

JINNAH SINDH MEDICAL UNIVERSITY, KARACHI

BIDDING DOCUMENT FOR

TENDER FOR SUPPLY OF LABORATORY EQUIPMENTS FOR BIO CHEMISTRY DEPARTMENT JINNAH SINDH MEDICAL UNIVERSITY.

JUNE, 2014

Jinnah Sindh Medical University

Rafiqui H.J. Shaheed Road, Karachi. Postal Code# 75510 www.lsmu.edu.pk Tel: 99204776, 35223811-15 (Ext- 350) Fax # 99201372

LIST OF CONTENTS

EST OF CONTENTS				
PART	DESCRIPTION			
Part-I	NOTICE INVITING TENDERS			
Part-II	INSTRUCTIONS TO BIDDERS			
Part-III	GENERAL CONDITIONS OF CONTRACT			
Part-IV	BID DATA SHEET			
Part-V	SPECIAL CONDITIONS OF CONTRACT			
Part-VI	SCHEDULE OF REQUIREMENT			
Part-VII	SAMPLE FORMS			
Part-VIII	TECHNICAL SPECIFICATION			



OFFICE OF THE PLANNING & DEVELOPMENT JINNAH SINDH MEDICAL UNIVERSITY KARACHI.

Date: 18th June, 2014

NOTICE INVITING TENDERS

Sealed Bids are invited form manufacturers or authorized agents registered with Tax Authorities for the supply and fixing of following items: (Single Stage two envelopes procedure):

- The Bidding shall be Single Stage Two Envelopes Procedure. First Envelope should contain Technical Proposal only and be clearly marked as TECHNICAL PROPOSAL.
- Second Envelope should contain Financial Proposal (Rates) along with earnest money @ 2% of the quoted rates in shape of Pay Order / Demand Draft (Refundable).
- Both the Envelopes should be sealed separately and placed in a Third Envelope. The Name of the Bidder to be clearly marked on all Envelopes.
- 1. Supply of Laboratory Equipments for Bio Chemistry Department JSMU, Karachi.
- 2. Supply of Laboratory Equipments for D-Pharmacy Department JSMU, Karachi.

TERMS AND CONDITIONS:

- Fidding Documents can be collected from the office of Procurement Officer, Planning & Development Department, Jinnah Sindh Medical University, Karachi. Telephone No. 021-35223811-15 Ext-350, Fax 021-99201372 from 21-06-2014 to 07-07-2014 during office hours.
- Bidding Documents can also be downloaded from SPPRA i.e. www.pprasindh.gov.pk and this university
- 3. The details / specifications are mentioned in bidding documents.
- The tenders will be received back up to 07-07-2014 at 11:00 AM and will be opened on the same day at 11:30 AM in the presence of Procurement Committee and the bidders or their authorized representatives
- 5. Bid Security amounting to 2% of Bid Price should be submitted along with Bid in shape of Pay Order in favor of Jinnah Sindh Medical University, issued by any scheduled Bank of Pakistan.
- The bid security will be forfeited to the Government, if the bidder withdraws his bid after opening and be ore the expiry of the bid validity period or fails to sign the contract if the bid is accepted.
- 7. Conditional Bid and Bid without bid security shall not be considered.
- Delivery time will be Four Weeks starting from the date of issuance of supply order.
- GST / Income Tax certificates, as the case may be, must be accompanied with the tender/Bid.

10. The Procuring agency may reject all or any bid at any time prior to the acceptance of a bid or proposal, subject to the relevant provisions of SPPRA Rules-2010 (amended 2013).

Advisor P&

Planning & Development Department Jinnah Sindh Medid

Karachi.

<u>Part-II</u>

Instruction to bidders

Preparation of Bids

- 1. Scope The Jinnah Sindh Medical University, Karachi intend to Purchase 1.1 Laboratory Equipments for Pharmacy Department through National Competitive Bidding Single Stage Two Envelope Procedure as per SPPRA Rules-2010 (Amended 2013). 2.
- Language The bid prepared by the Bidder, as well as all correspondence and 2.1 of Bid documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the English language.
- Documents 3.1 The bid prepared by the Bidder shall comprise the following Comprising the Bid
 - a) Price Schedule completed in accordance with ITB Clauses 4. 5 and 6.
 - b) bid security furnished in accordance with ITB Clause-9.
- 4. **Bid Prices** The Bidder shall indicate on the appropriate Price Schedule the 4.1 unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.
 - 4.2 The prices shall be quoted on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location specified in the schedule of Requirements. No separate payment shall be made of the incidental services.
 - Prices quoted by the by the Bidder shall be fixed during the 4.3 Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet.
 - Prices shall be quoted in Pak Rupees unless otherwise specified in 4.4
- 5. **Bid Form** The Bidder shall complete the Bid Form and the appropriate Price 5.1 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.
- 6. Bid Prices Shall be quoted in Pak Rupees. 6.1 Currencies
- Documents 7.1 The Bidder shall furnish, as part of its bid, documents establishing Establishing the Bidder's eligibility to bid and its qualifications to perform the Bidder's

Eligibility and Qualification

contract if its bid is accepted.

- a) that, in the case of a Bidder offering to supply goods under the contract which the bidder did not manufacture or otherwise produce, the bidder has been duly authorized by the good Manufacture or producer to supply the goods in the Islamic Republic of Pakistan.
- b) that the Bidder has the financial ,technical ,and production capability necessary to perform the contract;
- c) that the Bidders meets the qualification criteria listed in the Bid Data Sheet.
- 8. Documents
 Establishing
 Goods'
 Eligibility
 and
 Conformity
 to Bidding
 Documents
- 8.1 The documents 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) the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specification are intended to be descriptive only and not restrictive still stated otherwise in Technical Specifications or Bid Data Sheet. The Bidder may substitute alternative standards, brand names, and /or catalogue numbers in its bid, provided that demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the in the Technical Specifications
- 9. Bid Security
- 9.1 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's forfeiture The bid security shall be denominated in the currency of the of the bid:
 - a) at the Bidder's option, be in the form of either demand draft/call deposit or an unconditional bank guarantee from a reputable Bank:
 - b) be submitted in its original form: copies will not be accepted;
 - c) remain valid for a period of at least 14 days beyond the original validity period of bids, or at least 14 days beyond any extended period of bid validity.
- 9.2 bid security shall released to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.

- 9.3 The successful Bidder's bid security shall be discharged upon the Bidder signing the contract, and furnishing the performance security.
- 9.4 The bid security may be forfeited:
 - a) if a Bidder withdraws its bid during the period of bid validity or
 - b) in the case of a successful Bidder, if the bidder fails:
 - (i) to sign the contract in accordance or
 - (ii) to furnish performance security

Period of Validity of Eids

- 10.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency. A bid valid for a shorter period shall be rejected by the Procuring agency as non responsive.
- 10.2 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 shall also be suitable extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required not be required nor per mitted to modify its bid.

Format and Signing of Bid

- 11.1 The Didder shall prepared 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.
- 11.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons signing the bid.
- 11.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

Submission of Bids

12. Scaling and Marking of Bics

12.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as "ORIGINAL BID" and "ONE COPY". The envelopes shall then be sealed in an outer envelope. The inner and outer envelopes shall be addressed to the Procuring agency at the address given in the BDS, and carry statement "DO NOT OPEN BEFORE 07.07.2014 at 11.30 AM"

10.

11.

- 12.2 If the outer envelope is not sealed and marked as required, the Procuring agency shall assume no responsibility for the bid's misplacement or premature opening.
- 13. Deadline for Submission of Bids
- 13.1 Bids must be received by the Procuring agency at the address specified in BDS, not later than the time and date specified in Bid Data Sheet.
- 13.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in such case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline.
- 14. Late Bids
- 14.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribes by the Procuring agency shall be rejected and returned unopened to the Bidder.
- 15. Modification and Withdrawal of Bids
- 15.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by submission of bids.
- 15.2 No bid may be modified after the deadline for submission of bids.
- 15.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security.

Opening and Evaluation of Bids

- 16. Opening of Bics by the Procuring agency
- 16.1 The Procuring agency shall open all bids in the presence of bidder's 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/attendance sheet evidencing their attendance.
- 16.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presences or absence of requisite bid security and such other details as the Procuring agency, at its opening.
- 17. Clarification 17.1 of Bids
 - 17.1 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.

18. Preliminary Examination

- 18.1 The Procuring agency shall 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.
- 18.2 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 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.
- 18.3 Prior to the detailed evaluation, the Procuring agency will determine the substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself.
- 18.4 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.

19. Evaluation and Comparison of Bids

- 19.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive.
- 19.2 The Procuring agency's evaluation of a bid will be on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location and shall exclude any allowance for price adjustment during the period of execution of the contract.

20. Contacting the procuring agency

- 20.1 No Bidder shall contact the procuring agency on any matter relating to its bid, from the time of bid opening to the time the announcement of Bid Evaluation Report. If the Bidder wishes to bring additional information to the notice of the procuring agency, it should do so in writing.
- 20.2 Any effort by a Bidder to influence the Procuring agency in its decision on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

Award of contract

21. Post – Qualification

- 21.1 In the absence of prequalification, the procuring agency may determine to its satisfaction whether that selected Bidder having submitted the lowest evaluation responsive bid is qualified to perform the contract satisfactorily.
- 21.2 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 documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Claus-7 as well as such other information as the Procuring agency deems necessary and appropriate.
- 21.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to perform satisfactorily.

22. Award Criteria

- 22.1 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.
- 23. Procuring agency's Right to Accept any Bid and to Reject any or All Bids
- 23.1 Subject to relevant provisions of SPP Rules 2010 (Amended 2013), 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.
- 23.2 Pursuant to Rule 45 of SPP Rules 2010 (Amended 2013), Procuring agency shall hoist the evaluation report on Authority's web site, and intimate to all the bidders seven days prior to notify the award of contract.
- 24. Notification of Award
- 24.1 Prior to the expiration of the period of bid validity, the Procuring agency shall notify the successful Bidder in writing, that its bid has been accepted.

24.2 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 26, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security.

25. Signing of Contract

- 25.1 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.
- 25.2 Within fourteen (14) days, or any other period specified in BDS, of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.

26. Performance 26.1 Security

- 26.1 Within seven (07) days, or any other period specified in BDS, 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.
- 26.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 25 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

27. Corrupt or Fraudulent Practices

- 27.1 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, 2009 and Rules made there under:
 - (a) "Corrupt and Fraudulent Practices" means either one or any combination of the practices given below;
 - (i) "Coercive Practice" means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;

- (ii) "Collusive Practice" means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;
- (iii) "Corrupt Practice" means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
- (iv) "Fraudulent Practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- b) "Obstructive Practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.

<u>Part – III</u> General Conditions of Contract

1. Definitions

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
 - (a) "The Contract" means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) "The Goods" means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to the Procuring agency under the Contract.
 - (d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) "GCC" means the General Conditions of Contract contained in this section.
 - (f) "SCC" means the Special Conditions of Contract.
 - (g) "The Procuring agency" means the Sindh Public Procurement Regulatory Authority (SPPRA), Government of Sindh
- (h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
- "SPP Rules 2010" means the Sindh Public Procurement Rules 2010 (Amended 2013).
- (j) "Day" means calendar day.

2. Standards

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.

3. Patent Rights

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 Islamic Republic of Pakistan.

4. Performance Security

- 4.1 Within seven (07) days, or any other duration as specified in SCC, 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.
- 4.2 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.
- 4.3 The performance security shall be denominated in the Pak rupees and shall be an unconditional bank guarantee, pay order, call deposit as, provided in the bidding documents or another form acceptable to the Procuring agency;
- 4.4 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.

5 Inspections and Tests

- 5.1 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. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 5.2 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.
- 5.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Manufacturer.
- 5.5 Nothing in GCC Clause 5 shall in any way release the Supplier from any warranty or other obligations under this Contract.

6. Packing

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. 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.

7. Delivery and Documents

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

8. Insurance

The Goods supplied under the Contract shall be delivered consignee's end under which risk is transferred to the Procuring agency after having been delivered; hence insurance coverage is Supplier's responsibility.

9. Transportation

The Supplier is required under the Contact to transport the Goods to a specified place of destination and shall be arranged by the Supplier, and related costs shall be deemed to have been included in the Contract Price.

10. Incidental Services

- 10.1 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

11. Spare Parts

- 11.1 The Supplier should provide any or all of the 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

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

12. Warranty

- 12.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of desired 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
- 12.2 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
- 12.3 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.

13. Payment

- 13.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 13.2 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 upon fulfillment of other obligations stipulated in
- 13.3 Payments shall be made promptly by the Procuring agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier.
- 13.4 The currency of payment is Pak. Rupees.

14 Prices

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,

15. Contract Amendments

No variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

16. Delays in the Supplier's Performance

- 16.1 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.
- 16.2 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.
- 16.2 Except as provided under GCC Clause 17 a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon pursuant to GCC Clause 16.2 without the application of liquidated damages.

17. Liquidated Damages

Subject to GCC Clause 20, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 18.

18. Termination for Default

- 18.1 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 16: or
- (b) if the Supplier fails to perform any other obligation(s) under the
- (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.

19. Force Majeure

- 19.1 Notwithstanding the provisions of GCC Clauses 16, 17 and 18, the Supplier shall not be liable for forseiture 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.
- 19.2 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.
- 19.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

20. Resolution of Disputes

Resolution of dispute shall be through Mechanism for Redressal of Grievances as provided in the rules or through Arbitration Act 1942.

21. Governing Language

The Contract shall be written in English language all correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

22. Applicable Lav/

The Contract shall be interpreted in accordance with the SPP Rules 2010 (amended 2013).

24. Taxes and Duties

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

25. Over diding effect of Sindh Public Procurement Rules 2010 (Amended 2013)

In case of conflict or primacy of interpretation the provisions of SPP Rules 2010 (amended 2013) shall have an overriding effect notwithstanding anything to the contrary contained in these bidding documents

Part-IV

Bid Data Sheet

The following specific data for "Supply of Laboratory Equipments for Pharmacy Department Jinnah Sindh Medical University" to be procured shall complement, supplement, or amend the previsions in the Instructions to Bidders (ITB) Part One. Whenever there is a conflict, the previsions herein shall prevail over those in ITB.

========	and over mose in ITB.
Imp	Introduction
ITB 1	Name of Procuring Agency: office of Procurement Officer, Planning & Development Department, Jinnah Sindh Medical University 199201372. Name of Contract. "Supply of Laboratory Equipments for Bis Chemistry Department Jinnah Sindh Medical University"
 	Rid Price - 10
ITB 4	Bid Price and Currency
	Prices quoted by the Bidder shall be "fixed" and in" Pak Rupees"
ITB 7	Preparation and Submission of Bids
TB 9	 Bidders must be a direct authorized agent of the manufacturer of required items with a minimum of five (05) years of experience in manufacturing or supplies; as applicable. Authorized agent should be in possession of a valid verifiable Authorization Certificate. Bidder /Supplier should have a documented track of completing at least 2 similar assignments, during last 3 (three) years, involving the supply, installation, and after sale support. They should have annual sale volume of at least Rs.03 (three) million in of last 3 years relevant documents should be provided. Valid Registration with tax authorities is required
TB 10	Amount of bid security. 2% of Bid
TB 11	Did Validity period
4.47 1.1	No. 1 90 days
TB 13	Number of copies. One original One copy Deadline for bid submission. 07.07.2014 at 11.00 AM Bid Evaluation: Lowest evaluate thirty

Part-V

Special Conditions of Contract

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

1. Definitions (GCC Clause 1)

GCC 1 (g)—The Procuring Agency is: Office of the Planning & Development Department Jinnah Sindh Medical University, Karachi.

2. Performance Security (GCC Clause 4)

GCC 4—The amount of performance security, as a percentage of the Contract Price, shall be: 10%.

Inspections and Tests (GCC Clause 5)

Representative of Procuring Agency or his nominee shall inspect the procured good and ensure that it meets the tender specifications before its acceptance

4. Delivery and Documents (GCC Clause 7)

GCC 10—Supplier shall supply and install the good within Four Weeks after signing the

- Supplier's invoice showing Goods' description, quantity, unit price, and total (i) (ii)
- Packing List identifying the contents of Supply;
- Delivery note. (iii)
- Warranty and guarantee certificate; (iv)

7. Warranty (GCC Clause 12)

The equipment shall bear Standard warranty (with free parts & labor) from the date of installation / acceptance. Upon expiration of warranty, Purchaser at its option may enter into a Service Level Maintenance Agreement upon expiry of the warranty period in accordance with terms embodied in Appendix-A hereto

8. Payment (GCC Clause 13)

Hundred percent (100%) of the Contract Price shall be paid upon delivery, and satisfactory Installation, integration and testing of the products at the Project site (s), subject to the production of installation and Operational Acceptance certificates duly signed by authorized Representative/nominee of the SPPRA.

9. Liquidated Damages (GCC Clause 18)

If the Supplier fails to deliver the goods or perform the services within the time period(s) specified in the contract, the Purchaser shall, without prejudice to its other remedies under the contract deduct from the Contract Price, as liquidated damages, a sum equivalent to performance, up to a maximum deduction of 10% of the Contract Price. Once the maximum is reached, the purchaser may consider termination of the contract.

10. Resolution of Disputes (GCC Clause 21)

In the case of a dispute between the Procuring agency and the Supplier, the dispute shall be referred to the dispute resolution mechanism as defined in rule 31, 32 and 34 of the (SPPR 2010) Amended 2013

11. Applicable Law (GCC Clause 23)

GCC 29.1 Contract shall be interpreted in accordance with the Sindh Public Procurement law of Sindh.

Part-VI

SCHEDULE OF REQUIREMENTS

The delivery schedule hereafter expressed the date of delivery required.

S.No.	Product	Quantity	Required Delivery Schedule from the Date of Contract Award	Location
1	SPECTROPHOTOMETERIC SYSTEM	04 Nos.	30 Days	Laborator of Bio Chemistry
2	DIGITAL PHOTOELECTRIC COLORIMETER	02 Nos.	DO	JSMU. DO
3	SEMI-AUTOMATED CLINICAL CHEMISTRY ANALYZER	04 Nos.	DO	DO
4	WATER DISTILLATION PLANT ALL GLASS	01 No.	DO	DO
5	WATER DEIONIZER WALL MOUNTED	01 No.	DO	 DO
6	DIGITAL LABORATORY INCUBATOR	01 No.	DO	
7	BENCHTOP PH/MV/TEMPERATURE METER	01 No.	DO	DO DO
	JUSTER	10 Nos.	DO ·	
9]	VERTICAL ELECTROPHORESIS SYSTEM 4-GEL	01 No.	DO	DO
0 [DIGITAL WATER BATH	01 No.		

Note: Specifications of above items are attached

Part-VI

SCHEDULE OF REQUIREMENTS

The delivery schedule hereafter expressed the date of delivery required.

S.N	Froduct	Quantity	Required Delivery Schedule from the Date of Contract Award	Locatio
1	FULLY AUTOMATIC DIGITAL AUTOCLAVE With Vacuum Drying System	1	30 Days	Laborato of D- Pharmac
2	LABORATION	T 01 No.	DO	JSMU.
3	LABORATORY MICROSCOPE	45 Nos.	DO	DO
4	HIGH PERFORMANCE LIQUID CHROMATOGRAPH SYSTEM (HPLC).	01 Set.	DO	DO DO
5 6	DOUBLE BEAM SPECTROPHOTOMETER DISTILLATION	04 Sets.	DO	DO
- -	APPARATUS	01 No.	DO	DO
- -	CONDUCTIVITY METER DIGITAL ABBE	04 No0s.	DO	DO
 -	REFRACTOMETER	01 No.	DO	 DO
10	POLARIMETER DIGITAL WATER	01 No.	DO	 -
11	DIGITAL WATER BATH MAGNETIC STIRRER	03 Nos.	DO	DO
12	NEUBAUER / BLOOD	02 Nos.	DO	DO
13	COUNTING CHAMBERS ROTARY EVAPORATOR	10 Sets.	DO	DO
	DIGITAL ELECTRON	01 No.	DO	DO
4	RANSMISSION (STEM) YSTEM	01 No.	DO	DO
5	OXHELT EXTRACTION PPARATUS	05 Nos.	DO	DO

Note: Specifications of above items are attached

Part-VII

SAMPLE FORMS

F	o	r	n	1-	1
_	•	•			

Letter of Acceptance

	—— —
To:	Date:
xo:	
Advisor Planning & D Jinnah Sindh Medical Karachi,	Development Department, University,
Dear Sir:	
	de bidding documents, the receipt of which is hereby duly dersigned, offer to supply and deliver the required item in ding documents for the sum of <i>[total bid amount in words and figures]</i> is Bid.
	Bid is accepted, to deliver the goods in accordance with the the Schedule of Requirements.
If our Bid is account a	we will obtain the guarantee of a bank in a sum equivalent to act Price/Pay order for the due performance of the Contract, in
We agree to abide by to opening under Clause 10 of the and may be accepted at any time.	this Bid for a period of 15 days from the date fixed for Bid he Instructions to Bidders, and it shall remain binding upon us he before the expiration of that period.
Until a format Carry	is prepared and executed, this Bid, together with your written notification of award, shall constitute a binding Contract
We understand that you are not	bound to accept the lowest or any bid you may receive.
Dated this	day of2014
	 ;
[signatu e]	
•	[in the capacity of]
Duly authorized to sign Bid for a	and on behalf of
•	

Price Schedule in Pak. Rupees

1	2	3	4	T =====		
tem	Description	Country of		5	6	7
		origin	Quantity	Unit price	Total	Remarks (if any)
				Words Figure		
l Bid	amount in word amount in figure	e:				

- In case of discrepancy between unit price and total, the unit price shall prevail.
- The unit and total prices Delivered at Planning & Development Department, (ii) Jinnah Sindh Medical University Karachi should include the price of incidental services. No separate payment shall be made for the incidental services.

Experience of Similar* Supply and Installation

S. No	Assignment Description	Name /Contact Details of Client	Cost	Start Date	End Date	Remarks
<u> </u>						
						
						
					,	·
						-
						 -
					.	
	-					

Contract Form

	THIS AGREEMENT made theday of between Jinnah Sindh Medical University, Karachi. (hereinaster called "the Procuring agency") of the one part and part: [name of Supplier] of [city and country of Supplier] (hereinaster called "the Supplier") of the other part:
	WHEREAS the Procuring agency invited bids for certain goods and ancillary services, viz., supply of laboratory equipments for Bio Chemistry Department Jinnah Sindh Medical University and has accepted a bid by the Supplier for the supply of those goods and services ir the sum of [contract price in words and figures] (hereinafter called "the Contract Price").
	NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:
	1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
	 2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.: (a) the Bid Form and the Price Schedule submitted by the Bidder; (b) the Schedule of Requirements; (c) the Technical Specifications. (d) the General Conditions of Contract; (e) the Special Conditions of Contract; and (f) the Procuring agency's Notification of Award.
	3. In consideration of the payments to be made by the Procuring agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract
ļ	The Procuring agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price and in the manner prescribed by the contract.
Į a	N WITNESS whereof the parties hereto have caused this Agreement to be executed in eccordance with their respective laws the day and year first above written.
S a	ger cy) the (for the Procuring
S	igned, sealed, delivered by the (for the Supplier)

Contract Form

THIS AGREEMENT made the day of between Jinnah Sin Medical University, Karachi. (hereinafter called "the Procuring agency") of the one part a part:	<i>ndh</i> and her
WHEREAS the Procuring agency invited bids for certain goods and ancillary services, visupply of laboratory equipments for Bio Chemistry Department Jinnah Sindh Medic Iniversity and has accepted a bid by the Supplier for the supply of those goods and service in the sum of [contract price in words and figures] (hereinafter called "the Contract Price").	iz., cal
NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:	
 In this Agreement words and expressions shall have the same meanings as a respectively assigned to them in the Conditions of Contract referred to. 	ıre
 The following documents shall be deemed to form and be read and construct as particle. (a) the Bid Form and the Price Schedule submitted by the Bidder; (b) the Schedule of Requirements; (c) the Technical Specifications. (d) the General Conditions of Contract; (e) the Special Conditions of Contract; and (f) the Procuring agency's Notification of Award. 	ırt
3. In consideration of the payments to be made by the Procuring agency to the Supplie as a rereinafter mentioned, the Supplier hereby covenants with the Procuring agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract	r e c
4. The Procuring agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price and in the manner prescribed by the contract.	e S
IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.	I
Signed, sealed, delivered by the (for the Procuring agency)	
Signed, sealed, delivered by the (for the Supplier)	

Manufacturer's Authorization Form

Го:

Planning & Development Department Jinnah Sindh Medical University, Karachi.

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

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

We hereby extend our full guarantee and warranty as per Clause 12 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

[signature for and on behalf of Manufacturer]

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

LIST OF INSTRUMENT EQUIPMENT FOR JINNAH SINDH MEDICAL UNIVERSITY, KARACHI (BIO-CHEMISTRY DEPARTMENT)

I TEM #	DESCRIPTION			
01.	DESCRIPTION OF STORE			
1 01.	SPECTROPHOTOMETERIC SYSTEM	QUANTITY	RATE PER	AMOU
		REQUIRED	UNIT	AMOU.
	With Built-in Printer	04 NOS.		ļ <u>.</u>
1	let Titer Wheel			}
ł	Standard Filter wheel : 340nm, 405nm, 450nm, 510nm, 546nm, Bandwidth 578nm, 630nm & 670nm	1 1		ļ
1	Bandwidth 578nm, 630nm & 670nm, 510nm, 546nm,	1 1		ļ
1	Photometric : < 8nm		ľ	ļ
	Stabilia Range : 0-3.5ABS	1 1	1	
1	F)	1 1	ľ	
1	Measuring Volume Starnless Steel with grown	1	j	
l ,	Optical path : 10mm	1 1	[
[Aspiration volume programmable : 200-9000uL Storage : More than 2000	1 1		
!	Storage Programmable: 200-9000ut.	1 1	1	
ł	: More than 3000 sample results	j	1	
Í			ł	
j	Aspiration volume Programmable: 200-9000uL		1	
ļ	Light source : Tungeton : 200-9000ui,	1	İ	
	FOWER - Dalogen 1		j	
ļ	: 220V, 50Hz Complete with standard accessories	1 1	ſ	
_	Including free installation at site OK/USA/JAPAN/GERMANY OR STATE	i i]	
02.	UK/USA/JAPAN/GERMANY OR SIMILAR DIGITAL PHOTOSTEON	1	}	
1	DIGITAL PHOTOELECTRIC COLORIMETER		ł	
	Date	02 NOS.		
-		02 NOS.		
J	interchangeable glace fit.	}	ĺ	
-	Light source (420nm, 470nm, 546nm, 620nm, 660nm) Display (3-digit Lam 6V, 1A)	1	j	
} -	Display Halogen Lamp 6V, 1A	1	[
-		1 1		
ſ			}	
ļ	Concern 0-2.00 ABS]		
}	Cl 0~19_9a		1	
	Z^	1	ĺ	
1]	Sample Container : Round type	1	J	,
l cc	Sample container: Round type test tube (10mm dia. 1.D.) mplete with standard as	1 1	ļ	1
UK	mplete with standard accessories /USA/JAPAN/GERMANY 0-			ł
SE SE	/USA/JAPAN/GERMANY Or equivalent	}		i
1.	MI-AUTOMATED CLINICAL CHEMISTRY ANALYZER Semi-automated clinical Chemistry Analyzer	1 .1	1	j
		04 NOS.		ļ
ſ •	60 programmable tests	, or nos.		
J •	Broad test menu			1
	First		ł	1
	Full size screen and gwerty keyboard		1	• 1
	- ap cine	}	1	[
•	Easy-to-train, operate and maintain	ļ	İ	ſ
[•	Bi-dim operate and maintain		· J	ļ
			}	ļ
1300		ſ	ļ	- 1
Spen	cifications:	ļ	1	ĺ
} ¬ т	orh.		ł	İ
] - Wa	ght source : Quartz-iodine Lamp	1	j	J
,	PPLICAL tenit	İ		ļ
1	340,405,505,546,570 Position filter	ĺ		- }
. - Ph	340,405,505,546,578,620nm standard 6 positions for optional filters tector -0.1 to 2.3 Absorba-	1	ł	
- De	tector tange: -0.1 to 2.3 mb - Francisco faiters	Į	i	j
		}	ſ	ļ
- Hi	th contract direct function .	1	1	ļ
Power	th contrast graphical LCD display 1200 50Hz	1	}	ł
[Comp]	ete with	Į	ł	}
+ UK/US	A/JAPAN/GERMANY/NETHERLAND	}	1	1
		1		
		4	1	[
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04.	WATER DISTILLATION PLANT ALL GLASS standard water stiller		
1	standard water stiller with integrated low-water cut-out, metals and pyrogens		
1	continuous production of high pure water, free of dissolved	OI NO.	Ţ
	/ PISEIII at a state of the section		į
ł		1	!
	Wattage GOO 4 1/h Heater element GOO 2.5 µS/cm	}	ł .
.	Heater element : 2.600 W	1	j
<u> </u>	Silica host	1	}
	Complete	1 1	[
<u> </u>	VN/USA/JADAN/an-	1 1	1
05.	WATER DETONIT	1 1	1
1	Pressure less plastic]	
, i	pressure less plastic system consisting of a practical analog conductivity man	01 NO.	
}	EVANTIL		
1	analog conductivity meter, a hose set and wall mount. the preparation of a practical	1	1
1 1	requirements of wall volumes of water	1	
1	the preparation of small volumes of water to fulfill daily	1 1	ſ
	Pecification.]	
	Flow rate: 50 1/h	}	j
1 '	'QPdC1TV at 1AB . /	·	
1 1	Odality: 0,1 - 20 µS/cm	Į	1
. I M	aterial polymer 30°C	j	Į
		}	
1.5	94 SPARE CATRIDGES)	ļ	1
	MUSA/.TADRAY.(
	dital Laboratory Incubator 01 NO	İ	
) "-			}
, ca	page made of stainless story	01 NO.	
Ti	mer 60 Liters	-	ļ
	ntroller 99hrs, 59mins, 1 min in	j	}
In	ntroller 99hrs, 59mins, 1 min increment Sulation Material: NON flammet	1	}
No	Of the daterial : NON flammable	į	ļ
1	02 NOS. stainless		j
Hea	ter polish polystyrene	1	
Tem	perature 300 watt incolor	}	j
/ Com	plete with standard accessories	1	}
07. UK/	JSA/JAPAN/GERMANY Or equivalent	}	,
BEN	CHTOP PUARIA OF equivalent	{	
* T.=		. 1	\
* Si	rge display with backlight multaneous display of pH / ORP and temperature readings , 9,18) Nibration: (4,01, 7.00 10.01) or 4.03	NO.	<u>-</u>
* Du	al buffer set selection: (4,01, 7.00 10.01) or 4,0),	1	
6,86	, 9,18) set selection: (4,01, 7,00,10 sature readings	1	
∫ * Ca	libration data is on-	ļ	
			1
* Au	colution to 0,1 mV for Ion measurement	}	1
* Aut	omatic or manual temperature compensation in stable restauration point services	1	ļ
lock	in stable and end point service		i
/ * AC	omatic or manual temperature compensation omatic lock mode and end point sensing are available to in stable readings adaptor or battery power (low battery indicator) 4 waterproof case 1675 will be delivered.		ļ
* IP5	waterproof case (low battery ;	}	ļ
		1	1
1 x x	ORIES: Standard of Probe, each 1 x 500 ml Buffer solution pH 4,01, pH		į
7,00	o probe, each 1 x 500 ml Buss	ł	
$\int 1 \times AC$	adaptor 1	ĺ	[
holder	and glass classifier Manual 7 mgs	}	
SPECIF	adaptor, 1 x operating Manual, 1 x flexible electrode	ł	} }
Range		ĺ	
0 to 1	,00 pH Resolution	}	
ACOUNT /	U. 01 viu ACCuv [1	1 1
-19 <u>9</u> 9,9	Resolution ± 0.01mV	1	1 . 1
	± 0.4 my (150	}	1 1
Tempera	± 1 mV (-1000,0 -1500,0);	1	}
Range	and 1500.0 - 1999.9)	1	
10.0 to 1	On one Resolution	1	1 1
PH buffe	r rece V.1°C Accuracy	}	1 1
1_	US (4.0] 7.00 ±0,2°C	ļ	1
Buffer t	NIST (4,00, 6,86, 9,18) user selectable	1	1
	0 - 60,0 °C	1	1 1
	0 - 60 V ov		, ,

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ŀ	pH calibration			
	calibration : 1,2 or 3 point			
ļ	pH electrode			- -
	Recognition : offset		İ	ľ
ł	Mccognition	1	ł	Į
ļ	: Fit 616011000 -1,00 DH	1	1	
	Recognition : slope	1		1
	: ±30% at pH 4,00, 4,01, 9,18		1	
		1-		1 '
	Tarput IMDecands Tarbut I medical in the local		į	
	i temperature sensor	ľ		l
	Thermistor lov	1	- 1	
	Power requirement		ļ	
	· AC adapton			ł
_	UK/USA/TARRAY (GREEN AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF AND A STATE OF A STAT	Ī	ľ	
08.	UK/USA/JAPAN/GERMANY Or equivalent 1,5 Volt AAA batteries	1	•	j
- *	PLY	i	1	
	FIX VOLUME WITH TIP EJECTER OF CAPACITY 100ul,	10 EACH	 -	
	1000ul, 2000ul, 5000ul	TO EACH	Ī	
09.	UK/USA/JAPAN/CERMANNE	1	ŀ	
09.	VERTICAL ELECTROPHORESIS SYSTEM 4-GEL	•	ļ	ľ
	4-gel vertical electrophoresis system,	 	_ [ł
	1.0 mm gel thickness,	01 NO.		
	Includes companion module,		Ī	ļ
	2 casting stands,	İ	1	
	4 casting frames,	1	ł	. [
	10-well combs,	,	1	
	5 short plates,	1	[1
	5 Short piates,	Ī]
	5 spacer plates	1	1	
	complete with power supply 3-digit lab		ŧ	
	Complete with power supply 3-digit LED display output 75w		l	ĺ
				ł
	safety features: No-load dather 1 min 99hrs 59sec adjustable			ļ
		1		
	detection, over voltage protection, overload/short circuit protection system complete as above	ţ		ſ
		ļ		ĺ
0.	DIGITAL WATER BATH	ļ		ļ
	Microprocess			ł
	Microprocessor controlled	01 NO.		
	Bath capacity: 8liters or more	1 2.0.		,
		1		
	Temperature setting: 0.1°C to 99.59°C	1		
	·Pac tower • Endu			1
	Watter Outlet . vca	ļ		ł
	Power: 220v car			ł
	Complete with care a	j		1
	UK/USA/JAPAN/GERMANY Or equivalent	ł		
	OF equivalent	}		
				Į.





JINNAH SINDH MEDICAL UNIVERSITY, KARACHI

BIDDING DOCUMENT FOR

TENDER FOR SUPPLY OF LABORATORY EQUIPMENTS FOR PHARMACY DEPARTMENT JINNAH SINDH MEDICAL UNIVERSITY.

JUNE, 2014

Jinnah Sindh Medical University

Rafiqui H.J. Shaheed Road, Karachi. Postal Code# 75510 www.Jsmu.edu.pk Tel: 99204776, 35223811-15 (Ext- 350) Fax # 99201372

LIST OF CONTENTS

PART	DESCRIPTION
Part-I	NOTICE INVITING TENDERS
Part-II	INSTRUCTIONS TO BIDDERS
 Part-III	GENERAL CONDITIONS OF CONTRACT
 Part-IV	BID DATA SHEET
Part-V	SPECIAL CONDITIONS OF CONTRACT
Part-VI	SCHEDULE OF REQUIREMENT
Part-VII	SAMPLE FORMS
Part-VIII	TECHNICAL SPECIFICATION



OFFICE OF THE PLANNING & DEVELOPMENT JINNAH SINDH MEDICAL UNIVERSITY KARACHI.

Date: 18th June, 2014

NOTICE INVITING TENDERS

Sealed Bids are invited form manufacturers or authorized agents registered with Tax Authorities for the supply and fixing of following items: (Single Stage two envelopes procedure):

- The Bidding shall be Single Stage Two Envelopes Procedure. First Envelope should contain Technical Proposal only and be clearly marked as TECHNICAL PROPOSAL.
- Second Envelope should contain Financial Proposal (Rates) along with earnest money @ 2% of the quoted rates in shape of Pay Order / Demand Draft (Refundable).
- Both the Envelopes should be sealed separately and placed in a Third Envelope. The Name of the Bidder to be clearly marked on all Envelopes.
- 1. Supply of Laboratory Equipments for Bio Chemistry Department JSMU, Karachi.
- 2. Supply of Laboratory Equipments for D-Pharmacy Department JSMU, Karachi.

TERMS AND CONDITIONS:

- Bidding Documents can be collected from the office of Procurement Officer, Planning & Development Department, Jinnah Sindh Medical University, Karachi. Telephone No. 021-35223811-15 Ext-350, Fax 021-99201372 from 21-06-2014 to 07-07-2014 during office hours.
- 2. Bidding Documents can also be downloaded from SPPRA i.e. www.pprasindh.gov.pk and this university website www.jsmu.edu.pk.
- 3. The details / specifications are mentioned in bidding documents.
- 4. The tenders will be received back up to 07-07-2014 at 11:00 AM and will be opened on the same day at 11:30 AM in the presence of Procurement Committee and the bidders or their authorized representatives who wish to be present.
- Bid Security amounting to 2% of Bid Price should be submitted along with Bid in shape of Pay Order in favor of Jinnah Sindh Medical University, issued by any scheduled Bank of Pakistan.
- 6. The bid security will be forfeited to the Government, if the bidder withdraws his bid after opening and before the expiry of the bid validity period or fails to sign the contract if the bid is accepted.
- Conditional Bid and Bid without bid security shall not be considered.
- 8. Delivery time will be Four Weeks starting from the date of issuance of supply order.
- 9. 3ST / Income Tax certificates, as the case may be, must be accompanied with the tender/Bid.

10. The Procuring agency may reject all or any bid at any time prior to the acceptance of a bid or proposal, subject to the relevant provisions of SPPRA Rules-2010 (amended 2013).

Advisor P&D Procurement Planning & Development Department Jinnah Sindh Medical University,

Karachi.

Part-II

Instruction to bidders

Preparation of Bids The Jinnah Sindh Medical University, Karachi intend to Purchase 1.1 Scope 1. Laboratory Equipments for Pharmacy Department through National Competitive Bidding Single Stage Two Envelope Procedure as per SPPRA Rules-2010 (Amended 2013). The bid prepared by the Bidder, as well as all correspondence and 2.1 Language documents relating to the bid exchanged by the Bidder and the of Bid Procuring agency shall be written in the English language. The bid prepared by the Bidder shall comprise the following 3.1 **Documents** 3. components: Comprising a) Price Schedule completed in accordance with ITB Clauses the Bid 4, 5 and 6. b) bid security furnished in accordance with ITB Clause-9. The Bidder shall indicate on the appropriate Price Schedule the **Bid Prices** 4.1 unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract. The prices shall be quoted on delivery to consignee's end 4.2 inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location specified in the schedule of Requirements. No separate payment shall be made of the incidental services. Prices quoted by the by the Bidder shall be fixed during the 4.3 Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. Prices shall be quoted in Pak Rupees unless otherwise specified in 4.4 the Bid Data Sheet. The Bidder shall complete the Bid Form and the appropriate Price **Bid Form** 5.1 5. 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. Prices Shall be quoted in Pak Rupees. 6.1 Bid 6. Currencies The Bidder shall furnish, as part of its bid, documents establishing **Documents** 7.1

Establishing Bidder's the Bidder's eligibility to bid and its qualifications to perform the

Eligibility and Qualification

contract if its bid is accepted.

- a) that, in the case of a Bidder offering to supply goods under the contract which the bidder did not manufacture or otherwise produce, the bidder has been duly authorized by the good Manufacture or producer to supply the goods in the Islamic Republic of Pakistan.
- b) that the Bidder has the financial ,technical ,and production capability necessary to perform the contract;
- c) that the Bidders meets the qualification criteria listed in the Bid Data Sheet.
- 8. Documents
 Establishing
 Goods'
 Eligibility
 and
 Conformity
 to Bidding
 Documents
- 8.1 The documents 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) the Bidder shall note that standards for workmanship, material ,and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specification are intended to be descriptive only and not restrictive :till stated otherwise in Technical Specifications or Bid Data Sheet .The Bidder may substitute alternative standards, brand names , and /or catalogue numbers in its bid , provided that demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the in the Technical Specifications
- 9. Bid Security
- 9.1 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's forfeiture The bid security shall be denominated in the currency of the of the bid:
 - a) at the Bidder's option, be in the form of either demand draft/call deposit or an unconditional bank guarantee from a reputable Bank:
 - b) be submitted in its original form: copies will not be accepted;
 - c) remain valid for a period of at least 14 days beyond the original validity period of bids, or at least 14 days beyond any extended period of bid validity.
- 9.2 bid security shall released to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.

- 9.3 The successful Bidder's bid security shall be discharged upon the Bidder signing the contract, and furnishing the performance security.
- 9.4 The bid security may be forfeited:
 - a) if a Bidder withdraws its bid during the period of bid validity or
 - b) in the case of a successful Bidder, if the bidder fails:
 - (i) to sign the contract in accordance or
 - (ii) to furnish performance security

Period of Validity of Rids

- 10.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency. A bid valid for a shorter period shall be rejected by the Procuring agency as non responsive.
- 10.2 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 shall also be suitable extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required not be required nor per mitted to modify its bid.

Format and Signing of Bid

- 11.1 The Bidder shall prepared 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.
- 11.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for unamended printed literature, shall be initialed by the person or persons signing the bid.
- 11.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

Submission of Bids

12. Sealing and Marking of Bids

12.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as "ORIGINAL BID" and "ONE COPY". The envelopes shall then be sealed in an outer envelope. The inner and outer envelopes shall be addressed to the Procuring agency at the address given in the BDS, and carry statement "DO NOT OPEN BEFORE 07.07.2014 at 11.30 AM"

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- 12.2 If the outer envelope is not sealed and marked as required, the Procuring agency shall assume no responsibility for the bid's misplacement or premature opening.
- 13. Deadline for Submission of Bids
- 13.1 Bids must be received by the Procuring agency at the address specified in BDS, not later than the time and date specified in Bid Data Sheet.
- 13.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in such case all rights and obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline.
- 14. Late Bids
- 14.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribes by the Procuring agency shall be rejected and returned unopened to the Bidder.
- 15. Modification and Withdrawal of Bids
- 15.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.
- 15.2 No bid may be modified after the deadline for submission of bids.
- 15.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security.

Opening and Evaluation of Bids

- 16. Opening of Bids by the Procuring agency
- 16.1 The Procuring agency shall open all bids in the presence of bidder's 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/attendance sheet evidencing their attendance.
- 16.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presences 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.
- 17. Clarification 17.1 of Bids
- 17.1 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.

18. Preliminary Examination

- 18.1 The Procuring agency shall 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.
- 18.2 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 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.
- 18.3 Prior to the detailed evaluation, the Procuring agency will determine the substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself.
- 18.4 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.

19. Evaluation and Comparison of Bids

- 19.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive.
- 19.2 The Procuring agency's evaluation of a bid will be on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location and shall exclude any allowance for price adjustment during the period of execution of the contract.

20. Contacting the procuring agency

- 20.1 No Bidder shall contact the procuring agency on any matter relating to its bid, from the time of bid opening to the time the announcement of Bid Evaluation Report. If the Bidder wishes to bring additional information to the notice of the procuring agency, it should do so in writing.
- 20.2 Any effort by a Bidder to influence the Procuring agency in its decision on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

Award of contract

21. Post – Qualification

- In the absence of prequalification, the procuring agency may determine to its satisfaction whether that selected Bidder having submitted the lowest evaluation responsive bid is qualified to perform the contract satisfactorily.
- 21.2 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 documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Claus-7 as well as such other information as the Procuring agency deems necessary and appropriate.
- 21.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to perform satisfactorily.

22. Award Criteria

- 22.1 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.
- 23. Procuring agency's Right to Accept any Bid and to Reject any or All Bids
- 23.1 Subject to relevant provisions of SPP Rules 2010 (Amended 2013), 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.
- 23.2 Pursuant to Rule 45 of SPP Rules 2010 (Amended 2013), Procuring agency shall hoist the evaluation report on Authority's web site, and intimate to all the bidders seven days prior to notify the award of contract.

24. Notification of Award

24.1 Prior to the expiration of the period of bid validity, the Procuring agency shall notify the successful Bidder in writing, that its bid has been accepted. 24.2 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 26, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security.

25. Signing of Contract

- 25.1 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.
- 25.2 Within fourteen (14) days, or any other period specified in BDS, of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.

26. Performance 26.1 Security

- 26.1 Within seven (07) days, or any other period specified in BDS, 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.
- 26.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 25 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

27. Corrupt or Fraudulent Practices

- 27.1 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, 2009 and Rules made there under:
 - (a) "Corrupt and Fraudulent Practices" means either one or any combination of the practices given below;
 - (i) "Coercive Practice" means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;

- (ii) "Collusive Practice" means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;
- (iii) "Corrupt Practice" means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
- (iv) "Fraudulent Practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

b) "Obstructive Practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.

<u>Part – III</u> <u>General Conditions of Contract</u>

1. Definitions

- 1.1 In this Contract, the following terms shall be interpreted as indicated:
 - (a) "The Contract" means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - (b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
 - (c) "The Goods" means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to the Procuring agency under the Contract.
 - (d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
 - (e) "GCC" means the General Conditions of Contract contained in this section.
 - (f) "SCC" means the Special Conditions of Contract.
 - (g) "The Procuring agency" means the Sindh Public Procurement Regulatory Authority (SPPRA), Government of Sindh.
 - (h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.
 - (i) "SPP Rules 2010" means the Sindh Public Procurement Rules 2010 (Amended 2013).
 - (i) "Day" means calendar day.

2. Standards

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.

3. Patent Rights

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 Islamic Republic of Pakistan.

4. Performance Security

- 4.1 Within seven (07) days, or any other duration as specified in SCC, 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.
- 4.2 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.
- 4.3 The performance security shall be denominated in the Pak rupees and shall be an unconditional bank guarantee, pay order, call deposit as, provided in the bidding documents or another form acceptable to the Procuring agency;
- 4.4 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.

5 Inspections and Tests

- 5.1 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. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.
- 5.2 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.
- 5.4 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Manufacturer.
- 5.5 Nothing in GCC Clause 5 shall in any way release the Supplier from any warranty or other obligations under this Contract.

6. Packing

The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. 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.

7. Delivery and Documents

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

8. Insurance

The Goods supplied under the Contract shall be delivered consignee's end under which risk is transferred to the Procuring agency after having been delivered; hence insurance coverage is Supplier's responsibility.

9. Transportation

The Supplier is required under the Contact to transport the Goods to a specified place of destination and shall be arranged by the Supplier, and related costs shall be deemed to have been included in the Contract Price.

10. Incidental Services

- 10.1 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

11. Spare Parts

- 11.1 The Supplier should provide any or all of the 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.

12. Warranty

- 12.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of desired 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.
- 12.2 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
- 12.3 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.

13. Payment

- 13.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.
- 13.2 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 upon fulfillment of other obligations stipulated in the Contract.
- 13.3 Payments shall be made promptly by the Procuring agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier.
- 13.4 The currency of payment is Pak. Rupees.

14. Prices

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,

15. Contract Amendments

No variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

16. Delays in the Supplier's Performance

- 16.1 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.
- 16.2 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.
- 16.2 Except as provided under GCC Clause 17 a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon pursuant to GCC Clause 16.2 without the application of liquidated damages.

17. Liquidated Damages

Subject to GCC Clause 20, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 18.

18. Termination for Default

- 18.1 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 16; 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.

19. Force Majeure

- 19.1 Notwithstanding the provisions of GCC Clauses 16, 17 and 18, 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.
- 19.2 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.
- 19.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

20. Resolution of Disputes

Resolution of dispute shall be through Mechanism for Redressal of Grievances as provided in the rules or through Arbitration Act 1942.

21. Governing Language

The Contract shall be written in English language all correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

22. Applicable Law

The Contract shall be interpreted in accordance with the SPP Rules 2010 (amended 2013).

24. Taxes and Duties

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

25. Overriding effect of Sindh Public Procurement Rules 2010 (Amended 2013) In case of conflict or primacy of interpretation the provisions of SPP Rules 2010 (amended 2013) shall have an overriding effect notwithstanding anything to the contrary contained in these bidding documents

Part-IV

Bid Data Sheet

The following specific data for "Supply of Laboratory Equipments for Pharmacy Department Jinnah Sindh Medical University" to be procured shall complement, supplement, or amend the provisiors in the Instructions to Bidders (ITB) Part One. Whenever there is a conflict, the provisiors herein shall prevail over those in ITB.

	Introduction
ITB 1	Name of Procuring Agency: office of Procurement Officer, Planning & Development Department, Jinnah Sindh Medical University, Karachi. Telephone No. 021-35223811-15 Ext-350, Fax 021-99201372.
ITB 1	Name of Contract. "Supply of Laboratory Equipments for Pharmacy Department Jinnah Sindh Medical University"
	Bid Price and Currency
ITB 4	Prices quoted by the Bidder shall be "fixed" and in" Pak Rupees"
	Preparation and Submission of Bids
ITB 7	 Qualification requirements: Bidders must be a direct authorized agent of the manufacturer of required items with a minimum of five (05) years of experience in manufacturing or supplies; as applicable. Authorized agent should be in possession of a valid verifiable Authorization Certificate. Bidder /Supplier should have a documented track of completing at least 2 similar assignments, during last 3 (three) years, involving the supply, installation, and after sale support. They should have annual sale volume of at least Rs.03 (three) million in of last 3 years relevant documents should be provided. Valid Registration with tax authorities is required
ITB 9	Amount of bid security. 2% of Bid
ITB 10	Bid validity period. 90 days
ITB 11	Number of copies. One original One copy
ITB 13	Deadline for bid submission. 07.07.2014 at 11.00 AM
ITB 19.1	Bid Evaluation: Lowest evaluated bid

Part-V

Special Conditions of Contract

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

1. Definitions (GCC Clause 1)

GCC 1 (g)—The Procuring Agency is: Office of the Planning & Development Department Jir nah Sindh Medical University, Karachi.

2. Performance Security (GCC Clause 4)

GCC 4—The amount of performance security, as a percentage of the Contract Price, shall be: 10%.

3. Inspections and Tests (GCC Clause 5)

Representative of Procuring Agency or his nominee shall inspect the procured good and er sure that it meets the tender specifications before its acceptance

4. Delivery and Documents (GCC Clause 7)

GCC 10—Supplier shall supply and install the good within Four Weeks after signing the contract and shall submit the following.

- (i) Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) Packing List identifying the contents of Supply;
- (iii) Delivery note.
- (iv) Warranty and guarantee certificate;

7. Warranty (GCC Clause 12)

The equipment shall bear Standard warranty (with free parts & labor) from the date of installation / acceptance. Upon expiration of warranty, Purchaser at its option may enter into a Service Level Maintenance Agreement upon expiry of the warranty period in accordance with terms embodied in Appendix-A hereto

8. Payment (GCC Clause 13)

Hundred percent (100%) of the Contract Price shall be paid upon delivery, and satisfactory Installation, integration and testing of the products at the Project site (s), subject to the production of installation and Operational Acceptance certificates duly signed by at thorized Representative/nominee of the SPPRA.

9. Liquidated Damages (GCC Clause 18)

If the Supplier fails to deliver the goods or perform the services within the time period(s) specified in the contract, the Purchaser shall, without prejudice to its other remedies under the contract deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.07 percent of the Contract Price for each day of delay until actual delivery or performance, up to a maximum deduction of 10% of the Contract Price. Once the maximum is reached, the purchaser may consider termination of the contract.

10. Resolution of Disputes (GCC Clause 21)

In the case of a dispute between the Procuring agency and the Supplier, the dispute shall be referred to the dispute resolution mechanism as defined in rule 31, 32, and 34 of the (SPPR 2010) Amended 2013

11. Applicable Law (GCC Clause 23)

CCC 29.1 Contract shall be interpreted in accordance with the Sindh Public Procurement law of Sindh.

Part-VI

SCHEDULE OF REQUIREMENTS

The delivery schedule hereafter expressed the date of delivery required.

S.No.	Product	Quantity	Required Delivery Schedule from the Date of Contract Award	Location
l	FULLY AUTOMATIC DIGITAL AUTOCLAVE With Vacuum Drying System	01 No.	30 Days	Laboratory of D- Pharmacy, JSMU.
2	LAMINAR FLOW CABINET	01 No.	DO	DO
3	LABORATORY MICROSCOPE	45 Nos.	DO	DO
4	HIGH PERFORMANCE LIQUID CHROMATOGRAPH SYSTEM (HPLC).	01 Set.	DO	DO
5	DOUBLE BEAM SPECTROPHOTOMETER	04 Sets.	DO	DO
6	DISTILLATION APPARATUS	01 No.	DO	DO
7	CONDUCTIVITY METER	04 No0s.	DO	DO
8	DIGITAL ABBE REFRACTOMETER	01 No.	DO	DO
9	POLARIMETER	01.No.	DO	DO
10	DIGITAL WATER BATH	03 Nos.	DO	DO
11	MAGNETIC STIRRER	02 Nos.	DO	DO
12	NEUBAUFR / BLOOD COUNTING CHAMBERS	10 Sets.	DO	DO
13	ROTARY EVAPORATOR	01 No.	DO	DO
14	DIGITAL ELECTRON MICROSCOPE SCANNING TRANSMISSION (STEM) SYSTEM	01 No.	DO .	DO
15	SOXHELT EXTRACTION APPARATUS	05 Nos.	DO	DO

Note: Specifications of above items are attached

Part-VII

SAMPLE FORMS

Form-I

Letter of Acceptance
Date:
$ au_c$:
Advisor Planning & Development Department, Jinnah Sindh Medical University, Karachi,
Dear Sir:
Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver the required item in conformity with the said bidding documents for the sum of [total bid amount in words and figures] or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.
We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.
If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to Five (5) percent of the Contract Price/Pay order for the due performance of the Contract, in the form prescribed by the Purchaser.
We agree to abide by this Bid for a period of 15 days from the date fixed for Bid opening under Clause 10 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.
We understand that you are not bound to accept the lowest or any bid you may receive.
Dated this day of 2014
[signature] [in the capacity of]
Duly authorized to sign Bid for and on behalf of

Price Schedule in Pak. Rupees

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(i) In case of discrepancy between unit price and total, the unit price shall prevail.

Note:

(ii) The unit and total prices Delivered at Planning & Development Department, Jinnah Sindh Medical University Karachi should include the price of incidental services. No separate payment shall be made for the incidental services.

Experience of Similar* Supply and Installation

S. No	Assignment Description	Name /Contact Details of Client	Cost	Start Date	End Date	Remarks
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Contract Form

THIS AGREEMENT made the day of between Jinnah Sindh Medical University, Karachi. (hereinaster called "the Procuring agency") of the one part and [name of Supplier] of [city and country of Supplier] (hereinaster called "the Supplier") of the other part
WHEREAS the Procuring agency invited bids for certain goods and ancillary services, viz., supply of laboratory equipments for pharmacy department Jinnah Sindh Medical University and has accepted a bid by the Supplier for the supply of those goods and services in the sum of [contract price in words and figures] (hereinafter called "the Contract Price").
NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:
1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
(a) the Bid Form and the Price Schedule submitted by the Bidder;
(b) the Schedule of Requirements;(c) the Technical Specifications.
(d) the General Conditions of Contract;
(e) the Special Conditions of Contract; and (f) the Procuring agency's Notification of Award.
3. In consideration of the payments to be made by the Procuring agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract
4. The Procuring agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.
IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.
Signed, sealed, delivered by the (for the Procuring ager cy)
Signed, sealed, delivered by the (for the Supplier)

Performance Security Fo

Terior mance Security Form
To: Planning & Development Department Jinnah Sindh Medical University, Karachi.
WEEREAS [name of Supplier] (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. [reference number of the contract] dated 2014 to supply [description of goods and services] (hereinafter called "the Contract").
AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furrish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Cortract.
AND WHEREAS we have agreed to give the Supplier a guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of [amount of the guarantee in words and figures], and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of [amount of guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.
This guarantee is valid until the day of20
Signature and seal of the Guarantors
[name of bank or financial institution]

[address]

[date]

Manufacturer's Authorization Form

To:

Planning & Development Department Jinnah Sindh Medical University, Karachi.

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

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

We hereby extend our full guarantee and warranty as per Clause 12 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

[signature for and on behalf of Manufacturer]

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

LIST OF LABORATORY EQUIPMENTS FOR PHARMACY DEPARTMENT JINNAH SINDH MEDICAL UNIVERSITY, KARACHI

TEM#	DESCRIPTION OF STORE	QUANTITY REQUIRED	UNIT PRICE (FOR, KAR)	UNIT PRICE
01.	FULLY AUTOMATIC DIGITAL AUTOCLAVE	01 NO.	(FOR, KAR)	(C&F, KAR)
	With Jacuum Drying System	52 1.0.		
	Features:			
	Three times fractionated pre-vacuum	:		
	Stainless steel chamber] .		
	LCD Display] .		
	Equipped with high quality and high performance pump	1 .		
	High quality water pump and valves			
	Independent steam generator		•	1
	Overhead type water storage tank, easy to clean	1		
	Dryin; procedure: Dry by vacuum	1		
	Sterilizing cycles: 7 cycles are available and 3 test	1		
	programs			
	Sterilization temperature : 121°C and 134°C			
	Malfunction detection system, corresponding error code will	Ì		
	be showed on the display once there's something goes wrong			
	Technical Specification: Chamber Size: dia. 247 x 460mm (23 Liters)	,		
	Power: 220V, 50Hz			
		[
	Complate with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT			
	ON/US-1/OAPAN/GERMANI OR EQUIVALENT			
02.	LAMINAR FLOW CABINET			
vz.	Large easy-to-read LED display presents a menu of	01 ສດ.		
	functional readouts.			
	A pre-filter traps large particles to extend the life of the	1		
	HEPA filter.			
	Alarm; programmed to warn of HEPA Filter when it is blocked.			
	Quiet variable speed internal blower provides steeples air			
	velocity control.			
	Glare-free fluorescent lamp/UV lamp for illumination and			ŀ
	disinfection purposes.			
	Non-glare stainless steel work surface for easy cleaning.			
	SPECIFICATION			
	Capacity : Single user			
	Filter efficiency : FS209E Class 100			
	Noise : 62 dB (A)			
	Air Velocity : 0.3 - 0.6 m/s (Stepless)			
	Illumination : Fluorescent lamp			[
	Power : AC 220V, 50Hz			
	Working Area (WDH) : 900 x 590 x 570			
	Complete with standard accessories			
		!		
	UK/USA/IMPORTED/JAPAN/GERMANY OR EQUIVALENT			
)3.	LABORATORY MICROSCOPE			
,,,		45 NOS.		
	Sharp Image Display with Excellent Optical Function	ļ		
	Highe: Contrast and Sharper Image with High Quality			
	Objectives	<u> </u>		
	Magnification : 40X-1000X			
	Optical Head : Compensation Free Binocular	ŀ		-
	Head, 30° inclined, 360°			į.
	rotatable,			
	Interpupillary Distance : 55 - 75 mm			
	Nosep_ece ; Quadruple revolving			
	Eyepiece : Pair Eyepiece WF 10X	[1
	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			
	/18 mm Widefield	-		1
	Objectives : Achromat DIN			İ
	Objective 4x/0.10			
	Achronat DIN Objective 10x/0.25			
	Achienat DIN Objective 40x/0.65, spring loaded			[
	Achronat DIN Objective 100x/1.25, Oil, spring loaded			
				I

r				
	mechanical specimen stage. 140 x 140 mm		T	
	11a/e1 area : 75 x 50 mm.			
	Focusing : Coaxial coarse and			
i	Fine Focus Adjustment,			
	Range 24 mm, Fine Division 2			
	microns safety autofocus	1		
	stop unit.			
	Abbe Brightiieid		1	İ
	condenser, n.A. 1,25, Integrated iris			
1	diaphragm and filter tray. With rack & pinion height	ļ	-	1
	adjustment			
	Illumination : 6V 20W Halogen, light			
	intensity adjustable.	İ		i
	Body /power : Sturdy body with			
	supportive rubber and inbuilt power supply			
	Complete with : Dust cover, blue,			
	filter, immersion oil,			
-	2 spare Halogen bulb			
	Complete with standard accessories			
1	Including Power Cord and Operational Manual			
	UK/USA/JAPAN/GERMANY OR EQUIVALENT	•		
04.	HIGH PERFORMANCE I TOWNS CHEST		<u></u>	
	HIGH PERFORMANCE LIQUID CHROMATOGRAPH SYSTEM (HPLC).	01 SETS.		
ار	The HPLC system shall include the following individual stackable self-contained HPLC modules. The HPLC system must			
Ί	be controllable, monitored, capable of performing system			
	maintenance using Microsoft Internet Explorer web browser.			
	modules must be connected via fiber ontic noise registrant			
	nigh-speed transmission Technology to enhance the			
	reliability and sensitivity of the HPLC system comprising of			İ
		!		
!	* Solvent Delivery System for Micro, Semi-Micro,	İ		
1	Anal/Clcal, Semi-Prep Flow Rates		1	
	* On-line Degasser			
	* Photodiode Array (PDA) UV-Vis Detector		ļ	
[* Auto-Sample Injector * Column Oven	:		
	* System Controller			
	* Data Management System			
	DATA MANAGEMENT SYSTEM			
1	Including Personal Computer and laser printer			
	SOFTWARE		İ	
	with 32 bit MS Vista based.			
	211			
l	All nodules must be GLP compliant			
	System must be complete in all			
	System must be complete in all respect and ready to operate on 200v 50 hz including above accessories and installation			
	at site by qualified engineers.			
	UK/USA/JAPAN/EUROPE OR EQUIVALENT			
<u> </u>	<u></u> .		[j
05.	DOUBLE BEAM SPECTROPHOTOMETER	04 SETS.		
	Spec: fications		İ	
	* The spectrophotometer must be able to operate as a			
	stanc-alone instrument with USB-		İ	
				1
	memory ready to save measurement data.			
	<pre> * Wavelength range of 190 to 1100nm.</pre>		,	
	<pre>wavelength range of 190 to 1100nm. spectral bandwidth: 1nm or smaller.</pre>			
	<pre>wavelength range of 190 to 1100nm. spectral bandwidth: 1nm or smaller. wavelength display: 0.1nm increments.</pre>		•	
	<pre>wavelength range of 190 to 1100nm. spectral bandwidth: 1nm or smaller. wavelength display: 0.1nm increments. wavelength setting: 0.1nm increments.</pre>		•	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm</pre>		,	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min.</pre>		,	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min. * Wavelength scanning speed: 3000nm/min = 10nm/min</pre>		•	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min. * Wavelength scanning speed: 3000nm/min - 10nm/min. * Stray light: less than 0.02% at 220nm and 340nm</pre>		•	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min. * Wavelength scanning speed: 3000nm/min ~ 10nm/min. * Stray light: less than 0.02% at 220nm and 340nm (NaI).</pre>		•	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min. * Wavelength scanning speed: 3000nm/min - 10nm/min. * Stray light: less than 0.02% at 220nm and 340nm (NaI). Less than 1.0% at 198nm (KCl)</pre>		•	
	<pre>wavelength range of 190 to 1100nm. * Spectral bandwidth: 1nm or smaller. * Wavelength display: 0.1nm increments. * Wavelength setting: 0.1nm increments. * Wavelength accuracy: +/- 0.1nm. * Wavelength repeatability: +/- 0.1nm * Wavelength slew rate: 6000nm/min. * Wavelength scanning speed: 3000nm/min ~ 10nm/min. * Stray light: less than 0.02% at 220nm and 340nm (NaI).</pre>		•	

Transmittance range: from 0% to 300%T * Photometric accuracy: +/- 0.002 Abs (0.5Abs) +/-0.003 Abs (1.0 Abs) +/- 0.006 Abs (2.0 Abs) * Photometric repeatability: less than 0.001 Abs (at	į l
+/- 0.006 Abs (2.0 Abs) * Photometric repeatability: less than 0.001 Abs (at	
* Photometric repeatability: less than 0.001 Abs (at	1 1
	i .
	l i
0.5 and 1.0Abs) Less than 0.003 Abs (at 2.0 Abs)	
* Baseline flatness: within +/- 0.0006 Abs (190 -	1
1100rm)	i l
* Noise level: less than 0.00005 Abs RMS value	1
Light source: halogen lamp and deuterium lamp (with	1
built in light source automatic position adjustment).	1
* Detector: silicone photodiode	
* The instrument must be capable standalone operation	
with functions:	İ
a) Photometric	
b) Spectrum	
c) Kinetics d) Quantitation	
e) Multi-Component (up to 8 components)	
f) Time Scan	.
g) Data Processing	
h) Bio method	1
i) Maintenance	į į
 Built-in RS-232C, Centronics and USB Interface. Built-in Validation Program for automatically 	
testing the performance of instrument	1
should be a standard feature.	i
All modules must be GLP/GMP compliant	
System must be complete in all respect and ready to operate	1 1
on 2:0v 50 hz including above accessories and installation	
at site by qualified engineers.	1 1
UK/USA/JAPAN/EUROPE OR EQUIVALENT	
06. DISTILLATION APPARATUS 01 NO.	
Stainless steel Type with	1
Low water and over-heating cut out	į
Distillation flow rate approx 8/10 ltrs/hr	
Heater : 6000 WATT or More Cooling water : approx 60 liters	
	Į.
Sealing : Silicon gasket	
Sealing : Silicon gasket Power : 220V, 50Hz	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories	
Sealing : Silicon gasket Power : 220V, 50Hz	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER 04 NOS.	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements.	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up.	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and	
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Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONDUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and	
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Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use)	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT O7. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0.1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT O7. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0.1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT O7. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temgerature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temgerature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator IPG: waterproof case SPECIFICATION: Conductivity K = 0,475	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator TP6: waterproof case SPECIFICATION: Conductivity K = 0,475 Range Resolution Accuracy	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator IDS: waterproof case SPECIFICATION: Concluctivity K = 0,475 Range 0,0 to 475µs/cm 0,1µs/cm 118 of reading +2µs/cm	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator IPG: waterproof case SPECIFICATION: Conductivity K = 0,475 Range Resolution Accuracy 0,0 to 475µs/cm 0,1µs/cm ±1% of reading +2µs/cm 475 to 4750µs/cm 1µs/cm ±1% of reading +5µs/cm	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0.1 cell constant for improved flexibility and accuracy 50 (ata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator TP6: waterproof case SPECIFICATION: Conductivity K = 0,475 Range Resolution Accuracy 0,0 to 475µS/cm 0,1µS/cm ±1% of reading +2µS/cm 4.75 to 4750mS/cm 0,00mS/cm ±1% of reading	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0.1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator IP6: waterproof case SPECIFICATION: Conductivity K = 0,475 Range Resolution Accuracy 0,0 to 475µS/cm 0,1µS/cm ±1% of reading +2µS/cm 475 to 4750µS/cm 1µS/cm ±1% of reading +5µS/cm	
Sealing : Silicon gasket Power : 220V, 50Hz Complete with standard accessories UK/USA/JAPAN/GERMANY OR EQUIVALENT 07. CONCUCTIVITY METER Simultaneous displays of conductivity, salinity or TDS with temperature measurements. Convenient one point calibration. Calibration data is stored in memory and is ready for use on power up. Adjustable TDS coefficient, reference temperature and temperature coefficient Uses one conductivity cell for conductivity, salinity and TDS measurement Accepts 4-wire conductivity cells with k=0,475 cell constant and 2-wire K=0,1 cell constant for improved flexibility and accuracy 50 cata set reviewable memory Automatic shut off function (30 minutes of non-use) Battery life approx 200 -500 hours Low battery indicator TDS: waterproof case SPECIFICATION: Conductivity K = 0,475 Range Resolution Accuracy 0,0 to 475µS/cm 0,1µS/cm ±1% of reading +2µS/cm 4.7% to 4750µS/cm 1µS/cm ±1% of reading +5µS/cm 4.7% to 475,50mS/cm 0,0lmS/cm ±1% of reading	

	Range	Resolution	Accuracy			
	0.00 to 99,99µS/cm	0,01µS/cm	±1% of reading]		
	100 to 200µS/cm	0,1µS/cm	±1% of reading	!	ļ	
	Salinity Range	Resolution	la muna au			
	0.0 to 70,0 ppt	0,1 ppt	Accuracy ± 0,2 % Full Scale		,	
	Temperature	V,I ppc	1 0,2 % Full Scale			
	Range	Resolution	Accuracy			
	-10.0 to 90,0 °C		or ±4% Full Scale			
1	,		whichever is greater		:	
	Rederence Temp.	: Pro	n 15,0 to 25,0°C, default	1		
	is 25,0°C					
	Temperature Coefficie	ent : Fro	n 0.00 to 4,00 °C,	İ		
	de ault is 1,91°C					
	TDG	: Cons	tant: From 0,30 to 1.00,			
	de ault is 0,65					
	Cell Constant	: 4 W	ire conductivity cell: K			
:	= 1),475	. The even		F 1		
	ATC Power		mistor, 10K ohms, at 25°C			
	incl. the following		lt battery			
	1 < 4-wire conductiv					
			al, 1 x carrying case			
	l	-ponduring right	,,		•	
	UK/USA/JAPAN/GERMANY	OR EQUIVALENT		j l		
•		· •				
1						
08.	DI SITAL ABBE REFRACT	OMETER		01 NO.	i	
	Used to measure Brix	(Bx) of the su	gar solution and to			
1	correct the affect o	f temperature o	n the Brix automatically			
	SPECIFICATION:					
	Measuring range	:	1.300-1.700			
	Refractive Index ND					
	Brix BX-TC	:	0-95%	İ		
	Measuring accuracy		00			
	Refractive Index ND Brix BX-TC	: +0.00	∪2 +0,1%			
İ		;	+ 0.1%			
	Brix BX	;	+ 0.14			
	Temperature Temperature displayi	ng range , 0-50	٥٥			
	Power		50Hz			i
1	Complete with standa					•
	1 X Standard sample	ita acceppories	Incideng			
1	1 x bottle naphthale	ne bromide				
	1 x inner-hexagon sp					İ
	3 x illuminating bul			1		i
	1 x Plastic cover ho	ood				
	3 x fuse			1		1
	1 x operating instru					
1	Aluminium carrying o	ase				
				1		
1	UK/USA/JAPAN/GERMANY	OR EQUIVALENT		1		1
<u> </u>	 			01.320		
09.	PCLARIMETER			01 NO.		1
	Automatic Polarimete	and the second s		1		!
	provisional specific			1		1
	Measurement mode: Or Measurement range L			1]	
]	Resolution : 0.01°	1) JU , 235 'Z				
1	Accuracy : +/- 0.01°	,			1	[
	Measuring time +/-90					
1	Wave length : 589 nm					1
	Temp. Measurement: 0					1
	Temp. Accuracy : +/-					1
	Calibration : Automa	atic (Menu-drive	n)]
	Display : LCD					
1	Orerating : Touch so				1	
	Interface : RS232 (p			1		
	Power supply: 100-2			'		
1	Scope of supply : PF		100-E			
	Dimensions (WxHxD) :	: 46,5x20x35 cm				
	, ICUMSA complaint					
	UI /USA/JAPAN/GERMAN)	OR ECUITORIES	•			
	OF / USA/ UAPAN/ GERMAN)	OF POOTABLEMI				
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10.				
	DIGITAL WATER BATH	03 NOS.		
	Microprocessor Controlled	l		
	Capacity : 20 Liters			
	Theel : 99his, 55mins			
:	No. of Holes : 06 Nos. (80mm dia)			
1	Terperature : Ambient to 100°C			
1	Pover : 220V, 50Hz			
	Complete with standard accessories			
	UK/USA/JAPAN/GERMANY OR EQUIVALENT			İ
	ON CONTONENT OF POUTANTINE			
11.	MACNETIC STIRRER	02 NOS.		
	With Hot Plate Ceramic Top	02 NOS.		
	Speed range : 60-1110 liter/min			
	Temperature range : ambient upto 450°C or more			1
	Maximum stirring volume: upto 15.0 liter or more			
	Hot platform size :200 x 200mm			[
	Hot platform material: Glass-ceramic			İ
	Pover : 220V, 50Hz			
	Complete with standard accessories			
	UK/USA/JAPAN/GERMANY OR EQUIVALENT			
	NEW DAVIET / DE COD COMPUTATION COURS	 	· · · · · · · · · · · · · · · · · · ·	
12.	NEUBAUER / BLOOD COUNTING CHAMBERS	10 SETS.		
•	New bauer improved, double ruling			
,	without coverglasses			
1	Newbauer improved , double ruling with 2 coverglasses	.		
1	New bauer improved, bright-line	1		
	do ble ruling, without coverglasses			
	New bauer improved, bright-line,			
	double ruling, with 2 coverglasses			
	Netbauer improved, bright-line,			
	double ruling, with V-slash			
	with 2 coverglasses (Set of 05)			
				1
	UK, USA/JAPAN/GERMANY OR EQUIVALENT			
13	BOULDY MYS DODS HOD			
13	ROTARY EVAPORATOR	01 NO.		
	* With digital display and control			
	* Water bath * Motorized lift			
}	* Built in vacuum controller			1
	* function of pressure and temperature gradient			
	* Variable inclination angle of evaporating flask			1
	* With vertical condenser	1		
	* fitted PC-based evaporation control software			1
	Technical details:	1		
1	Evaporating flasks : 20 - 4000 ml			1
1	Rotation speed : 0 - 280 rpm	1		1
	Bath temperature : max, 100°C for	1 .		
1	water filling	1		
	max. 180°C for oil filling]		
	Regulation accuracy : ± 1°C up to 100°C			1
1				1
1	± .°C up to 180°C			
	Pressure measurement : absolute			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar.			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature,			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Sw.tched vacuum pump : output max 650 VA, input max.			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Sw.tched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz Power input : max. 2000 W			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Sw.tched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz : max. 2000 W (excluding vacuum pump)			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rolations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz Power input : max. 2000 W			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz : max. 2000 W (excluding vacuum pump)			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz : max. 2000 W (excluding vacuum pump)			
	Pressure measurement : absolute Pressure difference : adjustable 1-500 mbar. Digital settings : Temperature, rotations, vacuum Gradient settings : Temperature, pressure Temperature unit selection : °C, °K Pressure units selections : hPa, Torr Cooler condensation size : 1200 sq cm Switched vacuum pump : output max 650 VA, input max. 2000 VA Power supply : 230 V ±10%, 50 Hz : max. 2000 W (excluding vacuum pump)			

14	DIGITAL ELECTRON MICROSCOPE SCANNING TRANSMISSION (STEM) SYSTEM	01 NO.		
	COMPRISING OF			
	* High resolution STEM for nano scale analysis.			
	* Iow magnification and wide field of view image observation			
	for specimen structure/orientation and particle size	:		
	analysis.	İ		
	* All necessary STEM operations are embedded in the system.			
	* Bright Field (BF) and Dark Field (DF) detectors and			
	display of BF-STEM and DF-STEM images is supported.	·		
	* By means of DF-STEM, Z-contrast imaging facilitates			
	further chemical/structural analyses.			
	* All STEM images are archived and managed in the EMIP			
	database software, the same as TEM images. Functions such as			
	CD measurement, Line profiling and Auto Drive are also			
	supported for STEM images.		1	
	* Data are stored in TIFF (16 bit) or BMP or JPEG format.			
	* Combined with EDX, perform compositional analysis of small] .		
	selected areas.			
	SPECIFICATION			
	Image resolution: 1.5nm (BF-STEM, 100kV, defined			
	by measuring the gap of	[
	sputtered gold particles) Detectors: BF-STEM/DF-STEM (Ontion)	:		
	or president (obcident)			
	Magnification: x1,000-x800,000 (High Mag mode)			
	×1,000-×100,000 (Normal mode)			
	×100~×2,000 (Low Mag mode)			
	Scauning mode : Normal scan			
	Selected area scan Line scan	İ	1	
	Point scan	i	i	
	Area analysis			
	Digital scan (option)		i	
	Data format: TIFF, BMP, JPEG	,		
	Data bit: 16 bits (TIFF)			
	Image recording: 640 x 480 pixel			
	1,280 x 960 pixel			
	2,560 × 1,920 pixel			
	5,120 x 3,840 pixel			
	System must be complete in all respect and ready to operate		Į.	
	on 220v 50 hz including above accessories and installation] -		
	at lite by qualified engineers.] [
	·]		
	UK/JSA/JAPAN/EUROPE OR EQUIVALENT]		
15.	SOX HELT EXTRACTION APPARATUS	05 775 5		
	For Continuous extraction of solids with a suitable solvent	05 NOS.		
	uni: comprising of:			
	Extractor top joint : 45/50			
	Extractor lower joint: 24/40			
	Extractor I.D : 38mm			
	Capicity: 85ml	j l		
	Glass thimble: 33/80 mm			
	Flash capacity: 250ml	}		
	Complete as above	<u> </u>	İ	
	USA/UK/JAPAN/EUROPE OR EQUIVALENT			
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