <b>Capacity Max. Load:</b> 4kg  <b>Depth Tray:</b> 185mm  <b>Display:</b> Digital  <b>Electrical Requirements:</b> Universal Voltage, 100-240V, 50-60Hz 250W  <b>Temperature Range:</b> 4° to 60°C (Operating)  <b>Type:</b> Shakers</p>		
92.	<p><b>Fraction Collectors</b>  Time or drop collection modes included.  Time intervals of .05–99.9 minutes.  Small chromatography columns or gravity columns mount directly to the drop-forming arm to minimize dead volume.  Silicone drop former accommodates either 1/8” or 1/16” tubing without the need for lure or ¼-28 fittings.  Manually adjustable drop arm detector signal level.  Optional Instrument Dust cover intended for use when the drop arm is in collect position. The inlet tube may be directed out the top opening or through the small opening at the bottom/rear of the instrument.  Programmable and controlled by the System.</p>	02 Nos.	
93.	<p><b>HPLC</b></p> <p><b>Productivity</b></p> <ul style="list-style-type: none"> <li>• High speed injection for large number of samples</li> <li>• Full automation</li> <li>• Self-diagnostics (Expert Function)</li> <li>• Validation</li> <li>• System control using a web browser</li> </ul> <p><b>Reliability</b></p> <ul style="list-style-type: none"> <li>• High sensitivity and linearity</li> <li>• Minimized sample carryover</li> <li>• Analysis stability</li> </ul> <p>The item must be equivalent to <b>Prominence LC-20A Modular HPLC System</b> by Shimadzu Corporation</p> <p><b>Column:</b>  SPE Column (chromabond C18, 45 µm, 1ml with 100 mg matrix)  HPLC column (Nucleosil C18, 5µm, 250 x 4.0 mm; connected with C18, 100-5 µm guard column</p>	01 No.	
94.	<p><b>Apheresis (Plasmapheresis) Machine</b>  <b>Approx. dimensions (mm):</b> 920 x 550 x 700  <b>Approx. weight (kg):</b> 95</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p><b>Consumables:</b> Sets, tubing, anticoagulant &amp; replacement fluids The items must meet the specification of <b>Baxter A-200 Autopheresis-C instruments</b> or must be equivalent With the additional consumables that must be similar in specification to <b>4R2252- PLASMACELL-C DISPOSABLE SET</b></p>		
95.	<p><b>Refrigerated High speed Centrifuge with various heads and adapters</b> Intelligent Microprocessor Control, inverter Controlled Brushless Motor, automatic Rotor Identification System, instant RCF Reading, last Run Memory, over speed protection system, full lid Interlock, imbalance detection system, self-diagnostics, Status Indicator, CFC - Free Refrigerant Gas , precool Facility , easyto service, superior lid lock mechanism, soft break function 10x10 acceleration /deceleration, selectable temperature range -9oC to 40C , speed range max 14000rpm, maximum RCF 20,9013/4,500 x g, timer 1min - 99 min with continuous mode, 48 place centrifuge for 1.5 / 2.0 ml micro test tubes, With rotors for : 96 well PCR plates, 15 ml falcon , 50 ml falcon, 1.5ml/2.0ml/5ml tubes, interchangeable rotor option: IQ, OQ, PQ documentation. Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan</p>	01 No.	
96.	<p><b>Biosafety Cabinet Class I (Laminar Flow Hood)</b> Maximum operator, product and environment protection, negative pressure plenum, divided table top, Trough made of stainless steel, transparent side of safety glass operated for 3 valves in both sides, Hepa filter with efficiency of min. 99.999% against particles of 0.3µm, low noise level, light intensity &gt; 1100 lux, slopping sash window of glass electric hoisting, electric outlets, placed at right and left sides, microprocessor controller with velocity indicator, visual and acoustic alarms warning if any safety parameters are incorrect, Key switch, fitted with UV light sterilisation lamp, 1 Gas valve, Flock filter for fan protection, Working surface 6', with DQ, IQ, OQ and PQ documentation installed in at least three reputed research and/or pharmaceutical organizations. <b>Standard Accessories:</b> 1. HEPA filters should be H14 with 99.99% efficiency for 0.3 micron with integral metal guards &amp; filter frame gaskets and manufactured in class 1000 super clean air conditioned environment for longer life. 2. Air pressurization system should be statically and dynamically balanced, fitted with special vibration reducing</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>system to suit low noise and vibrations.</p> <p>3. Front door should be made of polycarbonate/ toughened glass (6 mm), adjustable as per lab requirement, vertical sliding (one piece with counter weight arrangement for fingertip control).</p> <p>4. Side walls should be made of stainless steel [(304 grade) - Heavy gauge- 14 G].</p> <p>5. Should have Fluorescent light with low energy choke less to withstand larger fluctuations in voltage, should be placed outside working zone to avoid turbulence.</p> <p>6. Should have support stand with levelling screws adjustable from 55-85 mm.</p> <p>7. UV lamp should be in working zone (40 micro watts/ square cm at 254 nm or better) and placed so that the operator cannot see directly i.e. eyes should be always protected.</p> <p>8. Universal Service fittings for gas and air should be provided with gas burner along with gas cylinder which can be refilled on requirement.</p> <p>9. Should have Reusable pre filters should have efficiency of more than 80%.</p> <p>10. Should have Switches &amp; Electrical sockets outlets for 15/5 amp.</p> <p>11. Should have Pressure Monitors like Magnehelic gauge are required to indicate pressure drop across HEPA filter.</p> <p>12. Should have DOP Port</p> <p>13. Should have current leakage circuit breaker</p> <p>14. Should have air tight duct exhaust extension</p> <p>15. Should have Contaminated plenum in negative pressure to prevent leakage into the environment. Exhaust blower should be placed outside at roof top level.</p> <p>16. Exhaust blower should be capable for 100% exhaust interconnected with supply air blower; system should only start when the negative pressure is developed.</p> <p>17. Special provisions should be there, If, by chance the exhaust blower is not working properly, the operator will get a buzzer. Should have Audible alarm to warn the operator if the window is raised above the recommended height of 203 mm (8 inches)</p> <p>19. Should have Air short circuiting or the bypass arrangement: By chance there is ingress of fresh air from the top of front shutter, this ingress should not percolate into the working zone: but will be short circuited to return duct at the back. Safety suction points near the upper portion of the front shutter transfer short circuit dirty air into the exhaust/ return duct.</p> <p>20. Should have Adjustable zero leak proof damper at supply air intake &amp; exhaust ducting.</p> <p>21. Should have Special provision for system which gives alarm</p>		



Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>to stop supply air in case the negative pressure goes beyond certain limit to stop contamination egress to laboratory.</p> <p>22. Should have Spillage trough below the working table of 16G heavy duty stainless steel. This trough should have drain cock.</p> <p>23. Back holes should be there on vertical walls to provide more work area on table top.</p> <p>24. Should have Exhaust Ducting at the roof top (approx. 30 feet) from the cabinet site.</p>		
97.	<p><b>Biosafety Cabinet Class II (for plasma extraction lab)</b>  Maximum operator, product and environment protection, negative pressure plenum, divided table top, Trough made of stainless steel, transparent side of safety glass operated for 3 valves in both sides, Hepa filter with efficiency of min. 99.999% against particles of 0.3µm, low noise level, light intensity &gt; 1100 lux, slopping sash window of glass electric hoisting, electric outlets, placed atright and left sides, microprocessor controller with velocity indicator, visual andacoustic alarms warning if any safety parameters are incorrect, Key switch, fitted with UV light sterilisation lamp, 1 Gas valve, Flock filter for fan protection, Working surface 6', with DQ, IQ, OQ and PQ documentation installed in at least three reputed research and/or pharmaceutical organizations.</p>	01 No.	
98.	<p><b>Biosafety Cabinet Class III – (with 10% deviation of PC-I)</b>  <b>Biosafety Cabinet Class II – for biological raw material processing lab and to support the lab process CO<sub>2</sub> incubator is also required)</b></p> <ul style="list-style-type: none"> <li>• <b>Biosafety Cabinet Class II must include following specifications</b> Maximum operator, product and environment protection, negative pressure plenum, divided table top, Trough made of stainless steel, transparent side of safety glass operated for 3 valves in both sides, Hepa filter with efficiency of min. 99.999% against particles of 0.3µm, low noise level, light intensity &gt; 1100 lux, slopping sash window of glass electric hoisting, electric outlets, placed at right and left sides, microprocessor controller with velocity indicator, visual and acoustic alarms warning if any safety parameters are incorrect, Key switch, fitted with UV light sterilisation lamp, 1 Gas valve, Flock filter for fan protection, Working surface 6', with DQ, IQ, OQ and PQ documentation installed in at least three reputed research and/or pharmaceutical organizations.</li> <li>• <b>CO<sub>2</sub> incubator must meet following specifications</b> Fanless design, • Sealed inner/outer doors and advanced PI control to maintain temperature accuracy and uniformity , while minimizing costly gas consumption, • High temperature</li> </ul>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	disinfection , • InfraRed (IR) CO2 sensor for measurement and accurate control of CO2 levels, • 25 mm access port for adding instrumentation or additional probes, • USB port for communication and external instrument logging, Removable stainless steel humidity pans, Temperature: • Range 4 °C above ambient to 50 °C, • Control ± 0.1°C, Stability ± 0.1°C at 37 °C, • Uniformity ± 0.25 °C at 37 °C (ambient temperature between 18 and 25 °C)• CO2 0.2 to 20%, • Orbit 1 in (2.5 cm), • Shaking speed 25 - 400 rpm, • Dimensions : Platform 612 x 356 mm (24 x 14 in)		
99.	<b>Clinical centrifuge</b> <ul style="list-style-type: none"> <li>• High accuracy of speed. CPU controlled operating parameters including speed and time.</li> <li>• Adjustable RPM or G-force.</li> <li>• Operation can be timed from 30 seconds to 99 minutes or continuous running</li> <li>• Timer commences once the set speed is reached, so the separation time is more accurate</li> <li>• Gentle braking at low speeds with efficient separation</li> <li>• Parameters can be modified after the set speed is reached</li> <li>• Easy-to-read backlit LCD processing display and sound alert</li> <li>• Can be pulse accelerated and held at speed</li> <li>• High strength plastic rotor and balance for quiet and stable operation.</li> <li>• Brushless motor drive.</li> </ul>	02 Nos.	
100.	<b>Microfuge</b> 8 x 1.5/2.0 mL rotor 12000-14000 x g speed Additional rotor for PCR tubes Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan	01 No.	
101.	<b>Mettler Balance upto 4 decimal places</b> Measurement capacity upto 4 decimal places. Can be programmed with user-defined minimum weight for additional safety Touchscreen display operable through cotton, silicone and latex gloves Intuitive user interface and 18mm high digits Settings can be passcode protected LevelControl function should warn when balance is not level and should provide onscreen guidance to level balance correctly within seconds USB Host, USB Device, Bluetooth (optional), built-in PC Direct function (without PC software) for easy data transfer Chemical resistant, full metal housing is resistant to most	02 Nos.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	chemicals including acetone Robust Monobloc weighing cell Strong overload protection Draft shield and glass panel for easy and quick cleaning		
102.	<b>pH Meters</b> pH Range: -2.00 to 16.00 pH Resolution: 0.01 pH Accuracy: $\pm 0.01$ pH Cal. Points: Up to 5 Buffer Sets: USA (1.68, 4.01, 7.00, 10.01, 12.45), NIST (1.68, 4.01, 6.86, 9.18, 12.45) Range: $\pm 2000$ mV Rel. mV Range: $\pm 2000$ mV Resolution: 0.1 mV ( $\pm 199.9$ mV) / 1 mV (beyond) Accuracy: $\pm 0.2$ mV ( $\pm 199.9$ mV) / $\pm 2$ mV (beyond) Range (Meter): 0.0 to 100.0 °C / 32.0 to 212.0 °F Resolution: 0.1 °C / 0.1 °F Accuracy: $\pm 0.3$ °C / $\pm 0.5$ °F (0 to 70 °C) Compensation: ATC / MTC (0 to 100 °C) (pH only) Calibration: Offset in 0.1 °increments; Offset range: $\pm 5.0$ °C / $\pm 9.0$ °F Power Requirements: 9 V DC adapter, 1.3 A (100/240 VAC, SMPS)	02 Nos.	
103.	<b>Single Pan Weighing balance</b> <b>Material:</b> ABS Plastic <b>Die-cast:</b> Aluminum <b>Display type:</b> Backlit LCD <b>Readability:</b> 0.1mg evidence of installation at least three reputed research organization or pharmaceutical companies	02 Nos.	
104.	<b>High Voltage Power Supply Constant Voltage</b> <ul style="list-style-type: none"> <li>• 3kW</li> <li>• 0-750V through 0-1500V</li> <li>• 2U Rack Mount</li> <li>• Floating Output with 1500V Isolation</li> <li>• Low Ripple</li> <li>• Constant Voltage/Constant Current Operation</li> <li>• Field Strappable Parallel Operation</li> <li>• RS232, RS485, USB, &amp; Optional Ethernet Control</li> </ul> <b>Dimensions:</b> 3.47 x 19.00 x 20.00 in (88.1 x 482.6 x 508.0 mm) <b>Input Voltage:</b> 198-264 VAC <b>Efficiency:</b> Up to 85% <b>Operating Temp:</b> -20 to +40 °C <b>Worldwide Safety Approvals:</b> IEC61010-1:2010	02 Nos.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<b>EMC:</b> EN61000-6-4:2007, Class A EN61000-6-2:2005		
105.	<b>Magnetic stirrers / heaters</b> Laboratory hotplate/stirrer with warm-up time ambient to maximum of 9 minutes, approx. 225 sq.cm heating surface area, , maximum temperature approx. 510 deg. C, stirring range approx 100 to 1000 rpm. Unit to be supplied complete with PTFE coated stirring rods. Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan	02 Nos.	
106.	<b>Vortex Mixers</b> Speed: 0 to 3,000rpm Height (English) Exterior: 3.3 in. Length (English) Exterior: 8.3 in. Width (English) Exterior: 6.1 in. Height (Metric) Exterior: 83mm Length (Metric) Exterior: 210mm Width (Metric) Exterior: 154mm Load Bearing Capacity: 0.5kg (1.1 lb.) Shipping Weight (English): 6.8 lb. Shipping Weight (Metric): 3.1kg Voltage 100 to 240V Hertz: 50/60Hz Certifications/Compliance: CE Operating Modes: Continuous / Touch Dimensions (L x W x H) Exterior 8.3 x 6.1 x 3.3 in. (210 x 154 x 83mm) Electrical Requirements: 100 to 240V 50/60Hz	01 No.	
107.	<b>Lypholize equipment with all accessories</b> Ice condenser capacity: 8 kg Ice condenser performance: 6 kg/24 h Ice condenser temperature: -55 °C Dimensions of base model (W x H x D): 780 x 415 x 540 mm Weight : 63 kg Communication port: Ethernet Conversion of product temperature and vacuum according to the vapour pressure curve above ice Touch screen <b>Accessories:</b> i) <b>Two drying chambers with a total of 24 connections for round-bottom flasks, wide-neck bottles or ampoule distributors</b> Max. number of acrylic chambers: 2 Diameter of acrylic chamber: 300 mm Max. connections: 24	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	ii) <b>Five unheated shelves</b> Max. number of shelves: 5 Shelf diameter: 250 mm Total shelf area: 0.25 m <sup>2</sup> Distance between shelves: 79 mm Diameter of acrylic chamber: 300 mm		
108.	<b>Deionizing Plant</b> Capacity: 10- 100L / hour TOC: 1-3 ppb Inlet pressure: 1-5 bar RO removal rate: ≥98% Output conductivity: ≥0.5- 1 μs Input conductance: ≥ 800 μs Bacteria: ≥0.1 ppb Online conductivity meter/ TDS meter Power supply: 220 V, 50 Hz Double jacketed tank temperature control: 100 L, SS316L, food grade	1 No.	
109.	<b>Deep Freezer -80 °C</b> Upright orientation, -50 to -86 °C, above 628 liter capacity, back-up liquid nitrogen option, key-lock access control, sensor alarm, 5-6 inner doors, LAN option, racks provision. Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan	01 No.	
110.	<b>Vacuum Pump</b> <b>Max. vacuum:</b> 893 millibar <b>Max. flow rate:</b> 21 l/min <b>Motor rotation:</b> 1700 RPM <b>Horse power:</b> 1/8 HP <b>Noise level:</b> 50.0 dB <b>Frequency driver:</b> variable <b>Phase:</b> single <b>Filter:</b> Post- free <b>Type:</b> Diaphragm Oil free, pressure gauge, adaptive vacuum control (set point with optimum range)	02 Nos.	
111.	<b>Immuno-electrophoresis equipment setup (Western Blot)</b> <ul style="list-style-type: none"> <li>• Trans-Blot Turbo Blotting Instrument</li> <li>• 2 blotting cassettes</li> <li>• Blot roller</li> <li>• 10 Nitrocellulose Transfer Packs</li> <li>• Starter consumables</li> <li>• 1–2 midi gels in a single run</li> </ul>	01 No.	
112.	<b>Sterilizing setup (Autoclave)</b>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	Type: Double Door (pulse vacuum) Capacity: 50-200 Liters Inner chamber: SS 316L Outer jacket: SS304 Welding: organ welding HMI and touch panel for parameter display Pressure gauges and temperature gauges (analog and digital display) Safety devices including: Pressure safety valve Stream exhaust valve Pressure switch Vacuum breakoff valve Stream exhaust manual valve Temperature range: 140°C, 4bar (pressure) Touch screen control Sterilization program Access rights with code security		
113.	<b>Tool Box</b> Tools box consisting of a selection of tools for adjusting or repairing analytical instruments needed in the lab. Kit should include: <ul style="list-style-type: none"> <li>• Padlock</li> <li>• Flashlight</li> <li>• Five open-end wrenches: 1/4 x 5/16", 3/8 x 7/16", 1/2 x 9/16", 7/16 x 1/2", 5/8 x 3/4"</li> <li>• 6" adjustable wrench</li> <li>• 12" adjustable wrench</li> <li>• 7½" long-nose pliers</li> <li>• 7½" slip-joint pliers</li> <li>• 4" Phillips head screwdriver, No. 1</li> <li>• 4" Phillips head screwdriver, No. 2</li> <li>• Four flat-blade screwdrivers</li> <li>• Eleven-piece hex key wrench set</li> </ul>	01 No.	
114.	<b>Hamilton Syringes</b> Gas-tight type syringes that minimizes the gas exchange in GC analysis. Should give accurate volume delivery with an unsurpassed plunger. Tip threaded in a luer lock syringe that should allow the needle to be tightly screwed to the tip. Volume 100 ul.	02 Nos.	
115.	<b>Plasma separator</b> <b>Pressure Plate:</b> Acrylic <b>Control:</b> Manual <b>Size (W x D x H)cm:</b> 17x25x24cm <b>Weight:</b> 3kg Approx.	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
116.	Stainless steel vessels with lids, outer jacket, a mechanical stirring, temperature control from 0C to 130C, pressure rated vessel with certification, Probe immersion ports for pH , temperature and one spare probe, sampling port, harvesting port, sight glass aseesmbly. PLC based automatic control. 5-10 liters capacity.	02 Nos.	
117.	Stainless steel vessels with lids, outer jacket, a mechanical stirring, temperature control from 0C to 130C, pressure rated vessel with certification, Probe immersion ports for pH , temperature and one spare probe, sampling port, harvesting port, sight glass aseesmbly. PLC based automatic control. 20-30 liters capacity.	02 Nos.	
118.	Stainless steel vessels with lids, outer jacket, a mechanical stirring, temperature control from 0C to 130C, pressure rated vessel with certification, Probe immersion ports for pH , temperature and one spare probe, sampling port, harvesting port, sight glass aseesmbly. PLC based automatic control. 200 liters capacity.	02 Nos.	
119.	Stainless steel vessels with lids, outer jacket, a mechanical stirring, temperature control from 0C to 130C, pressure rated vessel with certification, Probe immersion ports for pH , temperature and one spare probe, sampling port, harvesting port, sight glass aseesmbly. PLC based automatic control. 100 litres capacity but with stirring arrangement.	02 Nos.	
120.	<b>pH meter, direct reading pH meter</b> Electrode arm, electrode lead and shorting plug. , Measurement of pH, millivolts and temperature, 0-14 ph range, Temperature compensation, 3 point calibration, preferably combined pH and conductivity measurement capacity.	02 Nos.	
121.	<b>Metallic Filter press of 40 x 40 cm multiple plates</b> To be used for filtration of solids from liquids in comparatively higher batch sizes. The Press should be precisely sized for the required filtration area and cake holding capacity. It finds application in pre-filtration of sterile products, syrups, beverages etc. Required with plate size of 40 x 40 cms. Provided with Hydraulic Power Pack as the closing device for units having higher filtration area. Should facilitate two-step filtration.	02 Nos.	
122.	<b>S.S. Seitz filter 'Pilot Z'</b> Size 20 x 20 Cr-Ni-Mo steel model, filter on supporting frame with filter plates made of Cr-Ni-Mo steel. Dimensions 20x20 cm. For filtration on supporting frames with filter plates made up of Cr-Ni-Mo steel. Steam sterilizable to 125 °C for 30 minutes.	02 Nos.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
123.	<p><b>Filter sheet 20x20 cm of 0.8 micron, 0.22 micron and 0.45 micron</b>            20cm x 20cm filter pads made for 20x20 plate filters. Pore sizes of 0.8, 0.22 and 0.45 micron pads. Should be able to filter 90-95% of all particulate matter at the micron rating.            The filters should be sterilized by in-line steam, auto-claving, dry heat, hot water or chemical methods.</p>	500 Nos.	
124.	<p><b>Vial filling machine</b>            No. of Filling Head: 1            No. of Capping Head: 1            Direction: Linear (Left to right)            Filling Type: Volumetric Piston Pump Type            Vial Sizes: 02ml to 100ml Glass Vials            Filling Capacity: 01ml to 100ml            Filling Accuracy: + 1%            Production per Minute: 10 to 15 vials per minute (Depend on size)            Stopper Size: 13mm, 20mm, 28mm &amp; 32mm (Suitable for full and half stoppering)            Electrical Input: 2 H.P. For Main Machine, 0.25 H.P. For Conveyor            Power Requirements: 415 Volts, 3 Phase, 50 Hz (4 wire systems)            Dimension: 1500mm (L) x 900mm (W) X 1500mm (H)            Automated capping system: Yes</p>	01 No.	
125.	<p><b>Centrifuge-table model</b></p> <ul style="list-style-type: none"> <li>• Capacity for 4 x 100 ml at a speed of 5.000 rpm</li> <li>• Many rotors and adapters available for both swingout and fixed angle rotors as well as microplate rotors</li> <li>• High speed microrotors up to 17.000 rpm / 26.810 xg</li> <li>• High speed angle rotors for 85 ml or 50 ml up to 13.500 rpm / 20.986 xg</li> <li>• Rotors are easy interchangeable</li> </ul>	01 No.	
126.	<p><b>Electric Balance (Analytical Balance)</b>            0.001g-200gm range with casing, evidence of installation at at least three reputed research organization or pharmaceutical companies. IQ/OQ documentation.            Equipment should have USA FDA / CE / JIS.            Origin: Europe / UK / USA / Japan</p>	01 No.	
127.	<p><b>Single pan weighing balance</b>            Precision single pan weighing balance with 2.5 kg with two decimal place calibration Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan</p>	01 No.	
128.	S.S. Large forceps to handle snakes. 24" x 30" in length.	02 Nos.	



Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
129.	<p><b>Vial Washing Machine</b>  Type: Pharmaceutical Packaging  Machine Material: SS  Capacity: 2ml to 100ml Milliliter (mL)  Computerized: Yes  Control Mode: Automatic  Voltage: 415V Watt/Volt (w/v)  Power: 3 HP Biot (Bi)  Weight (kg):800 Kgs Kilograms (kg)  Dimension (L*W*H):2050mm (L) X 2000mm (W) Millimeter (mm)  Color: Matt</p>	01 No.	
130.	<p><b>Drying &amp; Sterilization oven double door heavy duty to maintain temperature up to 220°C</b>  <b>Volume (l):</b> 400  <b>Exterior dimensions (W x H x D) (mm):</b> 1234 x 1022 x 765  <b>Interior dimensions (W x H x D) (mm):</b> 1000 x 800 x 500  <b>Heating up time at 150°C (min):</b> 62  <b>Uniformity at 150°C (± °C):</b> 3.0  <b>Voltage (50/60 Hz):</b> 400 V 3N ~</p> <ul style="list-style-type: none"> <li>▪ Electronically controlled preheating chamber</li> <li>▪ Temperature range 5 °C (32 °F) above ambient temperature up to 300 °C (572 °F)</li> <li>▪ Digital temperature setting with an accuracy of one degree</li> <li>▪ DS controller with integrated timer 0 to 99 h</li> <li>▪ Independent adjustable temperature safety device class 2 (DIN 12880), with visual temperature alarm</li> <li>▪ Adjustable front ventilation flap slide and rear exhaust ø 50 mm (1.97 inch)</li> <li>▪ With or without RS 422 Interface for use with optional GMP/GLP and</li> <li>▪ FDA guideline 21 CFR Part 11 compliant Data Control System software</li> </ul> <p>2 chrome-plated racks included</p>	01 No.	
131.	<p><b>Cold room to maintain temperature 2-8°C</b>  <b>Temp. Range:</b>2-8°C  <b>Chamber Size:</b> 6'x 6' x 8'  <b>Controller:</b> PLC controller  <b>Temp. Display:</b> Digital LED/LCD  <b>Construction:</b> Pre-fabricated panels made of stainless steel / GI sheet or combination.  <b>Puff Panels:</b> Pre-engineered polyurethane foamed panels fastened together by means of Cam Locks actuated by an Allen Key and two stage Cam action speed locks to assemble panels together.  <b>Outer Panels:</b> Outer panels are made of GI coated/ CPRCA</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>sheet/Stainless Steel</p> <p><b>Interior Panels:</b> Interior panels are made of Stainless Steel / Pre-painted Sheet.</p> <p><b>Floor:</b> Stainless steel panel floors are available and in addition, Spencers offers a variety of insulated floors depending on the kind of application. For normal Walk-in applications, Modular floor panels with an aluminium chequered plates are also provided.</p> <p><b>Door:</b> Single leaf, hinged type doors with magnetic gaskets for tight sealing provide easy access to Pre fab rooms. Safety release knob enable easy opening from inside even when door is locked. (Doors available as per user requirement)</p> <p><b>Door Locks:</b> Doors to cold rooms are lockable with 100% fail safe provision for opening from the inside. Robust lock with key &amp; failsafe feature.</p> <p><b>Insulation:</b> Polyurethane foam insulation</p> <p><b>Racks/Shelves:</b> Stainless steel (304) / Aluminum racks as per customer requirement.</p> <p><b>Lightning:</b> Interior fluorescent lightning.</p> <p><b>Refrigeration:</b> superior refrigeration system with optional Backup refrigeration system.</p> <p><b>Compressor:</b> Redundant compressor. The compressor is distinguished by its excellent performance, low noise level (&lt;60dB) and minimal vibration.</p> <p><b>Condenser:</b> Highly efficient copper condenser with automatic condensate evaporating system.</p> <p><b>Evaporator:</b> Internal evaporator system forced draught</p> <p><b>Refrigerant:</b> Non-CFC/HCFC (copper) environmental friendly based on compressor capacity.</p> <p><b>Defrost:</b> Electric defrost / Automatic timer defrost.</p> <p><b>Alarms:</b> Fitted with an audio-visual alarm system to warn of high or low temperature.</p> <p><b>Power Supply:</b> 220 volts, 50Hz / 110 volts, 60Hz. Online data logger including temperature and humidity with appropriate data backup</p> <p><b>Access control:</b> RF ID</p>		
132.	Stainless steel table with washing sinks stainless steel with hot & cold arrangements measuring 12" depth 18" length 12" width	01 No.	
133.	<p><b>Laminar flow Class II safety Cabinets 99.99% efficient 4 x 6 feet wide cabinet imported</b></p> <p><b>With 10% deviation of PC- I Laminar Flow Hood (Dispensing Booth)</b></p> <p>Maximum operator, product and environment protection, negative pressure plenum, divided table top, Trough made of stainless steel, transparent side of safety glass operated for 3 valves in both sides, Hepa filter with efficiency of min.</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>99.999% against particles of 0.3µm, low noise level, light intensity &gt; 1100 lux, slopping sash window of glass electric hoisting, electric outlets, placed at right and left sides, microprocessor controller with velocity indicator, visual and acoustic alarms warning if any safety parameters are incorrect, Key switch, fitted with UV light sterilisation lamp, 1 Gas valve, Flock filter for fan protection, Working surface 6', with DQ, IQ, OQ and PQ documentation installed in at least three reputed research and/or pharmaceutical organizations.</p> <p><b>Standard Accessories:</b></p> <ol style="list-style-type: none"> <li>1. HEPA filters should be H14 with 99.99% efficiency for 0.3 micron with integral metal guards &amp; filter frame gaskets and manufactured in class 1000 super clean air conditioned environment for longer life.</li> <li>2. Air pressurization system should be statically and dynamically balanced, fitted with special vibration reducing system to suit low noise and vibrations.</li> <li>3. Front door should be made of polycarbonate/ toughened glass (6 mm), adjustable as per lab requirement, vertical sliding (one piece with counter weight arrangement for fingertip control).</li> <li>4. Side walls should be made of stainless steel [(304 grade) - Heavy gauge- 14 G].</li> <li>5. Should have Fluorescent light with low energy choke less to withstand larger fluctuations in voltage, should be placed outside working zone to avoid turbulence.</li> <li>6. Should have support stand with levelling screws adjustable from 55-85 mm.</li> <li>7. UV lamp should be in working zone (40 micro watts/ square cm at 254 nm orbetter) and placed so that the operator cannot see directly i.e. eyes should be always protected.</li> <li>8. Universal Service fittings for gas and air should be provided with gas burner along with gas cylinder which can be refilled on requirement.</li> <li>9. Should have Rehabitable pre filters should have efficiency of more than 80%.</li> <li>10. Should have Switches &amp; Electrical sockets outlets for 15/5 amp.</li> <li>11. Should have Pressure Monitors like Magnehelic gauge are required to indicate pressure drop across HEPA filter.</li> <li>12. Should have DOP Port</li> <li>13. Should have current leakage circuit breaker</li> <li>14. Should have air tight duct exhaust extension</li> <li>15. Should have Contaminated plenum in negative pressure to prevent leakage into the environment. Exhaust blower should be placed outside at roof top level.</li> <li>16. Exhaust blower should be capable for 100% exhaust</li> </ol>		

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p>interconnected with supply air blower; system should only start when the negative pressure is developed.</p> <p>17. Special provisions should be there, If, by chance the exhaust blower is not working properly, the operator will get a buzzer. Should have Audible alarm to warn the operator if the window is raised above the recommended height of 203 mm (8 inches)</p> <p>19. Should have Air short circuiting or the bye pass arrangement: By chance there is ingress of fresh air from the top of front shutter, this ingress should not percolate into the working zone: but will be short circuited to return duct at the back. Safety suction points near the upper portion of the front shutter transfer short circuit dirty air into the exhaust/ return duct.</p> <p>20. Should have Adjustable zero leak proof damper at supply air intake &amp; exhaust ducting.</p> <p>21. Should have Special provision for system which gives alarm to stop supply air in case the negative pressure goes beyond certain limit to stop contamination egress to laboratory.</p> <p>22. Should have Spillage trough below the working table of 16G heavy duty stainless steel. This trough should have drain cock.</p> <p>23. Back holes should be there on vertical walls to provide more work area on table top.</p> <p>24. Should have Exhaust Ducting at the roof top (approx. 30 feet) from the cabinet site.</p>		
134.	<p><b>Kjeldahl apparatus for N2 determination</b>  <b>Measuring range:</b> 0.1mg ~ 200mg N  <b>Analysis time:</b> 5~10min/sample  <b>Reproducibility:</b> Average value relative error <math>\pm 0.5\%</math>  <b>Recovery:</b> <math>\geq 99.5\%</math>  <b>Burette volume:</b> 1.0<math>\mu</math>L/step  <b>Sample capacity:</b> solid <math>\leq 5</math>g/sample, liquid <math>\leq 20</math>mL/sample  <b>Water consumption in the distillation process:</b> 1.5L/min  <b>Data storage capacity:</b> 1800 groups  <b>Power supply:</b> 220VAC<math>\pm 10\%</math>, 50Hz  <b>Power:</b> 2Kw  Net weight: 38Kg  <b>Dimensions:</b> 455mm<math>\times</math>391mm<math>\times</math>730mm</p>	01 No.	
135.	<p><b>Peristaltic Ultra Filtration Pumps</b></p> <ul style="list-style-type: none"> <li>▪ The drive is powered by a 1/10 hp permanent magnet motor. Rpm range is 1 to 100 for #170100 for rat and larger species and 20 to 600 for the 170600 for mouse.</li> <li>▪ The Speed control is via an up/down arrow and digitally controlled.</li> <li>▪ Easy-Load pump heads use an over-center cam for easy</li> </ul>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)												
	<p>tubing changes. They are interchangeable with all non-high-capacity pump heads and drive systems.</p> <ul style="list-style-type: none"> <li>▪ The pump heads are “stackable” up to 4 heads. Stainless steel rotor assemblies are available.</li> <li>▪ Chemical resistant painted steel drive housing measures 6-3/8W x 5-3/8H x 11-3/8D.</li> <li>▪ <b>Voltage:</b> 220-240VAC</li> <li>▪ <b>Components:</b>  170600: 2 to 600 rpm peristaltic pump drive (rat heart)  170110: Easy Load Pump Head 3 Roller (rat heart)</li> <li>▪ Flow Rates with the #170600 pump drive and #170110 pump head (Rat)</li> </ul> <table border="1" data-bbox="272 763 943 945"> <thead> <tr> <th data-bbox="277 770 424 869">Tubing</th> <th data-bbox="429 770 628 869">ml per revolution of pump head</th> <th data-bbox="633 770 783 869">20 pm min</th> <th data-bbox="788 770 938 869">600 rpm max</th> </tr> </thead> <tbody> <tr> <td data-bbox="277 875 424 904">LS 13</td> <td data-bbox="429 875 628 904">0.05</td> <td data-bbox="633 875 783 904">1ml</td> <td data-bbox="788 875 938 904">30ml</td> </tr> <tr> <td data-bbox="277 911 424 940">LS 16</td> <td data-bbox="429 911 628 940">0.61</td> <td data-bbox="633 911 783 940">12.2ml</td> <td data-bbox="788 911 938 940">366ml</td> </tr> </tbody> </table>	Tubing	ml per revolution of pump head	20 pm min	600 rpm max	LS 13	0.05	1ml	30ml	LS 16	0.61	12.2ml	366ml		
Tubing	ml per revolution of pump head	20 pm min	600 rpm max												
LS 13	0.05	1ml	30ml												
LS 16	0.61	12.2ml	366ml												

## SECTION (C)

### EQUIPMENT FOR QUALITY CONTROL CELL FOR BIOLOGICAL RAW MATERIAL LAB – LABORATORY ANIMAL SCIENCES (LAS)

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
136.	<p><b>Electrophoresis Horizontal</b> Complete Set - Including base gel running unit, safety lid, at least two casting trays and combs. Gel Casting Tray: Two 15 x 10 cm UV transparent tray, casting gates, gel caster. Standard form; Trans illuminator, UV Combs sizes: two 15 and 20 well compatible with multichannel pipettes Power Supply: Power Supply suitable for horizontal gel electrophoresis, Constant voltage and constant current modes , Output Voltage: Adjustable from 0/5/10V to 500V/600V with an increment of 1 V or less , Output Current: up to 800/1000 mA with increment of 1 mA , Terminals/ Sockets : 4 Pairs/4 , Safety: All necessary safety provisions like Over load, No load, Sudden change in load, power failure indication, Over Temperature and safe plugs and sockets Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan</p>	01 No.	
137.	<p><b>PowerPac (Power Supply for Gel Systems)</b> <b>Output specifications:</b> 500 V, 2.5 A, 500 W <b>Output range (programmable):</b> 10–500 V, fully adjustable in 1 V steps 0.01–2.5 A, fully adjustable in 0.001 A steps 1–500 W, fully adjustable in 1 W steps <b>Type of output</b> : Constant voltage, constant current, or constant power with automatic crossover <b>Output terminals:</b> 4 pair recessed banana jacks floating in parallel <b>Timer control:</b> 1 min–99 hr 59 min, fully adjustable <b>Volt-hour control:</b> 99,000 V-hr <b>Pause/resume function:</b> Yes <b>Programmable methods:</b> Stores 9 methods, each with up to 9 steps <b>Real-time clock:</b> Yes <b>Automatic recovery after power failure:</b> Yes <b>Display:</b> 128 x 64 pixel, backlit graphics LCD <b>Safety features:</b> No-load detection, sudden load change detection, ground leak detection, overload/short circuit</p>	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	protection, overvoltage detection, input line protection, auto power-up after power failure <b>Input power (nominal):</b> 100–120/220–240 VAC, 50/60 Hz, auto-switching <b>Operating conditions:</b> 0–40°C, 0–90% humidity in the absence of condensation <b>Dimensions (W x L x H), cm/in:</b> 27.5 x 34 x 10/10.8 x 13.4.x 3.9 <b>Weight, kg/lb:</b> 2.5/5.5		
138.	<b>PH Meter&amp; Other Functions</b> Electrode arm, electrode lead and shorting plug. , Measurement of pH, millivolts and temperature, 0-14 ph range, Temperature compensation, 3 point calibration, preferably combined pH and conductivity measurement capacity with IQ, OQ and PQ documentation. Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan	02 Nos.	
139.	<b>-40°C cold Storage (-40°C to -80 °C freezer)</b> Upright orientation, -50 to -86 °C, above 628 liter capacity, back-up liquid nitrogen option, key-lock access control, sensor alarm, 5-6 inner doors, LAN option, racks provision. Equipment should have USA FDA / CE / JIS. Origin: Europe / UK / USA / Japan	01 No.	
140.	<b>Pharmacy Refrigerator</b> <b>Capacity (L):</b> 360 <b>Voltage/Frequency:</b> 220/50 <b>Power (W):</b> 430 <b>Temperature range (°C):</b> 2~8 <b>Door:</b> Single-layer glass <b>Shelves/Inner door:</b> 5/- <b>Interior Dimensions (mm) (W x D x H):</b> 550 x 460 x 1340 <b>Exterior Dimensions (mm) (W x D x H):</b> 620 x 655 x 1955	01 No.	
141.	<b>Double Distillation Plant</b> <b>Output capacity:</b> 5- 20 L/ hour <b>TOC:</b> 1-3 ppb <b>Heating element:</b> ceramic bobbin heater with nichrome <b>Purified water supply:</b> 1L/ min Online conductivity meter Accessories: Metallic stand High/ low Water cut off switch	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<p><b>Power:</b> 220V, 50 Hz</p> <p><b>Bacteria:</b> ≥0.1</p> <p><b>Double jacketed water tank:</b> 100L, SS316L, food grade</p>		
142.	<p><b>Autoclave</b></p> <p>Type: Double Door (pulse vacuum)</p> <p>Capacity: 50-200 Liters</p> <p>Inner chamber: SS 316L</p> <p>Outer jacket: SS304</p> <p>Welding: organ welding</p> <p>HMI and touch panel for parameter display</p> <p>Pressure gauges and temperature gauges (analog and digital display)</p> <p>Safety devices including:</p> <p>Pressure safety valve</p> <p>Stream exhaust valve</p> <p>Pressure switch</p> <p>Vacuum breakoff valve</p> <p>Stream exhaust manual valve</p> <p>Temperature range: 140°C, 4bar (pressure)</p> <p>Touch screen control</p> <p>Sterilization program</p> <p>Access rights with code security</p>	01 No.	
143.	<p><b>Heating oven with forced convection FED 240 UL</b></p> <p>Internal Dimensions 23.6 x 31.5 x 19.7"</p> <p>Temperature range 5 °C / 9 °F above ambient up to 300 °C / 572 °F</p> <p>Patented APT.line® preheating chamber assuring temperature accuracy and reproducible results</p> <p>Fast and uniform drying with mechanical convection of large sample amounts with a digitally adjustable fan</p> <p>MS controller, timer and one adjustable temperature ramp</p> <p>Timer functions: 0 to 99 h 59 min delayed ON, 0 to 99 h 59 min delayed OFF, 0 to 99 h 59 min temperature-dependent delayed OFF</p> <p>Digital temperature setting with an accuracy of one degree</p> <p>Adjustable fan speed (0 - 100 %)</p> <p>Front ventilation flap slide and rear exhaust duct (50 mm / 1.97 inch)</p> <p>2 chrome-plated racks included</p> <p>Units are stackable</p>	01 No.	
144.	<p><b>Overhead Stirrer</b></p> <p><b>Maximum stirring capacity:</b> 20 Liters</p> <p><b>Minimum stirring capacity:</b> 100 ml</p> <p><b>Torque:</b> 40 Ncm</p> <p><b>Viscosity maximum:</b> 10000 mPas</p> <p><b>Speed range:</b> 50-2200 rpm</p>	01 No.	



Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	<b>Speed display accuracy:</b> $\pm 3$ rpm <b>Speed display resolution:</b> $\pm 1$ rpm <b>Chuck diameter range:</b> 0.5-10mm <b>Dimensions:</b> 3.3 W x 8.7 H x 7.3 D inches <b>Motor rating input:</b> 60W <b>Motor rating output:</b> 50W <b>Weight:</b> 5.5lbs <b>Voltage:</b> 110-220Volts 50/60Hz, 70W		
145.	<b>Analytical Balance</b> <b>Display:</b> Colored Touchscreen <b>Draft shield:</b> Manual <b>Line voltage:</b> 100 – 240 V, 50 – 60 Hz <b>Repeatability:</b> 0.1 mg <b>Readability:</b> 0.1 mg <b>Weighing capacity:</b> 120 g <b>Dimensions (W x D x H):</b> 218 x 360 x 320 mm <b>Weight (approx.):</b> 4.5 kg <b>Linearity:</b> 0.2 mg <b>Typical stabilization time:</b> 2 s <b>Weighing pan diameter:</b> $\varnothing$ 90 mm <b>Weighing chamber height:</b> 209 mm <b>Weighing units:</b> g, ct, mom, kg, lb, oz, ozt, tlh, tls, tlt, GN, dwt, mg, parts   lb, tlc, Kt, tol, bat, MS, N	01 No.	
146.	<b>Densitometer</b> <b>Measurement Range:</b> 0 g/cm <sup>3</sup> – 3 g/cm <sup>3</sup> <b>Accuracy:</b> $\pm 0.001$ g/cm <sup>3</sup> <b>Repeatability:</b> 0.00005 g/cm <sup>3</sup> <b>Resolution:</b> 0.001 g/cm <sup>3</sup> <b>Temperature control:</b> Yes <b>Temperature control range:</b> 15 °C – 25 °C <b>Measurement scales:</b> Density; Specific gravity <b>Max. Number of Methods:</b> 1 <b>Minimum Sample Volume:</b> 1.2 mL <b>Dimensions (Width x Height x Depth):</b> 170 x 156 x 273 mm <b>Weight:</b> 4.8 kg	01 No.	
147.	<b>Micropipette -Variable Volume</b> Adjustable Volume micro Pipette: 0.1-2 $\mu$ l Accuracy: $\pm 0.01$ – 1.0% Sterilization: Autoclave at 121°C for 20 Minutes	01 No.	
148.	<b>Micropipette -Variable Volume</b> Adjustable Volume micro Pipette: 1-10 $\mu$ l Accuracy: $\pm 1.00\%$ Volume of Tip: 1-10 $\mu$ l (White tips) Sterilization: Autoclave at 121°C for 20 Minutes	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
149.	<b>Micropipette -Variable Volume</b> Adjustable Volume micro Pipette: 10-100 µl Accuracy: ±1.8 - 0.8% Repeatability: ≤0.5 - 0.15% Volume of Tip: 2-200 µl (yellow tips) Sterilization: Autoclave at 121°C for 20 Minutes	01 No.	
150.	<b>Micropipette -Variable Volume</b> Adjustable Volume micro Pipette: 100-1000 µl Accuracy: ±1.5 - 0.6% Repeatability: ≤0.3 - 0.15% Volume of Tip: 100-1000 µl (Blue tips) Sterilization: Autoclave at 121°C for 20 Minutes	01 No.	
151.	<b>Multichannel Pipette</b> Number of Channels: 12 Volume (Metric) Range : 30 to 300µL Increments: 1µL	01 No.	
152.	<b>Multichannel Pipette</b> Number of Channels: 12 Volume (Metric) Range : 0.1 to 10µL Increments: 1µL	01 No.	
153.	<b>Serological Pipet Filler (Pipet Boy)</b> <b>Dispensing Speed:</b> 8 <b>Volume (Metric) Range:</b> 1 to 100mL <b>Electrical Requirements:</b> 100 to 240V 50/60Hz <b>Filter Type:</b> 0.45 Micron Standard (Mfr part numbers 4580560 and 9057) <b>Hertz:</b> 50/60Hz <b>Must include:</b> universal charger, table stand, wall-mounted holder, 1mL pipet support, instruction manual and warranty card <b>Pipette Compatibility:</b> All major brands of glass or plastic serological pipets, 1 to 100mL <b>Recharge Time:</b> 3 hours <b>Voltage:</b> 100 to 240V	02 Nos.	
154.	<b>Deionization Plant Small (RO plant)</b> <b>Capacity:</b> 50 – 500L / hour <b>Pretreatment:</b> sand, carbon, multimedia Fully automated with human machine interface and PLC based operation <b>Piping material:</b> Hydrosedl (Canada) <b>Pump:</b> Antiscalant pump <b>Chemical dosing pump:</b> 2 number RO membranes (imported) <b>pH:</b> 5.0 – 7.5 <b>Feed water TDS:</b> 450 -550 ppm	01 No.	

Item No.	Name of Goods, Technical Description, Specifications and Standards	Quantity Required	Minor / Major deviation (if any)
	Product water TDS: $\geq 50$ ppm Mineralization system is required Silt density index: $\leq 2$		

**SPECIAL NOTE:**

- i. **Item-wise product compliance / deviation statement must be attached.**
- ii. **FINANCIAL BIDS MUST BE SUBMITTED ON SEPARATE ITEM BASIS.**
- iii. **Confirm delivery period must be provided.**
- iv. **The “Origin” means the place where the “goods” are mined, grown, or produced. Hence, clearly mention country of origin of company and country of origin of manufacturing of offered equipment.**
- v. **Port of Shipment and Country of origin of “MAJOR PART(S) OF THE EQUIPMENT” must be clearly reflected separately in the Technical and Financial bids.**
- vi. **The above specifications are only for widest possible competition and not for favor any single contractor or supplier nor put others at a disadvantage. However, the brand name, catalogue No. / Name etc. has only been used for the reference purpose. Goods offered “AT LEAST EQUIVALENT OR BETTER QUALITY” to requisite specifications shall also be considered.**
- vii. Equipment must be quoted with all the standard accessories.
- viii. Quoted equipment should be of latest Model.
- ix. UPS/Power protection for the equipment shall be incorporated in the systems, otherwise prices must be quoted separately.
- x. All the civil works will be carried-out by the Dow University of Health Sciences, Karachi with the consultation of the responsive bidder.
- xi. All site specific work to be required in the system viz. Lead Glass/special antistatic flooring, environment control/radiation protection must be quoted separately.
- xii. The bidder shall separately quote the price of service contract inclusive of parts as well as excluding the parts for 5 years (minimum) in term of %age for total contract value.









**2. (a) PRICE SCHEDULE IN PAK RUPEES delivered duty paid (DDP BASIS)**

**FOR GOODS OFFERED WITHIN THE PROCURING AGENCY’S COUNTRY**

S#	Detailed Specification of Goods	Model / Cat No.	Name of Manufacturer	Country of Origin	Port of Shipment	Quantity of Stores	Unit	Rate Per Unit	Total Price
1	2	3	4	5	6	7	8	9	10
<b>Total Amount in Pak Rs.</b>									

Name \_\_\_\_\_

In the capacity of \_\_\_\_\_

Signed \_\_\_\_\_

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

Date \_\_\_\_\_

**NOTE:**

Port of Shipment and Country of origin of “MAJOR PART(S) OF THE EQUIPMENT” must be clearly reflected separately in the Technical and Financial bids. The “Origin” means the place where the “goods” are mined, grown, or produced.



**2. (B) PRICE SCHEDULE IN FOREIGN CURRENCY  
(CFR / CNF/ C&F / CPT BASIS)**

**FOR GOODS OFFERED FROM OUTSIDE THE PROCURING AGENCY'S  
COUNTRY**

S#	Detailed Specification of Goods	Model / Cat No.	Name of Manufacturer	Country of Origin	Port of Shipment	Quantity of Stores	Unit	Currency	Rate Per Unit	Total Price
1	2	3	4	5	6	7	8	9	10	11
<b>Total Amount in Foreign Currency</b>										

Name \_\_\_\_\_

In the capacity of \_\_\_\_\_

Signed \_\_\_\_\_

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

Date \_\_\_\_\_

**NOTE:**

Port of Shipment and Country of origin of "MAJOR PART(S) OF THE EQUIPMENT" must be clearly reflected separately in the Technical and Financial bids. The "Origin" means the place where the "goods" are mined, grown, or produced.