



**LIAQUAT UNIVERSITY OF MEDICAL & HEALTHS
SCIENCES JAMSHORO**

BIDDING DOCUMENTS

FOR

***Establishment of Equipment/Design,
installation, commissioning training for College of
Pharmacy at Liaquat University of Medical & Health
Sciences, Jamshoro.***

PART ONE(FIXED)

- Instructions to Bidders(ITB)
- General Conditions of Contract (GCC)

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Instructions to Bidders

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Instructions to Bidders

A. Introduction

1. Source of Funds

1.1 The Procuring agency has received /applied for loan/grant/federal/provincial/local government funds from the source(s) indicated in the bidding data in various currencies towards the cost of the project/schemes specified in the bidding data and it is intended that part of the proceeds of this loan/grant/funds/will be applied to eligible payments under the contract for which these bidding documents are issued.

1.2 Payment by the Fund will be made only at the request of the Procuring agency and upon approval by the Government of Sindh and incase of a project will be subject in all respect to the terms and conditions of the agreement. The Project Agreement prohibits a with drawl from the allocated fund account forth purpose of any payment to person so entities, or for any import of goods, if such payment or import, to the knowledge of the Federal Government/ Sindh Government, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Procuring agency shall derive any rights from the Project Agreement or have any claim to the allocated fund proceeds.

2. Eligible Bidders

2.1 This Invitation for Bids is open to all suppliers from eligible source as defined in the SPP Rules, 2010 and its Bidding Documents except as provided hereinafter.

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

2.3 Government-owned enterprises in the Province of Sindh may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Sindh.

2.4 Bidders shall not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by the

2.5 Bidder should have minimum 10 years experience in supply in Pakistan.

2.6 Bidder must have Trained Person including application to perform experiment at sites for minimum 3 years.

- any government organization in accordance with sub clause 34.1
- 3. Eligible Goods and Services**
- 3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, defined in the SPP Rules, 2010 and its Bidding Documents, and all expenditures made under the contract will be limited to such goods and services.
- 3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of goods and services is distinct from the nationality of the Bidder.
- 3.4 In case of imported good. Manufacturer and product should ISO Certified.
- 4. Cost of Bidding**
- 4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency named in the Bid Data Sheet, here in after referred to as "the Procuring agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. The Bidding Documents

The Bidder must quote all none basis for each package specification.

- 5. Content of Bidding Documents**
- 5.1 The bidding documents include:
- (a) Instructions to Bidders (ITB)
 - (b) Bid Data Sheet
 - (c) General Conditions of Contract (GCC)
 - (d) Special Conditions of Contract (SCC)
 - (e) Schedule of Requirements
 - (f) Technical Specifications
 - (g) Bid Form and Price Schedules
 - (h) Bid Security Form
 - (i) Contract Form
 - (j) Performance Security Form
 - (k) Manufacturer's Authorization Form
- 5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the

- rejection of its bid.
- 6. Clarification of Bidding Documents**
- 6.1 A interested Bidder requiring any clarification of the bidding documents may not if the Procuring agency in writing. The Procuring agency will respond in writing to any request for clarification of the bidding documents which it receives no later than three working days prior to the dead line for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.
- 7. Amendment of Bidding Documents**
- 7.1 At any time prior to the dead line for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by a interested Bidder, may modify the bidding documents by amendment.
- 7.2 All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.
- 7.3 In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

C. Preparation of Bids

- 8. Language of Bid**
- 8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bid Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.
- 9. Documents Comprising the Bid**
- 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) A Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12;
 - (b) Documentary evidence established in accordance with ITB

Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;

(c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and

(d) bid security furnished in accordance with ITB Clause 15.

10. Bid Form

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

11. Bid Prices

11.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.

11.2 Prices indicated on the Price Schedule shall be delivered duty paid (DDP) prices, if applicable. The price of other (incidental) services, if any, listed in the Bid Data Sheet will be entered separately.

11.3 In case of Imported from outside destination price should C&F.

11.3 a) The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the compare is on no of bids by the Procuring agency and will not in any way limit the Procuring agency's right to contract on any of the terms offered.

11.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A bid submitted with an adjustable price quotation will be treated as non responsive and will be rejected, pursuant to ITB Clause 24. If, however, in accordance with the Bid Data Sheet, prices quoted by the Bidder shall be subject to adjustment during the performance of the contract, a bid submitted with a fixed price quotation will not be rejected, but the price adjustment would be treated as zero.

12. Bid Currencies

12.1 Prices shall be quoted in Pak Rupees for category B&C & Foreign currency for Category A.
Other wise specified in the Bid Data Sheet.

13. Documents Establishing Bidder's

13.1 Pursue an to ITB Clause 9, the Bidder shall furnish, as par to fits bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.

**Eligibility and
Qualification**

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

13.3 The documentary evidence of the Bidder's qualifications to Perform the contract if its bid is accepted shall establish to the Procuring agency's satisfaction:

- (a) That, in the case of a Bidder offer into 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 with in the Procuring agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Supplier's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (d) That the Bidder meets the qualification criteria listed in the Bid Data Sheet.

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

14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.

14.2. The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.

14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:

- (a) A detailed description of the essential technical and

performance characteristics of the goods;

- (b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring agency; and
- (c) an item-by-item commentary on the Procuring agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

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

15. Bid Security

15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.

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

15.3 The bid security shall be in Pak. Rupees and shall be in one of the following forms:

- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding document or any other form acceptable to the Procuring agency and valid for thirty (30) days beyond the validity of the bid; or
- (b) irrevocable en-cashable on-demand Bank call-deposit.

15.4 Any bid not secure in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Procuring agency as non responsive, pursuant to ITB Clause 24.

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

15.6 The successful Bidder's bid security will be discharged up on the Bidder signing the contract, pursuant to ITB Clause 32, and furnishing the performance security, pursuant to ITB Clause 33.

15.7 The bid security may be forfeited:

(a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or

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

(i) to sign the contract in accordance with ITB Clause 32;

or

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

**16. Period of
Validity of
Bids**

16.1 Bid shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Procuring agency as non responsive.

16.2 In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the bidding document.

**17. Format and
Signing of
Bid**

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

17.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a

person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except forum-amended printed literature, shall be initialed by the person or persons signing the bid.

17.3 Any interlineations, erasures, or over writing shall be valid only if they are initialed by the person or persons signing the bid.

17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

D. Submission of Bids

18. Sealing and Marking of Bids

18.1 The Bidder shall seal the original and each copy of the bidding separate envelopes, duly marking the envelopes as "ORIGINAL" and "COPY." The envelopes shall then be sealed in an outer envelope.

18.2 The inner and outer envelopes shall:

- (a) be addressed to the Procuring agency at the address given in the Bid Data Sheet; and
- (b) bear the Project name indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: "DONOTOPEN BEFORE," to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.2.

18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared "late".

18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Procuring agency will assume no responsibility for the bid's misplacement or premature opening.

19. Deadline for Submission of Bids

19.1 Bids must be received by the Procuring agency at the address specified under ITB Clause 18.2 no later than the time and date specified in the Bid Data Sheet.

19.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and

Obligations of the Procuring agency and bidders previously subject to the dead line will thereafter be subject to the deadline as extended.

20. Late Bids

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

21. Modification and Withdrawal of Bids

21.1 The Bidder may modify or with draw its bid after the bid's submission, provided that written notice of the modification, including substitution or with drawl of the bids, is received by the Procuring agency prior to the dead line prescribed for submission of bids.

21.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18. by a signed confirmation copy, postmarked not later than the deadline for submission of bids.

21.3 No bid may be modified after the dead line for submission of bids.

21.4 No bid may be withdrawn in the interval between the dead line for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to the ITB Clause 15.7.

E. Opening and Evaluation of Bids

22. Opening of Bids by the Procuring agency

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

22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.

- 22.3 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.
- 22.4 The Procuring agency will prepare minutes of the bid opening.
- 23. Clarification of Bids**
- 23.1 During evaluation of the bids, the Procuring agency may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the prices or substance of the bid shall be sought, offered, or permitted.
- 24. Preliminary Examination**
- 24.1 The Procuring agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 24.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 24.3 The Procuring agency may waive any minor informality, non conformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 25 the Procuring agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, **such as** those concerning Bid Security (ITB Clause 15), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Procuring agency's determination of a bid's responsive assist to be based on the contents of the bid itself without recourse to extrinsic evidence.

25. Evaluation and Comparison of Bids

- 24.5 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.
- 25.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.
- 25.2 The Procuring agency's evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing duties and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 25.3 The Procuring agency's evaluation of a bid will take into account, in addition to the bid price quoted in accordance with ITB Clause 11.2, one or more of the following factors as specified in the Bid Data Sheet, and quantified in ITB Clause 25.4:
- (a) Incidental costs
 - (b) Delivery schedule offered in the bid;
 - (c) Deviations in payment schedule from that specified in the Special Conditions of Contract;
 - (d) The cost of components, mandatory spare parts, and service; (e) the availability Procuring agency of spare parts and after-sales services for the equipment offered in the bid;
 - (f) The projected operation and maintenance costs during the life of the equipment;
 - (g) The performance and productivity of the equipment offered; and / or
 - (h) Other specific criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.
- 25.4 For factors retained in the Bid Data Sheet pursuant to ITB 25.3, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:
- (a) Incidental costs provided by the bidder will be added by Procuring agency to the delivered duty paid (DDP) price at the final destination.
 - (b) Delivery Schedule.
 - (i) – The Procuring agency enquires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements which will be treated as the base, a delivery “adjustment” will be calculated for bids by applying a percentage, specified in the Bid Data Sheet, of the DDP price for each week of delay beyond the base, and this will be added to the bid price for evaluation. No credit shall be given to early delivery.

Or

- (ii) The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as non responsive. Within this acceptable range, an adjustment per week, as specified in the Bid Data Sheet, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements.

Or

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

(c) *Deviation in payment schedule.*

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

Or

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

(d) *Cost of spare parts.*

- (i) The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the Bid Data Sheet, is annexed to the

Technical Specifications. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

Or

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

Or

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

- (e) *Spare parts and after sales service facilities in the Procuring agency's country.*

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

- (f) *Operating and maintenance costs.*

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

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

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

Or

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

- (h) *Specific additional criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.*

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

Alternative**25.4 Merit Point System:**

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

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

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

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

26. Contacting the Procuring agency

26.1 Subject to ITB Clause 23, no Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.

26.2 Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

F. Award of Contract**27. Post-qualification**

27.1 In the absence of pre qualification, the Procuring agency will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.

27.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Procuring agency deems necessary and appropriate.

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

28. Award Criteria

28.1 Subject to ITB Clause 30, the Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.

- 29. Procuring agency's Right to Vary Quantities at Time of Award**
- 29.1 The Procuring agency reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or terms and conditions.
- 30. Procuring agency's Right to Accept any Bid and to Reject any or All Bids**
- 30.1 The Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without there by incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring agency's action.
- 31. Notification of Award**
- 31.1 Prior to the expiration of the period of bid validity, the Procuring agency will notify the successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.
- 32. Signing of Contract**
- 32.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 32.2 Within thirty(30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.
- 33 Performance Security**
- 33.1 With in twenty (20) days of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 33.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annul mentor of the award and for feature of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

34. Corrupt or Fraudulent Practices

34.1 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2010 and Rules made there under:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "fraudulent practice" means a misrepresentation off acts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Procuring agency of the benefits of free and open competition;

(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) will declare a firm in eligible, either in definitely or for a stated period of time, to be awarded a Government- financed contract if it at any time determines that the firm has engaged in corruptor fraudulent practices in competing for, or in executing, a Government-financed contract.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 5.4 and sub-clause 24.1 of the General Conditions of Contract.

Part One - Section II.
General Conditions of Contract

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General Conditions of Contract

- 1. Definitions**
- 1.1 In this Contract, the following terms shall be interpreted as indicated:
- (a) "The Contract" means the agreement entered in to between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents in corporate by reference therein.
 - (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) "The Goods" means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Procuring agency under the Contract.
 - (d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) "GCC" means the General Conditions of Contract contained in this section.
 - (f) "SCC" means the Special Conditions of Contract.
 - (g) "The Procuring agency" means the organization purchase the Goods, as named in SC SCC.
 - (h) "The Procuring agency's country" is the country named in SCC.
 - (i) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
 - (j) "The Project Site," where applicable, means the place or places named in SCC.
 - (k) "Day" means calendar day.
- 2. Application**
- 2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.

3. Country of Origin

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

3.2 For purposes of this Clause, "origin" means the place where the Goods were mined, grown, or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.

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

4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.

5. Use of Contract Documents and Information; Inspection and Audit by the Government

5.1 The Supplier shall not, without the Procuring agency's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The Supplier shall not, without the Procuring agency's prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.

5.3 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring agency and shall be returned (all copies) to the Procuring agency on completion of the Supplier's performance under the Contract if so required by the Procuring agency.

- 5.4 The Supplier shall permit the Procuring agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the procuring agency, if so required.
- 6. Patent Rights**
- 6.1 The Supplier shall indemnify the Procuring agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring agency's country.
- 7. Performance Security**
- 7.1 Within twenty (20) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 7.3 The performance security shall be denominated in the currency of the Contract acceptable to the Procuring agency and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency; or
- (b) a cashier's or certified check.
- 7.4 The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.
- 8. Inspections and Tests**
- 8.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring agency requires and where they are to be conducted. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at

The Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring agency.

- 8.3 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.
- 8.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring agency or its representative prior to the Goods' shipment from the country of origin.
- 8.5 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

9. Packing

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

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

10. Delivery and Documents

10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.

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

11. Insurance

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

12. .

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

13. Incidental Services

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

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

13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged for other parties by the Supplier for similar services.

14. Spare Parts

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

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

15. Warranty

- 15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve(12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The Procuring agency shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Up on receipt of such notice, the Supplier shall, with in the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring agency.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s)

Within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract.

16. Payment

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

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

16.3 Payments shall be made promptly by the Procuring agency, but in no case later than sixty (60) days after submission of an invoice or claim by the Supplier.

16.4 The currency of payment is Pak. Rupees or in Foreign Currency in case of LC

17. Prices

17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Procuring agency's request for bid validity extension, as the case may be.

18. Change Orders

18.1 The Procuring agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:

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

18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be

Made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring agency's change order.

19. Contract Amendments

19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

20. Assignment

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

21. Subcontracts

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

21.2 Sub contracts must comply with the provisions of GCC Clause 3.

22. Delays in the Supplier's Performance

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

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

22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

23. Liquidated

23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or

Damages

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

24. Termination for Default

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

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 22; or
- (b) if the Supplier fails to perform any other obligation(s) under the Contract.
- (c) if the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

“Fraudulent practice” means a misrepresentation of facts in order to influence a procurement processor the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

24.2 In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those

undelivered, and the Supplier shall be liable to the Procuring agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22,23,and24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

25.2 For purposes of this clause,“ Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

25.3 If a Force Majeuresituationarises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

26. Termination for Insolvency

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

27. Termination for Convenience

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

27.2 The Goods that are complete and ready for shipment within thirty(30) days after the Supplier’s receipt of notice of termination shall be accepted by the Procuring agency at the

Contract terms and prices. For the remaining Goods, the Procuring agency may elect:

- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
- (b) To cancel their main demand pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

28. Resolution of Disputes

28.1 The Procuring agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanism may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed manner and/or arbitration.

29. Governing Language

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

30. Applicable Law

30.1 The Contract shall be interpreted in accordance with the laws of the Procuring agency's country, unless otherwise specified in SCC.

31. Notices

31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.

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

32. Taxes and Duties

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

All taxes are applicable as per government .

33. Turnkey basis

- The Purchaser will evaluate and compare bids on turnkey basis design/equipment, installation, commission and training and services. Equipment will purchase on the package basis.
- Equipment must be quoted with all the standard accessories.
- UPS/Power protection for the equipment shall be incorporate in the system or must be quoted separately.

(For complete accessories of equipment each section must complete quoted)

CONTRACT PERFORMANCE BOND

(Bank Guarantee on stamp paper at the rate prescribed by Government of Pakistan)

Guarantee No. _____

Executed on _____

Expiry Date _____

Letter by the Guarantor (Bank) to the Employer (University)

Name of Guarantor (Bank) with Address:

Name of Principal (Contractor) with address:

Penal Sum of Security (Bond), (in words and figures)

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the Tender Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal (Contractor) we, the Guarantor above named, are held and firmly bound unto the Chairman, CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, Jamshoro, Sindh, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, Jamshoro {hereinafter called the Employer (University)} in the penal sum of amount stated above for the payment of which sum well and truly to be made to the said Employer (University), we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal (Contractor) has accepted the Employer's (University's) above said Letter of Acceptance

for the supply, installation, putting into operation and demonstration of furniture and Equipment for for Category A. Laboratory Equipment Category B. Furniture and Fixture C Split A.C & I.T Equipment

SINDH.

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Employer (University), with or without notice to the Guarantor, which notice is hereby waived and shall also well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the Contract and of any and all modifications of the said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till the expiry of the guaranty period as per Clause of the Conditions of Contract.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer (University) without delay upon the Employer's (University's) first written demand without cavil or arguments and without requiring the Employer (University) to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer's (University's) written declaration that the Principal (Contractor) has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to the Employer's (University's) designated Bank and Account Number.

PROVIDED ALSO THAT the Employer (University) shall be the sole and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling the said obligations, and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer (University) forthwith and without any reference to the Principal (Contractor) or any other person.

IN WITNESS WHEREOF, the above bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to a authority of its governing body

Guarantor (Bank)

Witness:

1. _____
(Signature)

1. Signature _____

Corporate Seal)

2. Name _____

2. _____
(Signature)

3. Title _____

(Name, Title, Address)

(Corporate Guarantor Seal)

ARTICLES OF AGREEMENT

This Agreement made this _____ day of _____ 2015, by and between the Chairman, CPC, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Chairman, Central Purchase Committee LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, hereinafter called the "University", of the one part,

And

of

(name and designation of the authorized person)

, located at

hereinafter called the "Contractor" which expression shall include their successors, legal representatives of the second part.

Whereas the **University** Requires furniture and Equipment for Institute of

s at Jamshoro Whereas the **Contractor** has agreed to supply, install, put into operation and demonstrate the working of the said work valued at Rs.

_____ (amount in figures and words)

in the period of _____ months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the **Contractor**.

Now this Agreement witnesses as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by _____ on behalf of the **Contractor**, and by _____ (name and designation of the authorized person) _____ on behalf of the **University**, all of _____ (name and designation of the authorized person) this shall be deemed to form and be read as a part of this Agreement viz.:
 - a) Articles of Agreement;
 - b) Instructions to Tenderer;
 - c) Conditions of Contract;
 - d) Contractor's Offer including the relevant correspondence prior to signing of this Agreement with all Annexure duly filled in;
 - e) The specifications of the equipment and other related items;
 - f) Bill of Quantity with prices.
3. In consideration of the payment to be made to the Contractor, the **Contractor** hereby **covenants** with the University **to supply**, deliver, install, put into operation and demonstrate the working of the items in conformity in all respects of the Contract.
4. The **University** hereby **covenants to pay** the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the items, the contract price in the manner prescribed by the Contract and approved by the University.

In Witness Whereof the parties have hereunto set their respective hands and seals, the day, month and year first above written.

Chairman, CPC LUMHS

Signature _____

Name: _____

WITNESSES:

University Witness No.1: Signature: _____

Name: _____

Designation: _____

University Witness No.2: Signature: _____

Name: _____

Designation: _____

Contractor

Signature _____

Name: _____

Contractor's Witness No.1: Signature: _____

Name: _____

Designation: _____

Contractor's Witness No.2: Signature: _____

Name: _____

Designation: _____

FROM OF SCHEDULE TO TENDER FOR STORES

PART 2: The rates quoted in the Table below must be in Pakistani Rupees.

S. No	Code/ Item No.	Description of Stores	Quantity of Stores	Unit	Rate Per Unit	GST 17%	Total Price
1	2	3	4	5	6	7	8



LIAQUAT UNIVERSITY

OF MEDICAL & HEALTH SCIENCES

JAMSHORO, SINDH

Telephone: + 9213350, Exch.771240, Ext. + 122

Web Site: www.lumhs.edu.pk

No.LUMHS/PSS/-23824

Dated: 09-02-2015

Notice Inviting Tender

Tender invited under sealed cover from authorized Dealers / Distributors registered with GST, Income Tax and Sindh Revenue Board for purchase & supply of **Laboratory Equipment, Furniture & Fixture & Air Conditioners / I.T Equipment** for newly established College of Pharmacy at Liaquat University of Medical & Health Sciences, Jamshoro.

Category	Description	Method of Procurement	Purchasing / Issuing of tender documents Day, Date & Time	Last Purchasing day/ date & Time of tender documents.	Submission of tender bid day, date & time	Opening day, date and time of tender.	Tender fee (Non-Refundable)
A	Laboratory Equipment	Single stage two envelop Bidding procedure	Thursday 12-02-2015 9:00am to 3:00pm.	Tuesday, 03-03-2015 11: am.	Tuesday, 03-03-2015 12:00Noon	Tuesday, 03-03-2015 12:30pm	Rs. 3,000/=
B	Furniture & Fixture	Single Stage One Envelope Bidding Procedure				Tuesday, 03-03-2015 01:00pm.	Rs. 1,000/=
C	Air Conditioners / I.T Equipment,	Single Stage One Envelope Bidding Procedure				Tuesday, 03-03-2015 01:30pm.	Rs. 1,000/=

Note:

Specifications are mentioned in the tender documents. Prescribed tender proforma along with terms & conditions which can be downloaded from SPPRA website i.e. www.pprasindh.gov.pk / LUMHS website i.e. www.lumhs.edu.pk on payment of Rs. 3,000/= (Rupees three thousand only) for category A, Rs. 1,000/= (Rupees one thousand only) for Category B and Rs. 1,000/= (Rupees one thousand only) for C, in the shape of Pay Order / D.D (Non-refundable) in favour of Vice-Chancellor, Liaquat University of Medical & Health Sciences, Jamshoro attached with tender form within Due Date along with following documents.

1. Latest Income Certificate (NTN).
 2. Valid GST Registration Certificate.
 3. Sindh Revenue Board Certificate (SRB)
 4. Detailed Portfolio of Company.
 5. Certified copy of Authorized Dealership Certificate.
- **FOR CATEGORY A.** The bidding shall be on single stage two envelope procedure, 1st envelope should contain **Technical Proposals DD/Pay order Rs. 3,000/=** (Rupees three thousand only) (Non Refundable) & be clearly marked as technical proposals.
 - Second envelope should contain Financial Proposals (rates) along with the security deposit 5% of quoted rates in the shape of pay order/demand draft (refundable to un-successful bidders) the envelope be clearly marked as financial proposals.
 - Both envelopes should be sealed separately and placed in the third envelope. The name of the bidder be clearly marked on all envelopes.
 - **FOR CATEGORY B&C.** The bidding shall be on Single Stage One Envelope Bidding Procedure, envelope should contain combine Technical Proposals & Financial Proposals (rates) along with the Security Deposit 5% of quoted rates in the shape of pay order/demand draft (refundable to un-successful bidders).
 - Tender can be downloaded / purchased from Purchase & Store Section, LUMHS, Jamshoro from Thursday, **12-02-2015 to Tuesday, 03-03-2015** during Office hours. (09 am to 03:00pm.)
 - All category **(A,B&C)** tender should be dropped in the tender box on **03-03-2015** before 12:00Noon and Proposals of the bids shall be opened publicly on same day in the presence of bidders or their nominated representative, who wish to attend.
 - The Central Purchase Committee may cancel / delete any item or decrease or increase quantity or number of pages as per need. Tender who do not fulfill the terms and conditions will not be entertained. The procuring agency may reject all or any bids subject to the relevant provisions of SPPRA Rules.
 - Government notified black listed firms / suppliers shall not be entertained.

Notice Inviting Tender

Tender invited under sealed cover from authorized Dealers / Distributors registered with GST, Income Tax and Sindh Revenue Board for purchase & supply of **Laboratory Equipment, Furniture & Fixture & Air Conditioners / I.T Equipment** for newly established College of Pharmacy at Liaquat University of Medical & Health Sciences, Jamshoro.

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B	Furniture & Fixture	Single Stage One Envelope Bidding Procedure				Tuesday, 03-03-2015 01:00pm.	Rs. 1,000/=
C	Air Conditioners / I.T Equipment,	Single Stage One Envelope Bidding Procedure				Tuesday, 03-03-2015 01:30pm.	Rs. 1,000/=

Note:

Specifications are mentioned in the tender documents. Prescribed tender proforma along with terms & conditions which can be downloaded from SPPRA website i.e. www.pprasingh.gov.pk / LUMHS website i.e. www.lumhs.edu.pk on payment of Rs. 3,000/= (Rupees three thousand only) for category A, Rs. 1,000/= (Rupees one thousand only) for Category B and Rs. 1,000/= (Rupees one thousand only) for C, in the shape of Pay Order / D.D Non-refundable) in favour of Vice-Chancellor, Liaquat University of Medical & Health Sciences, Jamshoro attached with tender form within Due Date along with following documents.

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3. Sindh Revenue Board Certificate (SRB)
4. Detailed Portfolio of Company.
5. Certified copy of Authorized Dealership Certificate.

- **FOR CATEGORY A.** The bidding shall be on single stage two envelope procedure, 1st envelope should contain **Technical Proposals DD/Pay order Rs. 3,000/=** (Rupees three thousand only) (Non Refundable) & be clearly marked as technical proposals.

- Second envelope should contain Financial Proposals (rates) along with the security deposit 5% of quoted rates in the shape of pay order/demand draft (refundable to un-successful bidders) the envelope be clearly marked as financial proposals.

- Both envelopes should be sealed separately and placed in the third envelope. The name of the bidder be clearly marked on all envelopes.

- **FOR CATEGORY B&C.** The bidding shall be on Single Stage One Envelope Bidding Procedure, envelope should contain combine Technical Proposals & Financial Proposals (rates) along with the Security Deposit 5% of quoted rates in the shape of pay order/demand draft (refundable to un-successful bidders).

- Tender can be downloaded / purchased from Purchase & Store Section, LUMHS, Jamshoro from Thursday, **12-02-2015 to Tuesday, 03-03-2015** during Office hours. (09 am to 03:00pm.)

- All category **(A,B&C)** tender should be dropped in the tender box on **03-03-2015** before 12:00Noon and Proposals of the bids shall be opened publicly on same day in the presence of bidders or their nominated representative, who wish to attend.

- The Central Purchase Committee may cancel / delete any item or decrease or increase quantity or number of pages as per need. Tender who do not fulfill the terms and conditions will not be entertained. The procuring agency may reject all or any bids subject to the relevant provisions of SPPRA Rules.

- Government notified black listed firms / suppliers shall not be entertained.

- In case the tender is not opened on the scheduled date due to unscheduled holiday then the same shall be opened on next working day, the other terms and conditions of the tender shall however remain unchanged.

CHAIRMAN
Central Purchase Committee,
LUMHS, Jamshoro.

Tender Specification of Category A.

NAME OF EQUIPMENT FOR COLLEGE OF PHARMACY AT LUMHS, JAMSHORO.

SECTION A

Sr.	Name Of Instruments	Unit Price in C&F	Qty	Total Price In C&F
1.	<p>HPLC</p> <p>Quaternary with Low Pressure Mixing Processing, & High Speed Scanning</p> <p>Quaternary gradient solvent pump with accessory kit Flow rate: 0.001 to 10mL/min in 0.001/min increments</p> <p>Pressure range: 0 to 40Mpa over flow range.</p> <p>Flow accuracy: $\leq \pm 0.5\%$.</p> <p>Precision: $< 0.1\%$ RSD</p> <p>Pressure pulsation: $\leq \pm 0.5\%$ at 2mL/min</p> <p>Gradient forming: Quaternary to Binary low pressure mixing & isocratic high pressure operation.</p> <p>Gradient control: High speed proportioning valves.</p> <p>Gradient precision: Typically 0.2% RSD at 1mltr/min</p> <p>Material in contact with fluids: Ceramic inserts, ruby & sapphire check valves, & PEEK.</p> <p>4104 00 01 User manual</p>		One (01) No.	

<p>1201 74 07 1 x Green connector</p> <p>'Wave Quest' - Ultra-Fast UV/Visible Scanning Detector complete with –</p> <p>Ultra low drift and ultra high sensitivity for the performance of detailed on the</p> <p>fly spectral scans and highly sensitive quantitative analyses.</p> <p>Easy to use, robust and versatile software.</p> <p>Optical System Double beam with monochromatic</p> <p>Scan Speeds Up to 1000nm/s</p> <p>Number of Peak Scans Up to 100 peaks for any single elution</p> <p>Multiple Scans of a Peak Up to 8 scans of any peak</p> <p>Wavelength Range 190-700nm</p> <p>Wavelength Accuracy ± 1nm</p> <p>Optical Bandwidth 4 nm – constant</p> <p>Straylight < 0.02% at 220nm and 340nm</p> <p>Absorbance Range 0 to 3A</p> <p>Baseline Flatness ± 0.002 A over most of range</p> <p>Noise < $\pm 0.5 \times 10^{-5}$A at 230nm</p> <p>Drift < $\pm 5 \times 10^{-5}$A/h at 230nm</p> <p>4300 00 01 User manual</p> <p>1200 07 70 Flow cell, 8 μL 10 mm path length Detector accessory kit</p> <p>1200 48 00 Dummy cell (fitted)</p> <p>1200 20 05 Cell compartment cover</p> <p>1200 49 00 Cell key</p>			
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9000 20 00 'DataStream' Spectral Software			
PowerStream, digital and CSM (Terms and conditions apply)			
4900 10 00 PowerStream software CD-ROM			
4900 10 03 User manual			
4900 74 11 USB lead PC to CSM			
1201 74 07 2 x Green connectors			
Column mounting & Rheodyne valve Rheodyne valve installation kit			
1200 20 04 Column cover			
0203 01 18 2 x 1m PTFE cap tube, Rheodyne to waste			
4100 32 05 Syringe 100 L			
Solvent reservoir and pipe organiser			
4130 01 08 4 x 1L solvent bottle			
1100 26 02 4 x solvent bottle top			
4150 14 00 Installation kit for low pressure system			
4104 23 04 4 x FEP tube, x 200cm, reservoir to degasser			
1100 23 02 1 x s/s cap. 0.02", x 53cm, mixer to injector.			
1100 23 01 1 x s/s cap. 0.01", x 33cm, injector to column			
0203 01 18 1 x PTFE sleeving., transducer to waste			
1100 24 03 2 x Swagelok nut s/s,			

<p>column fitting</p> <p>1100 24 04 1 x PTFE ferrule, 1/16, column outlet</p> <p>1100 24 07 1 x Back ferrule, s/s, column inlet</p> <p>1100 24 08 1 x Front ferrule, s/s, column inlet</p> <p>1100 26 04 2 x Valco nut, 1/16, column</p> <p>1100 26 05 2 x Valco ferrule, 1/16, column</p> <p>0588 01 32 Mains lead IEC</p> <p>4901 83 00 RS 232 lead - Detector to CSM and CSM to Solvent delivery unit</p> <p>1750 83 00 Analogue lead, 4300 detector to CSM</p> <p>4100 01 08 Power interconnection lead, short</p> <p>4900 27 00 Spare fuse kit</p> <p>5500 01 56 2 x T3.15A fuse</p> <p>5505 01 22 T2A fuse</p> <p>0292 61 12 F0.5A fuse</p> <p>4100 08 00 Syringe, pump priming</p> <p>Column oven, heated and chilled, 10deg C below ambient to 70deg C (3 columns)</p> <p>Solvent degasser, 4 channels each 5ml/min (+ kit 4040 14 00)</p> <p>RH7725I</p> <p>Rheodyne 7725i with micro switch</p> <p>Country of origin: USA, UK,</p>			
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	Japan, Korea, Europe or equivalent			
2.	<p>UV Spectrophotometer</p> <p>Specifications:</p> <p>wavelength range 190~1100nm</p> <p>UV/VIS Double beam spectrophotometer; Scanning type, 4 measurement modes</p> <p>Wavelength:190~1100nm ,motorised 8-cell changer,LCD display Complete with 16 glass cells, 4 quartz cells, PC software</p> <p>Features:</p> <p>Wide wavelength range, satisfying requirements of various fields. Fully automated design, realizing the simplest measurement 1nm and 0.5nm, made according to customer's need and satisfying the requirements of pharmacopoeia. Fully automated design, realizing the simplest measurement</p> <p>Optimized optics and large scale intergrated circuits design, light source and receiver from world famous</p>		One (01) No.	

<p>manufacturer all add up to high performance and reliability. Rich measurement methods, wavelength scan, time scan, multi wavelength determination, multi-order derivative determination, double-wavelength method and triple-wavelength method etc. meet different measurement requirements . Automatic 10mm 8-cell holder, changeable to automatic 5mm-50mm 4-position cell holder for more choices.</p> <p>Data output can be obtained via a printer port and a RS-232 interface (RS-485 and USB port optional). Parameters and data can be saved for user's convenience. PC controlled measurement can be achieved for more accurate and flexible requirement.</p> <p>Wavelength Range: 190-1100nm</p> <p>Spectral Bandwidth 2nm (5nm, 4nm, 1nm, 0.5nm optional)</p> <p>Wavelength Accuracy</p>			
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<p>±0.3nm</p> <p>Wavelength Reproducibility ≤0.15nm</p> <p>Optical System Double beam</p> <p>Photometric Accuracy ±0.3%T(0-100%T), ±0.002A(0-1A)</p> <p>Photometric Reproducibility ≤0.15%T</p> <p>Working Mode T, A, C, E</p> <p>Photometric Range -0.3- 3.5A</p> <p>Stray Light ≤0.1%T(NaI, 220nm, NaNO₂ 340nm)</p> <p>Baseline Flatness ±0.002A</p> <p>Stability ≤0.001A/h(at 500nm, after warming up)</p> <p>Noise ±0.001A(at 500nm, after warming up)</p> <p>Display 6 inches high light blue LCD</p> <p>Detector silicon photo- diode</p> <p>Power AC 220V/50Hz, 110V/60Hz, 180W /</p> <p>Dimensions 630×470× 210 m</p> <p>Value of goods ex-works</p> <p>CPT airfreight + Packing + Forwarding + Handling (estimated)</p>			
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	<p>Certificate of Origin (legalized from chamber of commerce only)</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
3.	<p>Vortex Mixer</p> <p>Speed range : 0 - 3,000 RPM</p> <p>Operation Mode : Touch On & Constant On</p> <p>Material : Aluminum Die- casting & ABS</p> <p>Head : Rubber Mixing Cup</p> <p>Dimension : (WxDxH) 130x155x155 mm</p> <p>Power Supply : 220 V 0.14 A 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
4.	<p>Stability chamber</p> <p>TEMPERATURE & HUMIDITY CHAMBER (H.S.CODE 8419 89 9070)</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>CAPACITY : 115 LITER</p> <p>Temp. Range : - 20 C to</p>		One (01) No.	

	<p>120 C (- 40 C - 60 C)</p> <p>Temp. Accuracy + / - 1 C</p> <p>Humidity Range : 30 to 98 % RH</p> <p>Humidity Accuracy : + / - 3 70 % RH</p> <p>Material (IN) : Stainless Steel,</p> <p>Air- Convection : Tangent Flow Fan With AC- Moter</p> <p>Inner Sight Lamp : Water Prppted AC -30 W Freezer Comp : Air Cooling Unit System</p> <p>Safety Device : Over, Under Temp. Protector,</p> <p>Level Monitor Power Breaker</p> <p>Sheives : 3 EA Stainless Steel Adjustable</p> <p>Dimension (IN) 500 x 500 x 600 mm</p> <p>Power Supply : 220 V / 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
5.	<p>Refrigerator</p> <p>Dimension (in) 620 x 690 x 1430 (H) mm</p> <p>(out) 740 x 800 x 2020 (H)</p>		One (01) No.	

	<p>mm</p> <p>Capacity : 1125 Liters</p> <p>Shelves : 8 ea</p> <p>Temperature Range : 0 - 10 C (0 - 40)</p> <p>Temp.Uniformlty : +/- 0.5 C at 4 C</p> <p>Temp.Controller : Digital P.I.D. Controller</p> <p>Display : Dual LED Display</p> <p>Recorder : Thermal Recorder</p> <p>meterial (IN) : Stainless Steel</p> <p>(OUT) : Steel Plate with Powder coating</p> <p>Door : One Door Tempered Triple Safety Glass</p> <p>Safety Device : Excluaslve High & Low Temp. Prratector</p> <p>Certification : ISO9001 ISO 14001</p> <p>Power Supply : 220 V 2.2 A 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
6.	AUTOMATIC WATER		One (01) No.	

	<p>STILL</p> <p>Water Distillation Unit</p> <p>CAPACITY 4 LITER / hour</p> <p>Heater (LxDxH) 3 kw</p> <p>Cooling Water 40 LITER</p> <p>Storage Tank : 20 LITER</p> <p>Material Interior : Stainless Steel</p> <p>Safely Device : Over Temperature Limit /</p> <p>Water Floal Level Sensor / Water Supply Cut Off</p> <p>Extenal Dimension (L x D x H) 750 x 395 x 649 mm water Supply Cut Off</p> <p>Power Supply : 230 V / 50 Hz</p> <p>Country of origin: USA, Japan, Korea, Europe or equivalent</p>			
7.	<p>Multi Parameter Computerized Teaching System.</p> <p>The system should have ready- to use experiments with step- by-step instructions for a wide range of experiments including human & animal experiments.</p> <ul style="list-style-type: none"> • It should have report pages which include study questions as well as students' recorded data, analysis tables and graphs from their completed experiments. 		One (01) No.	

	<p>It should allow students to type their answers and the reports can saved for easy review or printing.</p> <ul style="list-style-type: none"> • It should allow students and educators to access experiment material as well as the recorded data anywhere from outside the lab through internet. • The software should allow user to customise experiments as per their lab requirement. • The software should be provided with free experiments and software updates for at least 5 years. • The USB based 4 channel Data acquisition system with a variable sampling rate 400 KHz (aggregate) and an two channel for bio-potential & isolated stimulator with a software controlled filtering, stimulation and recording range of 2mV to 10V & Voltage Range: 0-10 V & Current Range: 0-20mA with software selectable pulse duration (50-200 μ sec). • Simulated Experiments/Preconfigured Experiments with sample data for Frog Heart:- Temperature Effects, Starling's Law of the Heart, Drug Effects, Conduction Block, Heart Refractory Period, Vagal Escape, Frog Neuromuscular Junction:- Twitch Recruitment – Nerve, Muscle, force, latency, fatigue, Tubocurarineetc, Frog Sciatic Nerve & Skeletal Muscle:- 			
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	<p>Twitch Recruitment, Effect of Stretch on Contractile Force, Muscle Summation, Muscle Tetanus, Muscle and Nerve Fatigue, Nerve Threshold, Nerve Refractory Period, Conduction Velocity and other physiological parameters.</p> <ul style="list-style-type: none"> • Should have clinical pharmacology/Medical case laboratories live videos & Patient data to provide student an interactive solution for learning. • Human ECG, EMG, Grip Strength transducer, Spirometer for Human to be supplied as standard. • Pulse transducer, teaching force transducer (0-500g) , animal nerve & bar stimulating electrode, nerve chamber, bio-amp cable, shielded wires, alligator clips, muscle holder, manipulator with stand, needle electrode and other related accessories. • Should have an ISO, IEC and other safety standard certificates and international publications • Demonstration is mandatory before finalisation/acceptance. • Desktop Computer with 17" TFT Monitor, 4GB RAM, 380GB HDD, DVDR/W, Laser Printer & UPS. <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
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8.	<p><u>Kit For Pharmacodynamics Experiment</u></p> <p>The system should include a Perspex bath with tissue chambers, pre-heating reservoir coil, gas diffuser, tissue holder, micro positioner, a water pump, and temperature controller. A high speed USB 2.0 interfaced data recorder with inbuilt isolated stimulator with a recording range of 2mV to 10V & a sampling rate 100,000 sample per sec on each channel.</p> <p>An isometric force transducer (0 -50gwt.), suitable for measuring muscle contractions or similar forces in teaching applications. The teaching software provides the tissue isolation with pictorial representation to make student learn more effectively.</p> <p>Manufacturer should be ISO Certified with all standard certifications</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
9.	<p>Langendorff Isolated heart Assembly</p> <p>(Student Heart Perfusion system)</p> <ul style="list-style-type: none"> The System should include a water-jacketed glass apparatus includes a 100 mL heart chamber with pulley wheel option for force measurement, 10 mL heat exchanger 		Two (02) Nos.	

	<p>with a 5 mL bubble trap, temperature control unit and reservoir. A dual pump for the perfusate and heated water, ring clamps and stands with Manipulator and a Teaching Force Transducer (0-50g).</p> <ul style="list-style-type: none"> The system should have ready-to use experiments with step-by-step instructions for a wide range of experiments including isolated mammalian heart physiology. <p>The USB based Data acquisition system, with a variable sampling rate 100 KHz and a two channel for bio-potential & isolated stimulator with a recording range of 2mV to 10V & stimulating Current Range: 0-20 mA with software selectable pulse duration (50-200 μ sec).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
10	<p>Hotplate Analgesiometer</p> <p>Hot-Plate, a thick aluminum plate (10 mm) provides a high temperature stability and even surface distribution. The plate temperature can be held at a set point between 45 and 62°C by multiple proportional feedback circuits that minimize overshoot. The design of the hot-plate hinders the animal access to the external zone of the circular plate which temperature suffers the influence of the ambient</p>		ONE (01) No.	

	<p>temperature of the room. A built-in timer activated by an external foot switch allows precise measurement of reaction time (0.1 sec precision).</p> <p>A remote foot-switch controls the test start/stop allowing rapid hands-free experiments.</p> <p>Base Dimensions 200 (W) x 300 (D) x 110 (H) mm</p> <p>Plate Dimensions 200 (D) mm</p> <p>Cylinder Dimensions 200 (D) x 250 (H) mm</p> <p>Operating Temperature 45 to 62 degrees Celsius; 0,1 steps</p> <p>Reaction time 3 digits, 0,01 sec. increment</p> <p>Material Composition Clear methacrylate (animal holder), aluminum (plate) Maximum number of stations 1 per computer (multiple set-ups also available under request)</p> <p>Power Requirements 110V or 220V, 50/60Hz Certifications CE Compliant</p> <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
11.	<p>Plethysmomter</p> <p>The Digital Water Plethysmometer is designed to provide a highly useful tool in the measurement of small volume changes. This test is</p>		One (01) No.	

<p>typically used to follow the evolution of the inflammatory response experimentally induced in rodents and to screen potential anti-inflammatory or anti-oedema properties of pharmacological substances. Application: Anti-inflammatory drug screening, Anti-oedema drug screening, Inflammation, Post-operative pain "Check solution" status button</p> <ul style="list-style-type: none"> • <i>Conductive solution is easy/cheap to prepare/source</i> • <i>Automatic zero adjustment</i> • <i>Foot switch control</i> • <i>Includes a volume transducer calibrator and tampon solution</i> • <i>optional Data Transfer software</i> <p><i>SeDaCom 2.0 (RS232/USB communication)</i></p> <p>SPECIFICATIONS</p> <p>Control Unit</p> <p>Dimensions</p> <p>28 (W) x 28 (D) x 11 (H) cm Resolution 0.01 s steps</p> <p>Stimulation Unit</p> <p>Dimensions</p> <p>23 (W) x 22 (D) x 30 (H) cm</p> <p>Material Composition Clear Methacrylate (cell), stainless steel (stand), platinum (electrode)</p>			
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	<p>Starting By panel key or pedal switch Power Requirements 220V, 50/60Hz</p> <p>CELL/ELECTRODE SYSTEM & CALIBRATOR</p> <p>1 ml cell with electrode and 1 ml calibrator</p> <p>3 ml cell with electrode and 3 ml calibrator</p> <p>5 ml cell with electrode and 5 ml calibrator</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
12	<p>Isolated tissue organ bath system 2 channel (automatic)</p> <ul style="list-style-type: none"> • A compact profile all in one two unit organ bath system with automatic Dose response software that includes a Perspex bath with tissue chambers, pre-heating reservoir coil, gas diffuser, tissue holder, micro positioner, a water pump, and temperature controller. • A compatible recording unit with +2 mV to +10 V Ranges, a sampling rate of 400 KHz, 24 bit resolution and software based online/offline analysis of force waveforms with calculation of slopes, indices and time intervals and with storing and printing facility of the recorded data. • The software should automatically generate instantaneous Hill curves, displays single or multiple response curves, calculates 		One (01) No.	

	<p>EC50 and Hill slopes.</p> <ul style="list-style-type: none"> • It should allow free export/import in third party software (Excel, Graph-pad Prism, Matlab etc.). Easy file sharing option free of cost. • Suitable Isometric transducer (0.-20) and Bridge amplifier (2 units each) <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
13	<p>Homeothermic Controller and Plate (220V, for mice):</p> <p>The ML295/M Homeothermic Controller and Plate provides temperature feedback control for controlling small animal (mouse) temperature through a heating plate. Power Supply = 220V AC. Accuracy: $\pm 0.5^{\circ}\text{C}$, Resolution: $\pm 0.1^{\circ}\text{C}$, Range: -100 to $+400^{\circ}\text{C}$, Heating Plate size: 111 mm x 217 mm. The system includes the controller, heating plate and MLT1404 Mouse Rectal Probe.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
14	<p>Homeothermic Controller and Plate (220V, for rats):</p> <p>The ML295/R Homeothermic Controller and Plate provides temperature feedback control for controlling small animal (rats) temperature through a heating plate. Power Supply = 220V AC. Accuracy: $\pm 0.5^{\circ}\text{C}$, Resolution: $\pm 0.1^{\circ}\text{C}$, Range: -100</p>		One (01) No.	

	<p>to +400°C, Heating Plate size: 111 mm x 217 mm. The system includes the controller, heating plate, and MLT1403 Rat Rectal Probe for use with rats or guinea pigs.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
15	<p>Invasive BP Transducer Kit</p> <p>BP Transducer/Cable Kit includes a MLT0699 Disposable BP Transducer and a MLAC06 Adapter Cable used for measuring blood pressure arterial or venous blood pressure in animals. The kit can be used with any ADInstruments Bridge Amps. For animal use only.</p> <p>PE Catheter:</p> <p>Single lumen PE50 tubing (0.5 mm ID, 0.9 mm OD). Sold as a 30m roll. Can be used in the measurement of rat carotid arterial pressure in conjunction with a fluid filled pressure transducer.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		ONE (01) No.	
16	<p>Metabolic Cage for Rats 150-300 grams Metabolic cages</p> <p>(for urine and feces output and PH recording on data acquisition)</p>		Six (06) Nos.	

	<p>A poly carbonate or polystyrene cage for rats with system of separating urine and feces in different collector bottles. A possibility of evaluating feeding and drinking behavior is preferable.</p> <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
17	<p>Metabolic Cage for MICE Metabolic cages (for urine and feces output and PH recording on data acquisition.</p> <p>A poly carbonate or polystyrene cage for mice with system of separating urine and feces in different collector bottles. A possibility of evaluating feeding and drinking behavior is preferable.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		Six (06) Nos.	
18	<p>Adjustable Micropipette 5 – 50</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
19	<p>Adjustable Micropipette 50 – 200</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	

20	<p>Cardiac output pod & Accessories</p> <p>The Cardiac Output Pod is used with high performance T-type thermocouples for the determination of cardiac output in animals using the thermo dilution technique. Suitable T-type Thermocouples can be purchased separately and include the MLT1402 T-type Ultra Fast Thermocouple Probe or MLT1405 T-type Implantable Thermocouple Probe.</p> <p>Cardiac output module The Cardiac Output Module provides the user with the ability to extract, analyze and determine cardiac output in animals using the thermo dilution technique (Win only). The kit includes the necessary accessories for measuring Cardiac Output in small animals. The kit includes: Glass syringe (250 ml) and repeater dispenser, 15 cm lengths of PE tubing (x6) with needle hubs (suitable for mice, rats, guinea pigs, rabbits), three-way taps (x4) and Touhy Borst adapters (x2).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
21	Burner		Fifteen (15) Nos.	
22	Barometer		Five (05)	

			Nos.	
23	E.S.R Stand		Fifteen (15) Nos.	
24	Vitalograph Compact <ul style="list-style-type: none"> • Full Size Color Touch Screen Only • Autocalveable Flow Head • Flow Detection by Fleisch type pneumotachograph • Back Pressure Should be Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005 • USB x 4, Serial x 2, Ethernet x2, DVI Ports should be included • Over 50 Test Parameters • Scalable volume/time & flow/volume curves using single-breath or multi-breath spirometry • Automatic and scalable FEV₁ trend chart view as subject is selected prior to testing, designed to reflect the trend of FEV₁ over the lifetime of the subject • Choice of child incentives with sound effects and transparency so that real-time curves are 		Two (02) Nos.	

	<p>simultaneously viewable</p> <ul style="list-style-type: none"> • Pre-post Spirometry comparison for bronchodilator or longer-acting treatments <p>User selection from a choice of over 50 test parameters</p> <p>Country of origin: UK,Ireland, Japan or equivalent</p>			
25	Western Green Tubes		Fifteen (15) Nos.	
26	Glass Test Tubes		One hundred (100) Nos.	
27	Test Tub stands		Twenty 20 Nos.	
28	Biochemistry kit compatible with data acquisition system to study buffering, ion dissociation as well as conduct titration and cellular respiration experiments. The Kit includes a pH Pod,pH Electrode, Galvanic Oxygen Electrode, T-type Pod, General Purpose T-type Thermocouple and Reflective Drop Counter.		For (04) Nos.	
29	Sphygmomanometer		Fifteen (15) Nos.	
30	Stethoscope		Fifteen (15) Nos.	
31	<p>Infusion Pump</p> <p>SPECIFICATION:</p> <p>Holds 1 Syringe up to 60cc infusion rates from 0.73ul/hr (icc syringe to 2100ml/hr dispensing accuracy of +/-1%</p>		One (01) No.	

<p>Probes.</p> <p>SPECIFICATION:</p> <p>The system is to be used to perform pyrogen tests according to US, British or European pharmacopeia. TEMPERCO is a complete system based on carefully developed software and hardware for PC or compatible computers. It is a powerful low cost tool that carries out the Pyrogen test according to several Pharmacopoeias with up to 90 animals simultaneously. Parameters Measured Register of initial and test temperature Graphic form of the initial and test temperatures for user-defined probes or groups Temperature increase calculated depending on the Pharmacopeia chosen Group Status at the end of the inoculation process (Free, Contemned or To be repeated)</p> <p>Automatic temperature readings</p> <p>GLP compliance software module</p> <p>Available Pharmacopoeias (editable): CFR21, USP24, Chinese, Korean, European</p> <p>Automatic dose estimation according to individual weight</p> <p>Specifications</p> <ul style="list-style-type: none"> • Computer requirements 1.5 GHz Processor, 256 MB of RAM. 1 USB and 1 Serial port available • System requirements Windows™ XP compatible 			
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	<p>operating system</p> <ul style="list-style-type: none"> • PROBOX15 Scanner for 15 probes • TEMPERCO Pyrogen Test Software • Temperature probe for rabbits (4,2 mm) • 15 Temperature probes for rabbits • TEMPERCOGLP GLP compliance software. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
34	Whatmann Filter paper		One (01) No.	

SECTION B

Sl. No.	Name of Instruments	Unit Price in C&F	Qty	Total Price in C&F
1.	<p>Centrifuge machine</p> <p>TABLE - TOPCENTRIFUGE CE ISO 9001 , ISO 14001</p> <p>MAX. RPM : 4,000 RPM</p> <p>MAX RCF : 3,250 XG</p> <p>MAX CAPACITY : 360 ML 15 ML X 24 TUBES</p> <p>POWER : 220V 6A 1.5 KW 50Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
2.	<p>MICROSCOPE BIOLOGICAL</p> <p>Total Magnification : 40x - 400x</p> <p>Eyepiece : WF 10 x</p> <p>Objective : Ach 4X10X 40X(S)</p> <p>Head : 30 inclined Binocular Head, 360 Rotatable,</p> <p>Inter pupupiliary Distance Adjustment Range 55-75mmStage : Double Layers Mechanical ,</p> <p>130 x 125 mm Moving Range 70 x 35 mm</p> <p>Condenser : Abbe Type with aperture ins</p> <p>Diaphragm N.A. 1.25</p> <p>Focusing : Coaxial Coarse & Fine Focus</p>		Fifteen (05) Nos.	

	<p>illuminator : Built-in LED Lamp with and Rechargeable Batteries</p> <p>Input Voltage : AC 240 V / 50 Hz (Built-in DC Power Supply)</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
3.	<p>Microtome</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
4.	<p>Oven</p> <p>DRY OVEN Mechanical Convection</p> <p>Ambient + 5 C to 220 C</p> <p>CAPACITY : 48 LITER</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>Display : LED Display</p> <p>Material (IN) Stainless steel</p> <p>Sheives : 3 EA Stainless Plate</p> <p>Power Supply : 220 V 4 A 1 KW 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
5.	<p>Water bath 4 holes</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
6.	<p>Rota Evaporator + Chiller(3+1)</p> <p>ROTARY EVAPORATOR H.S. CODE NO. 8419.89.9000</p> <p>FEATURE :</p>		One (01) No.	

	<p>6 Types of flasks ranging from 50 ml to 3000ml</p> <p>HAHNAPOR is equipped with speed control.</p> <p>and R.P.M. value is display in digital in digital</p> <p>DIGITAL Water bath covers ambient temperature up to 180 C . If water level at heating bath goes down,</p> <p>power will be cut off automatically by sensor</p> <p>Speed control 20 - 208 R.P.M</p> <p>Slant Condenser</p> <p>Standard Distillation</p> <p>Continues supply device for large capacity</p> <p>Capacity : 4/3 l.</p> <p>Size : 245 h - 120</p> <p>Dimension (WxDxH) 730X410x 630 mm</p> <p>Power Source : Ac 220V 50 Hz 2.5 A</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
7.	Aspirator		One (01) No.	

SECTION C

SR#	Name of Instruments	Unit Price in C&F	Qty	Total Price in C&F
1	Triple beam balance Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
2	Microscope Binocular 45° degree view, Eyepieces: 10X Plano eyepieces Objectives: achromatic 4X/0.10; 10X/0.25; 40X/0.65; 100X/1.25 oil immersion. Illumination: 6 V 20 W (halogen) Power supply: 240 V, 20 W, 50/60 Hz illumination control. Double lenses Abbe-condenser NA1.25 with iris diaphragm and flip-out filter holder. Filters: blue, green, yellow Robust metal stand with coaxial coarse and fine adjustment with quick focusing device. XY stage movement L-R 77, b-f 50 mm. Country of origin: USA, Japan, Europe or equivalent		Five (05) Nos.	
3	Water bath		One (01)	

	<p>Country of origin: USA, Japan, Europe or equivalent</p>		<p>No.</p>	
4	<p>Melting Point Apparatus</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		<p>One (01) No.</p>	
5	<p>AUTOCLAVE</p> <p>CAPACITY : 45 LITER</p> <p>Ambient to 130 C</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>Time : Electronic Type . 0 - 60 min</p> <p>Air Exhaust : Adjustable Valve</p> <p>Safety Device : Over Head Protector.</p> <p>Heater: 2.2 KW</p> <p>Power Supply : 220 V 10.2 A 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		<p>One (01) No.</p>	
6	<p>Hot Incubator</p> <p>TEMP. RANGE AMBIENT + 5 C TO 70 C</p> <p>CAPACITY : 155 LITER</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>Display : Dual LED Display</p> <p>Material (IN) Stainless steel</p> <p>Sheaves : 3 EA adjustable type</p> <p>Power Supply : 220 V 1.4 A 310 W 50 Hz</p>		<p>One (01) No.</p>	

	Country of origin: USA, Japan, Europe or equivalent			
7	Analytical Balance 300g Country of origin: USA, Japan, Europe or Equivalent		One (01) No.	
8	Digital balance 10mg - 1mg Sensitivity Country of origin: USA, Japan, Europe or Equivalent		One (01) No.	

SECTION D

SR#	Name of Instrument	Unit Price in C&F	Qty	Total Price in C&F
1	<p>Basic Science Teaching System:</p> <ul style="list-style-type: none"> • Data Acquisition System for online and offline. Sampling rate ≥ 200 KHz aggregate Variable sampling rate on each channel. ADC resolution 24 bits. • It should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. • Isolated Stimulator:- Constant-current stimulator with Output current: 0–20 mA in 0.1 mA steps and Pulse duration: 50–200 μs (software-selectable) • Amplifiers: - Bio-Potentials (EMG, EOG, EEG.ECG), temperature, Pulse, respiration, isometric • Transducers:- Pressure, volume, muscle activity/ force, respiration belt, pulse, respiration & temperature, heart sound, reflective drop counter , push button switch. ECG electrode, EEG & EMG paste etc. • Manufacturer should have ISO certification for quality standards. Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subject. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		2	
2	<p>Biopotential Signal Analysis System with Teaching Experiments on Animal Isolated Nerve, Skeletal Muscle and Heart Muscle.</p> <ul style="list-style-type: none"> • Data acquisition system should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. Sampling rate ≥ 100 KHz aggregate with variable sampling rate on each channel. ADC resolution 24 bits. • Suitable for conducting experiments on animal muscle and nerve to demonstrate, simple twitch, tetnus, summation, nerve conduction velocity, compound action 		2	

	<p>potential, cardiac activity, ECG in animals.</p> <ul style="list-style-type: none"> • Constant-current stimulator and Bio-Potentials (EMG,EEG.ECG), Pulse, respiration, isometric muscle activity/ force. • Manufacturer should have ISO certification for quality standards Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subjects <p>Country of Orgina: USA/UK/Australia/Europe or equivalent</p>			
3	<p>Non-Invasive blood pressure system for Rats.</p> <ul style="list-style-type: none"> • The Blood pressure system should provide easily selectable pulse ranges with automated cuff inflation & deflation & easily interchangeable cuff & pulse transducer for rats noninvasively with 17" of display. Analogue recording of the cuff pressure and pulse signals the controller with built-in air pump should ensures that automated cuff inflation and deflation are constant. The system should be powered internally from the Data acquisition system. • The system should be supplied with transducers for rats, restrainers and required accessories for the experiment and should be based on pressure technique for pulse detection. It should also allow user toexport into various file formats (excel, notepad, Matlab, IGOR, word, ppt. etc.). • The system should be certified by ISO 9001:2000, should meet European EMC directives, FCC class B Standard. • Rodent Restrainer (80 to 200 g) • Rodent Restrainer (180 to 320 g) • Rodent Restrainer (300 to 440 g) • Rodent Restrainer (440 to 550 g) • Rodent Tail Cuff Holder <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		1	

4	<p>ECG 12 Lead Switch Box (Dual Bio Amps):</p> <p>12 Lead Switch Box should allow for the mechanical selection of standard lead configuration aVF, aVL, aVR configurations for online as well as offline recording and analysis.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		1	
5	<p>High Speed Acquisition system:</p> <p>The 15T Teaching System offers a dual Bio Amp, an isolated stimulator, two Inputs (DIN) and two independent analog outputs (non-isolated). The Pulse Transducer, Stimulating Bar Electrode, Shielded Bio Amp Cable and Shielded Lead Wires. It uses a USB interface for connection to Windows and Mac OS computers and has an aggregate sampling rate of 400k samples/s (100k samples/s per channel). (The Bio Amp and Isolated Stimulator are certified safe for human connection, BF rated).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		4	
6	Adjustable Micropipette 5 – 50		1	
7	Adjustable Micropipette 50 – 200		1	
8	<p>Centrifuge Machine Digital</p> <p>TABLE - TOPCENTRIFUGE CE ISO 9001 , ISO 14001</p> <p>MAX. RPM : 5,500 RPM</p> <p>MAX RCF : 5,580 XG</p> <p>MAX CAPACITY : 480 ML 15 ML X 32 TUBES</p> <p>POWER : 220V 6A 1.5 KW 50Hz.</p>		1	

	Country of origin: USA, Japan, Europe or equivalent			
9	Burner		8	
10	Barometer		5	
11	E.S.R stand		15	
12	<p>Spirometer Compact Full Size Color Touch Screen Only Autocalveable Flow Head Flow Detection by Fleisch type pneumotachograph Back Pressure Should be Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005 USB x 4, Serial x 2, Ethernet x2, DVI Ports should be included Over 50 Test Parameters Scalable volume/time & flow/volume curves using single-breath or multi-breath spirometry Automatic and scalable FEV₁ trend chart view as subject is selected prior to testing, designed to reflect the trend of FEV₁ over the lifetime of the subject Choice of child incentives with sound effects and transparency so that real-time curves are simultaneously viewable Pre-post Spirometry comparison for bronchodilator or longer-acting treatments User selection from a choice of over 50 test</p>		2	
13	Western Green Tubes		15	
14	Glass Test Tubes		100	
15	Test Tub stands		20	
16	Neubar Chamber 0.0025mm ²		10	
17	RBC Pipette		10	
18	WBC Pipette		15	
19	Snellen's Chart(Eye)		10	
20	Meter rod		10	

21	Sphygmomanometer		10	
22	Stethoscope		15	
23	Sahli'shaemometer		10	
24	Spirometer Kit (Mouth piece, filter and nose clips)		2	
25	<p>Perimeter With Object</p> <p>Subject fixes eyes at midpoint in the perimeter's semicircular while experimenter moves a pointer to identified by subject at his / her visual periphery. This device is used to map areas of the retina sensitive to different colored stimuli.</p> <p>Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, and stand</p> <p>Country of origin: USA, Europe, Japan or equivalent</p>		2	
26	<p>ECG machine</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		1	
27	Ultrasonic Water Bath 3 Lit.		2	
28	Whatman Filter paper		1	
29	Antiserum A B & D (Complete Set)		5	
30	Histology Slides (Basic)		1	
31	Weight Machine		2	
32	<p>Set of Teachings Aids Including Charts, Models CDs & Functional Simulator on Basic Medical Sciences.</p> <p>Country of origin: USA, Europe, Japan or equivalent</p>		1 Set	

33	<p>Bio-Assay System Complete.</p> <p>The system should be complete with hardware, software, experimental protocols, handouts, and all accessories. It should include Single Chamber Organ Bath with a 25 mL tissue bath along with data acquisition Teaching System with a dual Bio Amp, an isolated stimulator analog outputs (non-isolated). A compatible recording unit with +2 mV to +10 V Ranges, a sampling rate of 200 KHz, 24 bit resolution and software based online/offline analysis of force waveforms with calculation of slopes, indices and time intervals and with storing and printing facility of the recorded data. The software should automatically generate instantaneous Hill curves, displays single or multiple response curves, calculates EC50 and Hill slopes. Compatible force transducers should be supplied range be in between (0-50gms) . It should allow free export/import in third party software (Excel, Graph-pad Prism, Matlab etc.). Easy file sharing option free of cost. Manufacturer should be ISO & CE Certified with all standard certifications.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		2	
34	<p>Continuous Non-Invasive BP Monitoring System For Humans</p> <ul style="list-style-type: none"> • The system should be able to record and analyze. • Pulse, respiration, airflow, blood pressure, GSR, temperature, Heart Rate Variability [HRV] • ECG recording with multi-leads, phono cardiogram to record heart sounds and correlate the sound with the electrical events of the cardiac cycle. VCG (Cardiac Axis analysis) • Blood pressure monitoring in Human with Systolic, Diastolic and other hemodynamic parameters. • Dynamometer to study handgrip strength profile with balance board for of static petrography studies. • Non Invasive Tono meter for Vascular function Testing • Goniometry, Tandon Hammer, Stimulating electrodes for reflex, reaction action experiments. 		1	

Specifications:

- Number of channel : 8 channels Data Acquisition system
- Range: - +2 mV to +10 V and Sampling rate of 400 KHz (aggregate speed),
- ADC resolution = 16 bits on all gain ranges and variable sampling speed on each channel with continuously record and display up to 32 channels of data.
- **Transducers:-** Pressure, Plethysmography, Respiration, Pulse, Surface Temperature probe, Biopotential, GSR Electrodes, Non-Invasive tonometer , hand dynamometer and wireless Heart rate kit, variability and other accessories for the measurement of the above parameters.
- **Software:-** It should have various automatic analysis modules for ECG, HRV, Blood Pressure, Metabolic studies, Cardiac output, Peak analysis, spike histogram etc.
- Online & offline analysis with various export options like Binary, Axon, IGOR, MATLAB, Excel, Graph Pad Prism, QuickTime, Wav, Text etc.
- Online recorded data & analysis streaming to Excel & Mat Lab
- The software should have step by step instructions, protocol and experimental design for performing various experiments in physiology teaching applications. Also should have sample data for animal experiments for demonstrating to the students.
- The software should provide an easy file sharing option to a distant user with-out involving any cost with a 5 year of free updates and upgrade.
- **Computer:** Intel Core i5, Genuine Windows 7 professional, 21.5 — Full HD Widescreen Flat LED Monitor, 4GB RAM, 500GB SATA Hard Drive, DVD. Facility for internet connectivity, Laser printer and UPS with 20 minutes back up for whole system required
- **Optional Items:-**Electric Tilt table & Non Invasive beat to beat Blood Pressure Monitor, compatible with data acquisition system& Software for analysis to be quoted separately.
- **Documentations:-**CE, ISO and other safety certificates must be provided.
- Proper Demonstrations to be carried out before finalizing.

Country of origin: USA, UK, Europe, Australia or equivalent

35	<p>For memory testing The Tail Suspension Test instrument.</p> <p>The Tail Suspension Test instrument includes unique features such as the randomization process of the animals, the measurement of up to 6 animals in the same run, the direct computations of the "Immobility", the "ENERGY" and the "Power in Motion". Settings should be available to adjust the definitions to user's protocol. The energy value is a unique way to differentiate between passive swinging and active struggling. The system includes:</p> <p>The suspension cages (3 mice per cage) and a user-friendly software to run, record, analyze and replay the experiments. The results are either printed or stored in .txt or.xls file formats. Set of 3 boxes, including transducers and electronic elements. Material Composition Black and white perspex, metal hook. Computer Requirements Windows XP, Windows 7 (32 bits).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		1	
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SECTION D

SR#	Name of Instruments	Unit Price in C&F	Qty	Total Price in C&F
1	<p>Basic Science Teaching System:</p> <ul style="list-style-type: none"> • Data Acquisition System for online and offline. Sampling rate ≥ 200 KHz aggregate Variable sampling rate on each channel. ADC resolution 24 bits. • It should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. • Isolated Stimulator:- Constant-current stimulator with Output current: 0–20 mA in 0.1 mA steps and Pulse duration: 50–200 μs (software-selectable) • Amplifiers:- Bio-Potentials (EMG, EOG, EEG.ECG), temperature, Pulse, respiration, isometric • Transducers:- Pressure, volume, muscle activity/ force, respiration belt, pulse, respiration & temperature, heart sound, reflective drop counter , push button switch. ECG electrode, EEG & EMG paste etc. • Manufacturer should have ISO certification for quality standards. Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subject. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		2	
2	<p>Biopotential Signal Analysis System with Teaching Experiments on Animal Isolated Nerve, Skeletal Muscle and Heart Muscle.</p> <ul style="list-style-type: none"> • Data acquisition system should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. Sampling rate ≥ 100 KHz 		2	

	<p>aggregate with variable sampling rate on each channel. ADC resolution 24 bits.</p> <ul style="list-style-type: none"> • Suitable for conducting experiments on animal muscle and nerve to demonstrate, simple twitch, tetanus, summation, nerve conduction velocity, compound action potential, cardiac activity, ECG in animals. • Constant-current stimulator and Bio-Potentials (EMG, EEG, ECG), Pulse, respiration, isometric muscle activity/force. • Manufacturer should have ISO certification for quality standards Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subjects <p>Country of Origin: USA/UK/Australia/Europe or equivalent</p>			
3	<p>Non-Invasive blood pressure system for Rats.</p> <ul style="list-style-type: none"> • The Blood pressure system should provide easily selectable pulse ranges with automated cuff inflation & deflation & easily interchangeable cuff & pulse transducer for rats noninvasively with 17" of display. Analogue recording of the cuff pressure and pulse signals the controller with built-in air pump should ensure that automated cuff inflation and deflation are constant. The system should be powered internally from the Data acquisition system. • The system should be supplied with transducers for rats, restrainers and required accessories for the experiment and should be based on pressure technique for pulse detection. It should also allow user to export into various file formats (excel, notepad, Matlab, IGOR, word, ppt. etc.). • The system should be certified by ISO 		1	

	<p>9001:2000, should meet European EMC directives, FCC class B Standard.</p> <ul style="list-style-type: none"> • Rodent Restrainer (80 to 200 g) • Rodent Restrainer (180 to 320 g) • Rodent Restrainer (300 to 440 g) • Rodent Restrainer (440 to 550 g) • Rodent Tail Cuff Holder <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
4	<p>ECG 12 Lead Switch Box (Dual Bio Amps):</p> <p>12 Lead Switch Box should allow for the mechanical selection of standard lead configuration aVF, aVL, aVR configurations for online as well as offline recording and analysis.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		1	
5	<p>High Speed Acquisition system:</p> <p>The 15T Teaching System offers a dual Bio Amp, an isolated stimulator, two Inputs (DIN) and two independent analog outputs (non-isolated). The Pulse Transducer, Stimulating Bar Electrode, Shielded Bio Amp Cable and Shielded Lead Wires. It uses a USB interface for connection to Windows and Mac OS computers and has an aggregate sampling rate of 400k samples/s (100k samples/s per channel). (The Bio Amp and Isolated Stimulator are certified safe for human connection, BF rated).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		4	

6	Adjustable Micropipette 5 – 50		1	
7	Adjustable Micropipette 50 – 200		1	
8	<p>Centrifuge Machine Digital</p> <p>TABLE - TOPCENTRIFUGE CE ISO 9001 , ISO 14001</p> <p>MAX. RPM : 5,500 RPM</p> <p>MAX RCF : 5,580 XG</p> <p>MAX CAPACITY : 480 ML 15 ML X 32 TUBES</p> <p>POWER : 220V 6A 1.5 KW 50Hz.</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		1	
9	Burner		8	
10	Barometer		5	
11	E.S.R stand		15	
12	<p>Spirometer Compact</p> <p>Full Size Color Touch Screen Only</p> <p>Autocalveable Flow Head Flow Detection by Fleisch type pneumotachograph Back Pressure Should be Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005 USB x 4, Serial x 2, Ethernet x2, DVI Ports should be included Over 50 Test Parameters</p> <p>Scalable volume/time & flow/volume curves using single-breath or multi-breath</p> <p>spirometry Automatic and scalable FEV₁</p> <p>trend chart view as subject is selected prior to testing, designed to reflect the trend of FEV₁ over the lifetime of the subject Choice of child incentives with sound effects and</p>		2	

	transparency so that real-time curves are simultaneously viewable Pre-post Spirometry comparison for bronchodilator or longer-acting treatments User selection from a choice of over 50 test			
13	Western Green Tubes		15	
14	Glass Test Tubes		100	
15	Test Tub stands		20	
16	Neubar Chamber 0.0025mm ²		10	
17	RBC Pipette		10	
18	WBC Pipette		15	
19	Snellen's Chart(Eye)		10	
20	Meter rod		10	
21	Sphygmomanometer		10	
22	Stethoscope		15	
23	Sahli's haemometer		10	
24	Spirometer Kit (Mouth piece, filter and nose clips)		2	
25	<p>Perimeter With Object</p> <p>Subject fixes eyes at midpoint in the perimeter's semicircular while experimenter moves a pointer to identified by subject at his / her visual periphery. This device is used to map areas of the retina sensitive to different colored stimuli.</p> <p>Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, and stand</p> <p>Country of origin: USA, Europe, Japan or equivalent</p>		2	
26	<p>ECG machine</p> <p>Country of origin: USA, Japan, Europe or</p>		1	

	equivalent			
27	Ultrasonic Water Bath 3 Lit.		2	
28	Whatman Filter paper		1	
29	Antiserum A B & D (Complete Set)		5	
30	Histology Slides (Basic)		1	
31	Weight Machine		2	
32	<p>Set of Teachings Aids Including Charts, Models CDs & Functional Simulator on Basic Medical Sciences.</p> <p>Country of origin: USA, Europe, Japan or equivalent</p>		1 Set	
33	<p>Bio-Assay System Complete.</p> <p>The system should be complete with hardware, software, experimental protocols, handouts, and all accessories. It should include Single Chamber Organ Bath with a 25 mL tissue bath along with data acquisition Teaching System with a dual Bio Amp, an isolated stimulator analog outputs (non-isolated). A compatible recording unit with +2 mV to +10 V Ranges, a sampling rate of 200 KHz, 24 bit resolution and software based online/offline analysis of force waveforms with calculation of slopes, indices and time intervals and with storing and printing facility of the recorded data. The software should automatically generate instantaneous Hill curves, displays single or multiple response curves, calculates EC50 and Hill slopes. Compatible force transducers should be supplied range be in between (0-50gms) . It should allow free export/import in third party software (Excel, Graph-pad Prism, Matlab etc.). Easy file sharing option free of cost. Manufacturer should be ISO & CE Certified</p>		2	

	with all standard certifications. Country of origin: USA, UK, Europe, Australia or equivalent			
34	<p>Continuous Non-Invasive BP Monitoring System For Humans</p> <ul style="list-style-type: none"> • The system should be able to record and analyze. • Pulse, respiration, airflow, blood pressure, GSR, temperature, Heart Rate Variability [HRV] • ECG recording with multi-leads, phono cardiogram to record heart sounds and correlate the sound with the electrical events of the cardiac cycle. VCG (Cardiac Axis analysis) • Blood pressure monitoring in Human with Systolic, Diastolic and other hemodynamic parameters. • Dynamometer to study handgrip strength profile with balance board for of static petrography studies. • Non Invasive Tono meter for Vascular function Testing • Goniometry, Tandon Hammer, Stimulating electrodes for reflex, reaction action experiments. <p>Specifications:</p> <ul style="list-style-type: none"> • Number of channel : 8 channels Data Acquisition system • Range: - +2 mV to +10 V and Sampling rate of 400 KHz (aggregate speed), • ADC resolution = 16 bits on all gain ranges and variable sampling speed on each channel with continuously record and display up to 32 channels of data. • Transducers:- Pressure, Plethysmography, Respiration, Pulse, Surface Temperature probe, Biopotential, GSR Electrodes, Non-Invasive tonometer , hand dynamometer and wireless Heart rate kit, variability and other accessories for the measurement of the above parameters. • Software:- It should have various automatic analysis modules for ECG, HRV, Blood Pressure, Metabolic studies, Cardiac output, Peak analysis, spike histogram etc. • Online & offline analysis with various export options like Binary, Axon, IGOR, MATLAB, Excel, Graph Pad Prism, 		1	

	<p>QuickTime, Wav, Text etc.</p> <ul style="list-style-type: none"> • Online recorded data & analysis streaming to Excel & Mat Lab • The software should have step by step instructions, protocol and experimental design for performing various experiments in physiology teaching applications. Also should have sample data for animal experiments for demonstrating to the students. • The software should provide an easy file sharing option to a distant user with-out involving any cost with a 5 year of free updates and upgrade. • Computer: Intel Core i5, Genuine Windows 7 professional, 21.5 — Full HD Widescreen Flat LED Monitor, 4GB RAM, 500GB SATA Hard Drive, DVD. Facility for internet connectivity, Laser printer and UPS with 20 minutes back up for whole system required • Optional Items:-Electric Tilt table & Non Invasive beat to beat Blood Pressure Monitor, compatible with data acquisition system& Software for analysis to be quoted separately. • Documentations:-CE, ISO and other safety certificates must be provided. • Proper Demonstrations to be carried out before finalizing. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
35	<p>For memory testing The Tail Suspension Test instrument.</p> <p>The Tail Suspension Test instrument includes unique features such as the randomization process of the animals, the measurement of up to 6 animals in the same run, the direct computations of the "Immobility", the "ENERGY" and the "Power in Motion". Settings should available to adjust the definitions to user's protocol. The energy value is a unique way to differentiate between passive swinging and active struggling The system includes.</p> <p>The suspension cages (3 mice per cage) and a user-friendly software to run, record, analyze</p>		1	

	<p>and replay the experiments. The results are either printed or stored in .txt or.xls files formats. Set of 3 boxes, including transducers and electronic elements</p> <p>Material Composition Black and white perspex, metal hook</p> <p>Computer Requirements Windows XP, Windows 7 (32 bits).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
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SECTION E

SR#	Name of Instruments	Unit Price in C&F	Qty	Total Price In C&F
1	<p>Tablet Hardness Tester</p> <p>Hardness tester should combines the economy of a simple easy to use tester with the performance and accuracy of microprocessor controlled data collection.</p> <p>Foremost in the design specification were those features that you, the user, identified as being essential to the "ideal" hardness tester.</p> <p>You told us, for example, that the unit must be as compact as possible such that it could be used in the confines of the tablet press booth. So, we made it compact.</p> <p>Country of origin: USA, Europe or Equivalent</p>		1	
2	<p>Friability Test Apparatus</p> <p>The equipment should comprise of a drum and a motor capable of rotating the drum at 25 rpm. The standard friability drum has an inside diameter of 287 mm and a depth of 38 mm and is fitted with a curved baffle which subjects the tablets to be tested to a drop of 156 mm.</p> <p>The sample (normally 10 tablets) to be tested is first weighed and then placed into the drum. The drum is then rotated 100 times, any loose dust from the sample removed and the sample re-weighed.</p> <p>The Friability of the sample is given in terms of % weight loss (loss in weight expressed as a percentage of the original sample weight). A maximum weight loss of not more than 1% is considered acceptable for most tablets.</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>		1	
3	<p>Dissolution Apparatus 6 Basket</p> <p>Tablet Dissolution Tester should be have Six stirred test vessels and simple, easy to use controls. It is ideal for both R&D and routine quality control</p>		1	

	<p>applications. In common with the rest of the series has been specifically designed to reduce clutter and maximise visibility and access in the critical sampling area above the water bath. equipped must be precision ground shafts that will accept any of the baskets, paddles or rotating cylinders described in the Pharmacopoeia and are supplied with USP/Ph.Eur. compliant vessels featuring the unique “Easy-Centre” system to ensure that the vessels are perfectly centred every time.</p> <p>Individual clutches enable each individual basket/paddle to be raised, lowered or engaged independent of the drive head. With Calibration tool kit.</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>			
4	<p>Disintegration Apparatus Double Single Basket</p> <p>Sturdy, robust design including novel “quick release” basket(s), one-piece water bath and independent digital heater/circulator</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>		1	
5	<p>Multi Function Pharmaceutical Experimental Machine</p> <p>Along with following Accessories .</p> <p>1-Couple gear</p> <p>2-Trough type mixer</p> <p>3-Sugar Coating Machine</p> <p>4-Cube Mixer</p> <p>5-Drum Hoop Mixer</p> <p>6-V-Type Mixer</p> <p>7-Oscillating granulator</p> <p>8- Slot Mixer</p> <p>Country of origin: China or Equivalent</p>		1	
6	<p>Syrup Filling Machine</p> <p>Material contact parts are made of 316L stainless</p>		1	

	<p>steel material, meet the requirements of GMP. Filling volume and filling speed can be adjusted, and high filling accuracy. Filling head adopts anti drip and lifting filling device. Air pressure: 0.4-0.6MPa Power: 10W Power source: 220/110V, 50/60Hz The filling speed: 10-30 bottles / minute Filling accuracy: $\leq \pm 1$ Optional models: 5-60ml Country of origin: China or Equivalent</p>			
7	<p>Ointment Filling Machine</p> <p>Physilab ointment cream filling machine Electrically operated. Suitable to fill tubes, bottles etc in the range of 5gms to 90gms. Per stroke, Motorised operated (motor 1/2 hp or dc geared motor) the unit is supplied complete with 3 set of standard Nozzles and all electrical accessories in the motorized models.</p> <p>Country of origin: China or Equivalent</p>		1	
8	<p>Ball mill</p> <p>Country of origin: China or Equivalent</p>		1	
9	<p>Single Punch Tablet</p> <p>Country of origin: China or Equivalent</p>		1	
10	<p>Capsule filling</p> <p>Country of origin: China or Equivalent</p>		1	
11	<p>Filling and Sealing</p>		1	

	Country of origin: China or Equivalent			
12	Tipple Roller Mixer Country of origin: China or Equivalent		1	
13	Try Dryer Country of origin: China or Equivalent		1	
14	Boatel feeling and capping machine Country of origin: China or Equivalent		1	
15	S ngle Punch Tablet Machine Country of origin: China or Equivalent			

SECTION F

Requirements of Chemical & Glassware

Chemical

S. No.	Chemicals	Unit price in C&F	Quantity	Total Price In C&F
1.	Ammonia		10 L	
2.	Ammonium chloride		1 Kg	
3.	Acetic acid		15 L	
4.	Acetyl salicylic acid		1.5 Kg	
5.	Acetone		10 L	
6.	Atropine sulphate		10 gm	
7.	Anise oil		1 Lb	
8.	Aniline		2 L	
9.	Acetanilide		½ Kg	
10.	Aluminium chloride		½ Kg	
11.	Acetyl chloride		1 L	
12.	Acriflavine		1 Pack	
13.	Acetamide		½ Kg	
14.	4-amino phenol		150 gm	
15.	Acetophenone		1 L	
16.	Aspartic acid		50 gm	
17.	4-amino benzoic acid		100 gm	

18.	2-acetyl salicylic acid		½ Kg	
19.	Amm. Bicarbonate		1 kg	
20.	Ammonium molybedate		½ Kg	
21.	Amaranth		1 kg	
22.	Accacia gum		5 Kg	
23.	Acid fuchsin ind.		100 ml	
24.	Anthrone		25 gm	
25.	Arabinose		10 gm	
26.	Adipic acid		½ kg	
27.	Aluminium hydroxide		½ kg	
28.	Ascorbic acid		½ kg	
29.	Arginine		50 gm	
30.	Albumin(bovine)		200 gm	
31.	Anthracene		1000 gm	
32.	Acetyl choline		10 gm	
33.	Aspirin power		1 Kg	
34.	Alanine		15 Gm	
35.	Aluminium sulphate		1 gm	
36.	Amyl alcohol		1 L	
37.	Amm iron II sulphate		½ kg	
38.	Asparagines		10 gm	
39.	Citric acid		½ kg	
40.	Crystal violet		50 gm	
41.	Calcium chloride		1 Kg	
42.	Creatinine		10 gm	
43.	Ceric amm sulphate		10 gm	

44.	Cystine		10 gm	
45.	Capillary tube		5 Packet	
46.	Celite powder		½ kg	
47.	Di oxane		1 L	
48.	Ethyl acetate		2 L	
49.	Ethanol		5 L	
50.	Emyluesifing wax		½ kg	
51.	Glucose		5 kg	
52.	Glactose		½ kg	
53.	Giemsa stain		200 ml	
54.	Glutamine		200 ml	
55.	Glass wool		1 kg	
56.	Glass slide		20 packs	
57.	Glass cover slip		20 packs	
58.	Hydro chloric acid		4 L	
59.	Hydroquinone		½ kg	
60.	Heavy kaoline		2 kg	
61.	Histidine		25 gm	
62.	Iodine		½ kg	
63.	Kiesulgahr		10 pack	
64.	Litmus paper blue		10 pack	
65.	Litmusb paper red		25 gm	
66.	Litmus blue powder		25 gm	
67.	Malic acid		½ kg	
68.	Malonic acid		200 gm	
69.	Maleic acid		½ kg	

70.	Methanol		5 L	
71.	Maltose		½ kg	
72.	Malachite green		25 gm	
73.	Mercuric acetate		100 gm	
74.	Methyl blue		25 gm	
75.	Methyl cellulose(20)		4 kg	
76.	Methyl hydroxyl benzoate		½ kg	
77.	Mercuric chloride		200 gm	
78.	Magnesium chloride		½ kg	
79.	Methyl salicylate		3 L	
80.	Magnesium tri salicate		½ kg	
81.	Methyl acetate		1 L	
82.	Methionine		25 gm	
83.	Menthol		200 gm	
84.	Magnesium stearate powder		1 kg	
85.	Pot.dichromate		½ kg	
86.	Pot.permaganate		½ kg	
87.	Pyridine		1 L	
88.	Phenol red		25 gm	
89.	Phenolphthalein		200 gm	
90.	Paraffin oil		5 L	
91.	Pot. Iodide		½ kg	
92.	Phenyl hydrazine hydro chloride		200 gm:	
93.	Pot. hydrogen phosphate		½ kg	
94.	Pot. Meta bi sulphate		100 gm	
95.	Pthalic anhydride		200 gm	

96.	Pyrocatechol		½ kg	
97.	Phenol		½ kg	
98.	Pot.Hydride		½ kg	
99.	Petroleum ether		1.5 L	
100	Pot.chloride		2 kg	
101	Paraffin soft		2 kg	
102	Paraffin hard		2 kg	
103	Benzyl chloride		1 L	

Glassware

S. No.	Items	Unit Price in C&F	Quantity	Total Price in C&F
1.	3-neck R. B. flask (100 & 250 ml)		10	
2.	Air condenser		10	
3.	Air steam inlet tube		25	
4.	Buchner filter funnel		10	
5.	Buchner funnel		05	
6.	Burettes Borosilicate glass		08	
7.	China crucible		08	
8.	China dish		15	
9.	Condenser		10	
10.	Cone MF 15/2		10	
11.	Cone MF 15/1		10	
12.	Conical Flask Flat Bottom (Various Capacities)		25	
13.	Desiccator		05	
14.	Desiccator plates		08	
15.	Drying tube bent		10	
16.	ESR westergren tube		10	
17.	Filter flask		10	
18.	Funnels		15	
19.	Gas washing bottle		15	
20.	Glass cover slip		5 pack	
21.	Glass slide plain		5 pack	

22.	Gloves		20	
23.	Graduated Cylinder (Various capacities)		20	
24.	Graduated pipette		15	
25.	Graduated pipettes, Pyrex (Various capacities)		15	
26.	Hollow stopper		10	
27.	Iron stand clamp		08	
28.	Liebig condenser		08	
29.	Magnetic stirrer bar		05	
30.	Markham still		08	
31.	Melting point apparatus		08	
32.	Micro Pipettes Adjustable		08	
33.	Multiple adapter		08	
34.	Pestle & mortar		08	
35.	Petri dish		25	
36.	Pycnometer		15	
37.	Pipette filter		15	
38.	R.B.C pipette		15	
39.	R. B. flask		15	
40.	R. flask		15	
41.	Reagent bottle		50	
42.	Receiver adopter		15	
43.	Receiver bend with vent		15	
44.	Receiving flask		10	
45.	Round Bottom Flask (Various capacities)		15	

46.	Socket		10	
47.	Soxhlet apparatus		08	
48.	Spatula		10	
49.	Spatula small steel		10	
50.	Stop cork assembly		10	
51.	Syringe disposable		05 pack	
52.	Test Tube 1/ 1000		05 Pack	
53.	Volumetric Flasks Glass (Various capacities)		05 each	
54.	W.B.C. pipette		10	
55.	Water taps		10	
56.	Capillary tube		05 pack	
57.	Fusion tube		05	
58.	Test tube (5 ml & 25 ml)		05 pack each	
59.	Funnel plane angle (60 mm & 80 mm)		10	
60.	Thermometer (100 C/ 110 C, 360C &340C)		05 each	
61.	Water distillation plants (Electric)		1 minimum	
62.	Beaker (50, 100, 250,1000 &2000 ml)		10 each	
63.	Separating funnel (100 ml & 250 ml)		05 each	
64.	Funnel plain (100 ml)		05 each	
65.	Measuring flask (50,100,250,500 &1000ml)		05 each	
66.	Volumetric pipette (10 & 20 ml)		05 each	

67.	Titration flask (50,100 &250 ml)		05 each	
68.	Burette (10 & 50 ml)		05 each	
69.	Measuring cylinder (10,50,100 &250 ml)		05 each	
70.	Condenser (14/23,19/26 & 24/29)		05 each	
71.	Round bottom flask (50,100 &1000 ml)		05 each	
72.	3-neck round bottom flask (100 & 250 ml)		05 each	
73.	Receiving flask (50,100 & 250 ml)		05 each	
74.	Desiccator (140,200 mm, 150 ml)		02 each	
75.	Desiccator plate		05	
76.	Pycnometer (10,25 & 50 ml)		05 each	
77.	Glass washing bottles (250 ml)		08 each	
78.	Cone MF 15/1 and 15/2 (14/23, 19/26)		08 each	
79.	Dropping bottle (125 ml)		08 each	
80.	Viscometer		08	
81.	Watch glass (2 inch & 3 inch)		20 each	
82.	Glass slide plain		05 Pack	
83.	Glass cover slip		05 Pack	
84.	Petri dish (4 inch)		10	
85.	Iodine flask (250 ml)		10	
86.	Neubauer's chamber		10	
87.	Air condenser (C2/11,C2/12)		10	

88.	Glass tile		10	
89.	Safety glasses		10	
90.	Flat bottom flask (5 L)		05	
91.	Rotational viscometer		05	
92.	Micro pipette		10	
93.	Wall thermometer		02	
94.	Depression slide		10	
95.	Colony counter		1	
96.	Filtration assembly		2	
97.	Distillation apparatus glass		4	
98.	Glass vials		25	

Tender Specification of Category B.

a. Furniture & Fixtures for Lab Equipments at College of Pharmacy at LUMHS, Jamshoro.

S. No.	Items / Description	Unit Price	Quantity	Total Amount
1.	Counter along the wall with suspended Cabinet and Electric socket along the length of counter		74 Rft	
2.	Counter along the wall with Floor Mounted Cabinet and Electric socket along the length of counter		74 Rft	
3.	Island table(with bakelit top Table top Shelves and electrical sockets		74 Rft	
4.	Floor Mounted Cabinets		74 Rft	
5.	Stools For Lab		200	

b. Office Furniture for *College of Pharmacy at LUMHS, Jamshoro.*

S.No	Items Description	Unit Price	Quantity	Total Amount
1.	Single seater imported visitor chair having pipe structure of imported material of approved design and color		50	
2.	Making and providing notice board 8'x4' size of approved design and specification		4	
3.	Making and supplying executive sofa set (5-seater) with central and side tables complete set of approved design		2	
4.	Executive revolving chair high back cushioned with imported artificial leather fitted with imported five-feel base with hydraulic controlling system.		10	
5.	Making & providing Computer revolving chair low back jali cushioned of approved shade and design with Five Weel hydraulic base		10	
6.	Making Veneered board with wooden mouldings computer work station platform with key board, mouse drawers fitted with imported channels and locks and a compartment for CPU as per approved drawing/ design		25	
7.	Making and supplying Executive office table size 48"x24" polish finish with rack size 18"x36" complete set with 5mm glass top i/c peds as per approved design & drawing.		5	
8.	Making & Supplying Executive office table size 72"x36" polish finish with rack size 18"x36"		2	

	complete set with 12mm glass i/c peds as per approved design and drawing			
9.	Executive revolving chair high back heavy cushioned with imported artificial leather fitted with imported five-feel base with hydraulic controlling system (wooden).		2	
10	Single seater imported library chair having pipe structure of imported materials of approved design and color		40	
11	Making & Fixing Wooden reception counter of approved design, made with lasani lamination sheet ¾" thick including drawers, shelves, locking arrangement complete	PRft	20	
12	Seminar / Conference Hall Table made of chip board iwht formica pressed on all inner and outer surfaces as per approved design.		1	
13	Rostrum for Class Room/Seminar Hall of approved design / drawing made of laminated board of approved color, imported ragzine of approved sample		4	
14	P.A / Secretary Office Set (Table, side rack, wall mounted rack with cupboard) made of teak veneered board, imported channels and locks complete as per approved design.		1	
15	Wooden Almirah made of neneered board with tali wood shutters having glass panels	Psft	10	
16	Wall mounted display board of approved design with sliding glass shutters with locking arrangement size 6'x3'.		5	
17	File Cabinet of approved design size 18"x48"x 18" made of G.I. sheet 22 SWG gauge having four	Psft	10	

	drawers fixed with local channels i/c locking arrangement.			
18	Library Reading Hall Table made of chip board with farmica pressed on all inner and outer surfaces as approved design having size 18'X4'	Psft	288	
19	Making and providing students chairs with back made of G.I sheet 16 SWG Square pipe 1"x1 1/2" frame with imported ply sheet seat & back with imported leather cushion including master molty foam (or equivalent) with talhi wood writing pad and career for books as per approved design and sample		250	
20	G.I Sheet Almirah 4'X6'X20" size made of 22 SWG G.I. Sheet shutters with locking arrangements as per approved design		4	
21	Wall Mounted black/white board made of chip board sheet and finishing sheet of approved size and design etc complete the Rate includes fixing on wall with frame of approved design		4	

Tender Specification of Category C.

Air Conditioner / I.T Equipment for College Of Pharmacy at LUMHS, Jamshoro

	Items Description	Unit Price	Quantity	Total Amount
1.	Multimedia with screen Size 8X10 3200 Lumens		10 Nos.	
2.	Split Air Conditioners 1.5 Tons		12 Nos.	
3.	Laptops core i5 Processor Type Core™ i5 Processor Speed 1.6 GHz or more Hard drive size: 1TB RAM 8GB Screen size 15.6 Inches RAM 8GB DDR3 Hard drive size 1TB Type of optical drive DVD+/-RW Drive Screen size 15.6 Inches Screen surface HD BrightView LED-backlit USB Ports (Total) 4 HDMI, Camera, WiFi, VGA, BLUETOOTH Yes		02 Nos.	
4.	PC with UPS (650) Specifications of Core i5 Desktop Branded core i5- (3.60 GHz , 6 MB Cache) 4 GB DDR3 500 GB (Minimum) 16x DVD +/- RW Drive Graphics 2000i GIGABIT LAN USB Optical Mouse Entry Business Keyboard DOS WiFi card LED Ultra sharp 24 inches LED		02 Nos.	
5.	Photocopier Machine 20CPM		01 No.	
6.	Risograph Machine		01 No.	
7.	Generator 60kv Specification Frequency (HZ) : 50 Voltage (V) 400/230		01 No.	

Standard Control Panel: NEXYS
 Optional Control Panel: TELYS

Power

Voltage	ESP		PRP		Standby Amps
	kWe	KvA	kWe	KVA	
220TRI	53	66	48	60	173
220/127	53	66	48	60	173
415/240	53	66	48	60	92
400/230	53	66	48	60	95
380/220	53	66	48	60	100
200/115	53	66	48	60	191
240TRI	53	66	48	60	159
230TRI	53	66	48	60	166

Dimensions compact version

Length: 1870
 Width: 994
 Height: 1360
 Dry Weight(kg): 1022
 Tank Capacity: (L) 180

Dimensions Sound proofed version

Commercial reference of the enclosure: M128
 Length: 2100
 Width: 1050
 Height: 1680
 Dry Weight: 1432
 Tank Capacity: 180
 Acoustic Pressure Level@1min Db (A) : 73
 Sound Power Level guaranteed : 91

Descriptive

Mechanic governor
 Mechanically welded chassis with antivibration suspension
 Main line circuit breaker
 Radiator for wiring temperature of 48/50°C max with mechanical fan
 Protective grille for fan and rotating parts (CE option)
 9 dB(A) silencer supplied separately
 Charger DC starting battery with electrolyte
 12 V charge alternator and starter
 Delivered with oil and coolant -30°C
 Manual for use and installation

Generator 30kv

GENERAL CHARACTERISTICS

Frequency (Hz) 50
 Voltage (V) 400/230
 Standard Control Panel APM303
 Optional control panel TELYS

POWER

ESP PRP
 Voltage
 kWe kVA kWe kVA standby
 Standby Amps
 220 TRI 26 33 24 30 87

	<p>415/240 25 31 23 28 43 400/230 26 33 24 30 48 380/220 26 33 24 30 50 200/115 26 33 24 30 95 240 TRI 26 33 24 30 79 230 TRI 26 33 24 30 83</p> <p>DIMENSIONS COMPACT VERSION Length (mm) 1700 Width (mm) 896 Height (mm) 1221 Dry weight (kg) 750 Tank capacity (L) 100</p> <p>DIMENSIONS SOUNDPROOFED VERSION Commercial reference of the enclosure M127 Length (mm) 2080 Width (mm) 960 Height (mm) 1415 Dry weight (kg) 980 Tank capacity (L) 100 Acoustic pressure level @1m in dB(A) 75 Sound power level guaranteed (Lwa) 92</p> <p>DESCRIPTIVE Mechanic governor Mechanically welded chassis with antivibration suspension Main line circuit breaker Radiator for wiring temperature of 48/50°C max with mechanical fan Protective grille for fan and rotating parts (CE option) 9 dB(A) silencer supplied separately Charger DC starting battery with electrolyte 12 V charge alternator and starter Delivered with oil and coolant -30°C Manual for use and installation</p>			
8.	Steno Set		01 No.	
9.	Refrigerator 12CBFT		01 No.	
10	Water Dispenser (Best Quality)		01 No.	
11	Water Cooler With Filter (150ltrs) Stainless Steel		01 No.	