DOW UNIVERSITY OF HEALTH SCIENCES

BIDDING DOCUMENT

Single Stage - Two Envelope Bidding Procedure

PROCUREMENT OF
HOSPITAL EQUIPMENT & TEACHING AIDS

No. DUHS/P&D/2016/ 7905 Dated 05 January 2016

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A: Instructions to Bidders. (ITB)

1. INTRODUCTION

1. GENERAL

1.1 The Procuring Agency has allocated fund towards the cost "Hospital Equipment & Teaching Aids". It is intended that part of the proceeds of this fund will be applied to eligible payments under the contract for the Procurement of goods.

2. ELIGIBLE BIDDERS

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

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

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

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

3. ELIGIBLE GOODS

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

2. THE BIDDING PROCEDURE

4. Single Stage - Two Envelope Procedure

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

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

3. THE BIDDING DOCUMENTS

5. CONTENTS OF BIDDING DOCUMENTS

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

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

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

5.3 The bidders are expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish complete information required in the bidding documents or to submit a bid not substantially responsive to the bidding documents may result in rejection.

6. AMENDMENT OF BIDDING DOCUMENTS

6.1 At any time prior to the deadline for submission of bids, the Procuring Agency may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the bidding documents by amendment.

6.2 All prospective bidders that have received the bidding documents will be notified the amendment(s) in writing, which will be binding on them.

6.3 In order to allow prospective bidders reasonable time to take the amendment(s) into account in preparing their bids, the Procuring Agency may, at its discretion, extend the deadline for submission of the bids.

4. PREPARATION OF BIDS

7. LANGUAGE OF BID

7.1 Preparation of Bids
The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the Procuring Agency shall be in English. Supporting documents and printed literature furnished by the bidder may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case for purposes of interpretation of the Bid, the translated version shall prevail.

8. DOCUMENTS COMPRISING THE BID

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

9. BID PRICES

9.1 The prices and discounts quoted by the Bidder in the Bid Form and in the Price Schedules shall conform to the requirements specified below.

9.2 All items in the Schedule of Supply must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Items not listed in the Price Schedule shall be assumed not to be included in the Bid.

9.3 The price to be quoted in the Bid Form shall be the total price of the Bid excluding any discounts offered.

9.4 The Bidder shall quote any unconditional discounts and the methodology for their application in the Bid Form.

9.5 Prices proposed in the Price Schedule Forms for Goods, shall be disaggregated, when appropriate. This disaggregation shall be solely for the purpose of facilitating the comparison of Bids by the Procuring Agency. This shall not in any way limit the Procuring Agency's right to contract on any of the terms offered:

(a) Price Schedule For Goods offered from within the Procuring Agency's country:

(i) Detailed Specification of Stores

(ii) Model / Cat No.

(iii) Name of Manufacturer.

(iv) Country of Origin

(v) Quantity of Stores

(vi) Unit

(vii) the unit price of the goods quoted on delivered duty paid (DDP) basis, including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of goods, or on the previously imported goods of foreign origin;

(viii) If there is no mention of taxes, the offered/quoted price will be considered as inclusive of all prevailing taxes/duties. The benefit of exemption from or reduction in the GST or other taxes during the contract period shall be passed on to the Procuring Agency; and

(ix) the total price for the item.

(b) Price Schedule For Goods offered from outside the Procuring Agency's country:

(i) Detailed Specification of Stores

(ii) Model / Cat No.

(iii) Name of Manufacturer.

(iv) Country of Origin

(v) Quantity of Stores

(vi) Unit

(vii) Currency of Bid

(viii) the unit price of the goods quoted on CFR / C&F basis (Karachi Port), in the Procuring Agency's country;

(ix) the total price for the item in foreign currency.

9.6 Final Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected.

9.7 If it was proved during the contract period that bidder has supplied the contracted item(s) to any other purchasing agency in Pakistan at the prices lower then the contracted prices, the balance amount will be deducted from the bill and / or security deposit of the bidder.

10. BID CURRENCIES

10.1 Prices shall be quoted in Pakistani Rupees for goods offered within the Procuring Agency's country on delivered duty paid (DDP).

10.2 Price shall be quoted in foreign currency for goods offered outside the Procuring Agency's country on CFR / C&F Basis.

11. DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATION

11.1 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring Agency's satisfaction:

(a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in the Procuring Agency's country;

(b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;

(c) that, in the case of a Bidder not doing business within the Procuring Agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Bidder's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and

(d) that the Bidder meets the evaluation & qualification criteria of bidding document.

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

12.1 Pursuant to ITB Clause 8, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding

documents of all goods and services which the Bidder proposes to supply under the contract.

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

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

(a) a detailed description of the essential technical and performance characteristics of the goods; and

(b) an item-by-item commentary on the Procuring Agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

12.4 For purposes of the commentary to be furnished pursuant to ITB Clause 12.3(b) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring Agency in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring Agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

13. BID SECURITY

13.1 The Bidder shall furnish, as part of its proposal, a Bid Security in the amount and currency specified in the Bid Data Sheet and SCC. Unsuccessful bidders' Bid Security will be returned soon after approval of the successful Bidder. The successful Bidder's Bid Security will be discharged upon signing of contract and furnishing the Performance Security bond, duly guaranteed by a scheduled bank.

13.2 The Bid Security shall remain valid for a period of 28 days beyond the bid validity period.

13.2 The Bid Security is required to protect the Procuring Agency against the risk of Bidder's conduct, which would warrant the Security's forfeiture;

13.3 The Bid Security may be forfeited:

(a) if a Bidder withdraws its bid during the period of bid validity; or

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

(i) to sign the Contract; or

(ii) to complete the supplies in accordance with the General Conditions of Contract.

14. BID VALIDITY

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

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

15. ALTERNATIVE BIDS

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

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

5. SUBMISSION OF BIDS

16. SEALING AND MARKING OF BIDS

16.1 The envelopes shall:

(a) bear the name and address of the Bidder;

(b) bear the specific identification Name and Number of this bidding process indicated in the Bid Data Sheet; and

(c) bear the Procuring Agency's name and address i.e. Dow University of Health Sciences, Baba-e-Urdu Road, Near Civil Hospital, Karachi and a statement: "DO NOT OPEN BEFORE," the time and date specified in the Bid Data Sheet.

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

17. DEADLINE FOR SUBMISSION OF BIDS

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

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

18. LATE BID

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

19. WITHDRAWAL OF BIDS

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

6. OPENING AND EVALUATION OF BIDS

20. OPENING OF BIDS BY THE PROCURING AGENCY

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

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

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

21. CLARIFICATION OF BIDS

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

22. PRELIMINARY EXAMINATION

22.1 The Procuring Agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether

required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.

22.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected. If the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.

22.3 The Procuring Agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.

22.4 Prior to the detailed evaluation, pursuant to ITB Clause 23 the Procuring Agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, such as those concerning Bid Security, Applicable Law, and Taxes and Duties, will be deemed to be a material deviation. The Procuring Agency's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

22.5 If a bid is not substantially responsive, it will be rejected by the Procuring Agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

23. EVALUATION AND COMPARISON OF BIDS

23.1 The Procuring Agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 22.

23.2 The Procuring Agency's evaluation of a bid will be on delivered duty paid (DDP) inclusive of prevailing duties/taxes and C&F / CNF basis and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

23.3 The Procuring Agency's evaluation of a bid will take into account, in addition to the bid price quoted, one or more of the following factors, and quantified in ITB Clause 24:

(a) **Incidental costs**
Incidental costs provided by the bidder will be added by Procuring Agency to the bid price at the final destination.

(b) **Delivery schedule offered in the bid**
The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement.

(c) **Deviations in payment schedule from that specified in the Special Conditions of Contract**

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

(d) **Cost of components, mandatory spare parts, and service**

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

(e) **Availability of spare parts and after sales services for the equipment offered in the bid**

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

(f) **Projected operating and maintenance costs during the life of the equipment;**

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

(g) **Performance and productivity of the equipment offered**

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

24. EVALUATION / QUALIFICATION CRITERIA

24.1 Merit Point System:

The following merit point system for weighing evaluation factors/criteria will be applied for technical proposals.

A. PRODUCT EVALUATION

S#	PARAMETERS	SUB-PARAMETERS	Total Marks
1	**Conformity to the Purchaser's Specifications**		**30**
		Fully compliant with the required specifications	30
		Compliant with minor deviation (up to 10% subject to main function is not effected)	25
2	**Product Certification**		**20**
		Food and Drug Administration (FDA) 510K and European Community (CE) MDD or Japan Industrial Standard (JIS)	20
		European Community (CE) MDD and Japan Industrial Standard (JIS)	17
		Food and Drug Administration (FDA) 510K	10
		European Community (CE) MDD	8
		Japan Industrial Standard (JIS)	8
TOTAL MARKS PRODUCT EVALUATION (A)			**50**

B. BIDDER EVALUATION

S#	PARAMETERS	SUB-PARAMETERS	Total Marks
4	**Legal Requirement**		**6**
		Authorization Certificate	2
		Partnership Deed with manufacturer	2
		Taxation Certificate (NTN and GST)	2
5	**Technical Staff**		**14**
		Simple Technician (minimum two)	3
		Diploma Engineers (minimum two)	3
		Graduate Engineers (For High Tech / Critical equipment Graduate Engineer of relevant field is mandatory for each product)	5
		MSc / PhD qualification/Foreign training	3
6	**Networking and Training**		**8**
		Networking setup across Pakistan (1 mark for each setup upto maximum 6)	6

S#	PARAMETERS	SUB-PARAMETERS	Total Marks
		Certificate to the affect that the firm will provide training in the use of equipment to the relevant technical staff. Training plan must be attached with certificate	2
7	**Testing & Calibration Equipment**		**4**
		List of tools , testing equipment and calibration equipment relevant to the product	2
		Spare Parts readily availability (Inventory list)	2
8	**Past Experience / Performance**		**4**
		Satisfactory performance certificate for the quoted equipment from the medical institutions within Pakistan (1 mark for each certificate upto maximum 4)	4
9	**Financial Status**		**6**
		Bank Certificate	2
		Last year verified Balance Sheet	2
		Yearly turn-over of over 100 Million	2
10	**Bonus points**		**8**
		Special features	2
		Warranty period extension free of cost (the firm offered greater period will get the marks) warranty must be from original manufacturer	2
		Comparative Running Cost (consumables / reagents / replacement parts	2
		Post warranty maintenance contract, including service and parts, rates (companies to offer percentage (%) of the contract value in the technical bid. The lowest will get the full marks. The rates must come from the original manufacturer	2
TOTAL BIDDER EVALUATION (B)			**50**
GRAND TOTAL (A + B)			**100**

Note:

- If a bidder fails to obtain minimum 25 marks, against the criteria "**Conformity to the Purchaser's Specifications",** his offer will not be considered for further evaluation and rejected**.**
- Bidders achieving minimum 70 marks will be considered only.

24.2 Litigation History

The Bidder should not be involved in any litigation with the Government in the Procuring Agency's Country.

25. CONTACTING THE PROCURING AGENCY

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

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

26. REJECTION OF BIDS

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

27. RE-BIDDING

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

28. ANNOUNCEMENT OF EVALUATION REPORT

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

7. AWARD OF CONTRACT

29. ACCEPTANCE OF BID AND AWARD CRITERIA

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

30. PROCURING AGENCY'S RIGHT TO VERY QUANTITIES

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

31. LIMITATIONS ON NEGOTIATIONS

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

31.2 Negotiations will not be used to change substantially:

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

32. NOTIFICATION OF AWARD

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

33. SIGNING OF CONTRACT

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

33.2 Ten days after the official announcement of the award, both the successful Bidder and the Procuring Agency will sign and date the Contract on legal stamp paper valuing 0.30% of the value of contract, (cost shall be borne by the bidder). In case the successful Bidder, after completion of all codal formalities, shows inability to sign the Contract, its Bid Security shall be forfeited. The firm may also be blacklisted from taking part in any future bidding of Procuring Agency for a period upto five Years. In such a situation, the Procuring Agency may make the award to the next lowest evaluated responsive bidder or move for re-bid.

34. PERFORMANCE SECURITY

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

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

35. CORRUPT OR FRAUDULENT PRACTICES

35.1 (a) the Procuring Agency and the Bidders / Manufacturers / Contractors are expected to observe the highest standard of ethics during the procurement and execution of the Contract. In pursuance of this policy, the relevant terms / phrases as may apply are defined below:

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

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

(b) the Procuring Agency will take all possible administrative / legal measures if it is found that the Bidder recommended for award was / is engaged in corrupt or fraudulent practice(s) before or after signing of the contract resulting into the conviction of the proprietor under criminal case besides blacklisting of the firm either indefinitely or for such period of time as may be determined by the Procuring Agency.

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, for the award of a Contract if it, at any time, determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing a Contract.

B: General Conditions of Contract (GCC)

1. DEFINITIONS

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

(a) "The Contract" means the agreement entered into between the Procuring Agency and the Bidder, as recorded in the Contract Form signed by the Parties, including all attachments and appendices thereto and all documents incorporated by reference therein. .

(b) "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its Contractual obligations.

(c) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Procuring Agency under the Contract.

(d) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance, printing of special instructions on the label and packing, design and logo of the Procuring Agency, transportation of goods up to the desired destinations and other such obligations of the Bidder covered under the Contract.

(e) "GCC" means the General Conditions of Contract contained in this section.

(f) "SCC" means the Special Conditions of Contract.

(g) "The Procuring Agency" means the Dow University of Health Sciences, Karachi.

(h) "The Bidder" means the individual or firm supplying the goods under this Contract.

(i) "Day" means official working day excluding national holidays.

2. APPLICATION

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

3. STANDARDS

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

4. USE OF CONTRACT DOCUMENTS AND INFORMATION

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

4.2 Any document, other than the Contract itself, shall remain the property of the Procuring Agency and shall be returned (all copies) on completion of the Bidder's performance under the Contract.

4.3 The Bidder shall permit the Procuring Agency to inspect the Bidder's accounts and records relating to the performance of the Supplies.

5. PATENT RIGHTS

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

6. ENSURING STORAGE ARRANGEMENTS

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

7. INSPECTIONS, TESTS AND TRAINING

7.1 The Procuring Agency or its representative shall have the right to inspect and/or test the goods to confirm their conformity to the Contract specifications at the cost payable by the Bidder.

7.2 The Procuring Agency's right to inspect, test and, where necessary, reject the goods either at Bidder's premises or upon arrival at Procuring Agency's destinations shall in no way be limited or waived by reasons of the goods having previously been inspected, tested, and approved by the Procuring

Agency or its representative prior to the goods shipment from the manufacturing point.

7.3 Any specialized training required for the smooth operation of the goods shall be the responsibility of the Bidder.

8. DELIVERY AND DOCUMENTS

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

9. INSURANCE

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

10. TRANSPORTATION

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

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

11. INCIDENTAL SERVICES

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

12. WARRANTY / GUARANTEE

12.1 The term period of warranty / guarantee mean the period of twelve **(12) months** form the date on which the Stores have been put into operation and demonstrated to the University staff. In any case this period shall not exceed eighteen (18) months from the date of taking-over certificate.

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

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

12.4 The contactor shall provide warranty / guarantee for supply of kits and chemicals, consumables, films etc. for at least 05 years (where applicable).

12.5 The contractor shall remain responsible for providing after sale services even after expiry of warranty / guarantee period and sign a Service Contract including Parts with Procuring Agency for 05 years (minimum). **THE BIDDER SHALL SEPARATELY QUOTE THE PRICE OF SERVICE CONTRACT INCLUSIVE OF PARTS.**

12.6 In case of consumable items, kits, chemicals, films etc. the contractor shall remain responsible for specificity, efficacy & sensitivity with maximum period of expiry as much allowed by manufacturer.

12 7 The Procuring Agency shall promptly notify the Bidder in writing of any claims arising out of this warranty.

13. PAYMENT

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

14. ASSIGNMENT

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

15. DELAYS IN THE BIDDER'S PERFORMANCE

15.1 Delivery of the goods shall be made by the Bidder in accordance with the time schedule prescribed by the Procuring Agency in the Schedule of Requirements / Contract Award.

15 2 If at any time in the course of performance of the Contract, the Bidder encounters anything impeding timely delivery of the goods, he shall promptly notify the Procuring Agency in writing of the causes of delay and its likely duration. As soon as practicable, after receipt of the Bidder's notice, the Procuring Agency shall evaluate the situation and may, depending on merits of the situation, extend the Bidder's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the Parties by a supplementary Contract to be treated as an addendum to the original contract.

15.3 Any undue delay by the Bidder in the performance of its delivery obligations shall render it liable to the imposition of liquidated damages.

16. PENALTIES LIQUIDATED DAMAGES

16.1 In case of late delivery, even for reasons beyond control, penalty as specified in SCC will be imposed upon the Bidder / Manufacturer. The Procuring Agency may consider termination of the Contract in case there is an unusual delay in the delivery of the goods whereby the ongoing activity is likely to be affected seriously.

17. TERMINATION FOR DEFAULT

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

(a) the Bidder fails to deliver any or all installments of the goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring Agency;

(b) the Bidder fails to perform any other obligation(s) under the Contract to the satisfaction of the Procuring Agency; and

(c) the Bidder, in the judgment of the Procuring Agency, has engaged itself in corrupt or fraudulent practices before or after executing the Contract.

18. FORCE MAJEURE

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

19. TERMINATION FOR INSOLVENCY

19.1 The Procuring Agency may at any time terminate the Contract by giving written notice of one month time to the Bidder if the Bidder becomes bankrupt or otherwise insolvent. In that event, termination will be without compensation

to the Bidder, provided that such termination will not prejudice or affect any right or remedy which has accrued or will accrue thereafter to the Parties.

20. ARBITRATION AND RESOLUTION OF DISPUTES

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

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

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

21. PACKING

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

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

22. GOVERNING LANGUAGE

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

23. APPLICABLE LAW

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

C: INVITATION FOR BIDS (IFB)

No. DUHS/P&D/2016/ 7905 Dated 05 January 2016

Bids are invited under sealed cover the **Procurement of Hospital Equipment & Teaching Aids** on DDP / C&F basis from authorized Dealers / Distributors / Manufacturers, registered with GST & Income Tax, for the supply of items required by Dow University of Health Sciences (DUHS), Karachi.

Tender Fee	Rs. 2,000/- (Rupees two thousand only) Non-Refundable
Bid Security	2% of the total bid value.
Purchasing Date	07th to 21st January 2016
Bids Delivery Date & Time	22nd January 2016 at 11:00 a.m.
Bid Opening Date & Time	22nd January 2016 at 11:30 a.m. In case of any unforeseen situation or government holiday resulting in closure of office on the date of opening, bids shall be submitted / opened on next working day at the given time.

The bidding document may be purchased by interested bidders on the submission of a written application to the address below and upon payment of a nonrefundable fee i.e. Rs. 2,000/- (Rupees two thousand only) in shape of Pay Order / Demand Draft in favor of Dow University of Health Sciences, Karachi. Bidding Documents are also available at DUHS / SPPRA website. Interested Bidders may obtain further information personally from Directorate of Planning & Development from 11:00 A.M. to 02:00 P.M.

Note: Procuring agency (PA) may cancel / delete any item either reduce or enhance quantity. PA may reject all or any bid subject to the provision of SPPRA Rule 25 (1).

DIRECTOR PLANNING & DEVELOPMENT
DOW UNIVERSITY OF HEALTH SCIENCES
THIRD FLOOR, ADMIN BLOCK
BABA-E-URDU ROAD, NEAR CIVIL HOSPITAL, KARACHI
PHONE NO. +92-21-99215754-7 (EXT. 5142 & 5144)
E-MAIL: procurement@duhs.edu.pk

D: Bid Data Sheet

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

INTRODUCTION

ITB 1.1 Name of Procuring Agency: Dow University of Health Sciences, Karachi.

ITB 1.1 Name of Contract:
PROCUREMENT OF HOSPITAL EQUIPMENT & TEACHING AIDS
No. DUHS/P&D/2016/ 7905 Dated 05 January 2016

THE BIDDING PROCEDURE

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

PREPARATION OF BIDS

ITB 7.1 Language of the bid shall be English

ITB 9.6 **For the Goods offered within the Procuring Agency's Country:** the price quoted shall be on **delivered duty paid (DDP) Basis** at Consignee's End.

For the Goods offered from Outside the Procuring Agency's Country: the price quoted shall be on **CFR / C&F Karachi Basis**.

ITB 10.1 **For the Goods offered within the Procuring Agency's Country:** the price quoted shall be in **Pak Rupees.**

ITB 10.2 **For the Goods offered from Outside the Procuring Agency's Country:** the price quoted shall be in **Foreign Currency**.

ITB 13.1 The Bid Security shall not be less than **2%** of the total Bid price in Pak Rupees.

ITB 14.1 Bid validity period shall be **90 days**.

ITB 15.1 If any bidder elects to submit alternative proposal(s), complete information on the alternative items including all data relating to technical specifications shall be provided.

SUBMISSION OF BIDS

ITB 16.1 (b) The identification of this bidding process is:
PROCUREMENT OF HOSPITAL EQUIPMENT & TEACHING AIDS
No. DUHS/P&D/2016/ 7905 Dated 05 January 2016

ITB 16.1 (c) Dow University of Health Sciences, Baba-e-Urdu Road, Near Civil Hospital, Karachi.
"Must bear the name of the bidder" and a warning "Do Not Opened Before the time and date of bid opening".

ITB 17.1 **Deadline for bid submission: 22 January 2016 at 11:00 a.m.**

OPENING & EVALUATION OF BIDS

ITB 20.1 The bid opening shall take place at:
Dow University of Health Sciences,
Baba-e-Urdu Road, Near Civil Hospital, Karachi
Date: 22 January 2016
Time: 11:30 a.m.

CONTRACT AWARD

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

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

E: Special Conditions of Contract (SCC)

1. DEFINITIONS (GCC CLAUSE 1)

GCC 1.1 (g) The Procuring Agency is the Dow University of Health Sciences, Baba-e-Urdu Road, Near Civil Hospital, Karachi.

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

2. BID SECURITY (ITB CLAUSE 13)

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

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

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

4. DELIVERY AND DOCUMENTS (GCC CLAUSE 8)

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

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

i. Original copies of Delivery Note (Delivery Challan) (in duplicate) showing item's description, make, model, quantity as well as Lot Number, Batch Number, Registration Number, manufacturing and expiry dates (if applicable).

ii. Original copies of the Bidder's invoices (in duplicate) showing warranty, item's description, make, model as well as Lot Number, Batch Number, Registration Number, manufacturing and expiry dates (if applicable) per unit cost, and total amount.

iii. Original copies of the Sales Tax Invoices (where applicable) in duplicate showing item's description, quantity, per unit cost (without GST), amount of GST and total amount (with GST).

iv. Manufacturer's or Bidder's warranty certificate.

v. Inspection certificate issued by the nominated inspection committee along with Bidder's factory inspection report.

vi. Certificate of origin.

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

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

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

i. 04 copies of the Bidder's invoice showing the description of the Goods, quantity, unit price, and total amount.

ii. Original and 04 copies of the negotiable, clean, on-board bill of lading / air way bill marked "freight prepaid" and 04 copies of non-negotiable bill of lading / air way bill.

iii. 04 copies of the packing list identifying contents of each package.

iv. Insurance certificate.

v. Manufacturer's or Bidder's warranty certificate.

v. Inspection certificate, issued by the nominated inspection agency along with Bidder's factory inspection report.

vi. Certificate of origin.

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

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

5. INSURANCE (GCC CLAUSE 9)

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

6. WARRANTY / GUARANTEE (GCC CLAUSE 12)

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

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

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

7. PAYMENT (GCC CLAUSE 13)

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

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

(a) Payment shall be made in Pak Rupees.

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

OR

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

(a) The Procuring Agency shall pay the Bidder or its Principal through irrevocable letter of credit opened in favor of the Bidder or Its Principal in a bank in its country, upon submission of all the requisite documents.

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

OR

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

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

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

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

8. PENALTIES/ LIQUIDATED DAMAGES (GCC CLAUSE 16)

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

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

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

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

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

10. PACKING (GCC CLAUSE 21)

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

12. GOVERNING LANGUAGE (GCC CLAUSE 22)

GCC 22.1 The language of this Contract shall be English.

11. APPLICABLE LAWS (GCC CLAUSE 23)

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

12. NOTICES

Procuring Agency's address for notice purposes:

Dow University of Health Sciences, Baba-e-Urdu Road, Near Civil Hospital, Karachi.
Phone No. +92-21-99215754-7
Fax No. +92-21-99215763
E-mail: procurement@duhs.edu.pk

Bidder's address for notice purposes:

Name of Bidder: _____

Name of Contact Person & Designation: _____

Phone No. _____

Fax No. _____

Mobile Phone No. _____

Email Address _____

F: Schedule of Requirements

1. SCHEDULE OF REQUIREMENTS

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

i) The entire quantity of the ordered goods shall be delivered within **30 days** or earlier from the date of issuance of supply order / contract award.

ii) The delivery period shall start from the date of contract signature.

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

i. The shipment of the items of Stores which are to be imported shall be started as early as possible; the shipment schedule shall be submitted along with the offer, and shall be negotiable and subject to approval by the University.

ii. The bidder must indicate in his offer the port **from where** the Stores will be **shipped.**

iii. The delivery period shall start from the date of opening of letter of credit.

G: Technical Specifications

GROUP – 1

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
01.	**UNIVERSAL ANGIOGRAPHY MACHINE** A fully digital flat panel single plane Cardiac/PV Angiography System for both adult and paediatric, dedicated for diagnostic & interventional cardiac / PV procedures with actual size of detector of Min 30 x 30 cm or more. The Angiography system should comprise of the following Configuration: **POSITIONING ARM**: **STAND.** Floor/Ceiling mounted stand with motorized movements with patient access from all 3 sides. Real time display of rotation angulations. Geometry: C-arm / G-arm RAO / LAO +/- 105 ° or more. Cranial / Caudal: Min. +/-45° or more, Rotation Speed: 20°/sec or more in LAO / RAO. Isocentric Height: Variable / Fixed with focal spot to iso center at 74cm or more Auto Positioning: Programmable auto positioning of selected angulations. (30 or more programmable positions.) The control panel can be mounted at any side of the patient table. All the rotational / angles should be digital displayed next to the ceiling mounted monitor. Motorized / manual parking / rotation of the positioning arm. **DIGITAL FLAT PANEL.** Single plane C-Arm / G-Arm Digital Flat Panel Detector Size 30cmx30cm or more with 3 formats or more Image matrix of 1024 x 1024 x 14 bits or more. Built in temperature stabilizer. Integrated collision protection feature Detector Pixel Size 0f 180 micrometer or more and image resolution of 1.5K x 1.5K or more All other standard accessories according to this digital flat panel. **PATIENT SUPPORT/ TABLE.** Catherization Table: Floor mounted with up down / vertical, longitudinal and transverse rotational movements with table top length of minimum 290cm or more for unobstructed head to toe coverage without need for patient re-positioning Longitudinal Stroke.: 1000 mm or more. Lateral stroke: 120 mm or more Table Top Height 80-100 cm CPR: In any table position. Table side movement control with one additional control to control the movements from any side of the table. Table top should be of such construction in material and durability to accept patient's weight of not less than 200 kg plus 50 kg for resuscitation/CPR.	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	Table dimensions should be able to accommodate patients of all ages. Table top should have large metal free over hang for un-obstructed imaging coverage. Complete accessories should be provided including arm holder, hand grip, arm support and arm rest and positioning aids. Left / right table rotation: + / - 180 degree or more for facilitation in patient loading/unloading & access in case of emergencies Removable anti scatter grid for paed cases **X-RAY GENERATOR.** Microprocessor based high frequency using fiber optic for data communication between each imaging system. Dedicated X-Ray generator of 100 kW. Radiographic rating minimum 1250 mA. fluoroscopic rating 100 mA or more Serial filming exposures with shortest exposure of 1ms, Auto exposure optimization with automatic kV and mA control for optimum image quality The system should have capability of digital radiography and fluoroscopy with automatic control of exposure time, mA. Should have capability of doing digital pulsed fluoroscopy at 12.5 / 15 & 25 / 30 /Sec. **DIGITAL IMAGING AND ACQUISITION / FLUOROSCOPY.** **DIGITAL SYSTEM.** Pulse Fluoroscopy at 30/25 FPS, 15/12.5 FPS & 7.5/6 FPS. Acquisition, storage and display in 1024 x 1024 x 14 bits or more at 12.5 / 15 and 25/30 FPS. Parallel processing capability / multitasking facility. Real time filtering and road map function. Magnetic Disk Capacity for Storage of 125,000 images in 1024 x 1024 x10 bit or more on main console. Minimum scene length to be 10 seconds in 1024 matrix. Digital pulsed fluoroscopy with 12.5 / 15 and 25 / 30 FPS in 1024 x 1024 x 10 bits or more. Images to be stored on and retrieved from archival disks for possible manipulation and quantification using available software packages. Integrated dose monitoring with upto 7 different imaging modes preferred **X-RAY TUBE.** Heat Storage Capacity of 5 MHU or more Dual / triple focus, rotating anode. Focus 0.3 / 0.7 / 1.0 mm or better. Dose management with auto adjustment fluoro Cu filters or programmable filters **MONITORS** Flat Screen 18" TFT of 1024 x 1024 matrix. Monitors should be ceiling mounted in the operation room. Brightness of the imaging monitors: 600 cd/m or better. Two monitors for live images and road mapping in the operating room 18" TFT. Two monitors for live images and road mapping in the control room 18" TFT. One 18" TFT monitor for live images and road mapping in the conference room remote from the Cath Lab. One integrated/Seprate monitor of 18" Inches for images of IVUS	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	One additional monitor 18" TFT to display hemodynamic data in the operating room. All the monitors will be of Medial Grade, complied with international standards for medical monitors. **CONTROLS:** All controls of digital imaging system, incl. Post Processing & Quantification (LVA,QCA) analysis shall be in the control room while replay / display of reference image should be available in the examination room. Wireless remote control for playback and processing functions. **RECORDING / ARCHIVING & COMMUNICATION SYSTEM:** Recording / archiving system should be DICOM-3 compatible. The digital images should be stored as backup on CD/DVD. DICOM (send/storage, commitment, retrieve/query) Ethernet connection to connect with other terminals. Integrated Intercom system. **REVIEW STATIONS (02).** DICOM-3 Compatible and Workstation quoted should be manufactured from the original manufacturer Edge enhancement, adjustable view speeds & post processing. High resolution 18" TFT Monitor. CD/DVD writer and CD/DVD ROM drive. Image storage capacity 3 x 80 GB with at least 10000 RPM Speed at each review station and SCSI/ Equivalent Controller at each review station. The bidders should quote their own licensed software. **SOFTWARE / HARDWARE PACKAGES.** Complete analysis package for the following cardiac applications. • Dynamic pre and post PTCA / valvotomy comparison with one image live and other reference. • Automatic loop replay after acquisition or fluoroscopy. • Dynamic real time pan / zoom. • Dynamic real time digital image processing like edge enhancement or gamma correction, noise reduction (spatial filtration.) • DSA, Dynamic acquisition capability of bolus enhanced run off (stutracted & unsubtracted) studies • Simultaneous display of fluoroscopy and reference images, not only as static images but as dynamic loop. • Standard Quantification packages • Online image density (gray scale) correction. • Facility to review previous studies in the examination room from the patients old CD. • All controls of digital imaging system incl. Post-processing & Quantification shall be in the examination as well as control room. • Real time 3D imaging capability based on rotational acquisition for various clinical procedures should offered as standard • Stent Enhancement preferably at table side Third party Software to integrate angiography studies with existing HMIS System	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	Software - (PACS for Angiography / ECHO / ETT / ECG Modalities) 1 The system will transmit digital images to Cardiology consultant in conjunction with prior digital studies, and archived on the PACS Storage Server system. The images will be made available to for distribution, archiving and retrieval for diagnostic reporting and consultants viewing. • DICOM 3 Compatible • Disaster recovery archive Interface • Bi-Directional Communication Interface • CD/DVD Creation • HMS API Integration • DICOM Storage SCP to allow images from Cardiology Modalities. • Embedded DICOM file compressor - Allows images to be stored as DICOM format to maximize storage space • Automatically Routing – Ability to automatically send images to modality and other third party workstations DICOM 3 compatible • DICOM Image import • Diagnostic Viewer • Must be scale-able based on number of exams and Modalities • Accepts plug and play storage upgrades • Capability to interface with Hospital Management System (HMS) Hardware • 1 PACS Server • 1 DICOM Data Storage Server (5 TB RAID Configured) • 1 Backup Server • 5 Consultants Workstations **SURGICAL SHADOW LESS LIGHT.** Ceiling suspended. For Angiographic and related surgical procedure **RADIATION PROTECTION.** Ceiling suspended tilt able lead glass for radiation protection of operators head & neck regions & lower body parts region. Collision tolerant. Lower body radiation protection flaps. Lead lining of room where necessary. **QUALITY AND SAFETY STANDARDS.** FDA 510 K approval CE (MDD) compliance. **OTHER ALLIED ACCESSORIES:** One postscript level Laser Printer or Video printer for taking image printouts on paper. This printer is to be connected with the Main Digital Imaging System. Paper for 500 prints should be delivered with the printer. 500 writeable CDs should be delivered with the system. Lead Glass Window size 2 x 1 meter or more as per size at site. Pb equivalent 2.0 mm or better. 10 x Pb Male Aprons, double side with different sizes. Pd equivalent front 0.5 mm. The aprons must be lightweight and double sided. 20 wall mounted hangers.	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	10 x Pb Aprons for female in two parts (upper and lower body) with different sizes (small, medium.) 10 x Thyroid shields and 20 x Pb Goggles. On line sine wave UPS for whole system with a minimum back up time of 10 minutes including room lights. Microprocessor based I GBT technology. Display and alarms of parameters. Three phase line voltage of 220V 50 Hz with all necessary standard parts including batteries. Programmable Contrast Media Injector with 500 disposable syringes Complete standard Crash Cart and one 360J Cardiac Defibrillator with AED and manual mode, synchronized type. ACT machine (01 No.) Automatic positioning of the c-arm corresponding to reference image. Store Fluoro facility to store fluoroscopy Cupboard / strorage racks for catheters etc within the Lab. Whole blood Oximeter Machine One. 10 x Pen dosimeter (digital) **INSTALLATION:** Complete works for state of the art Angio Suite including storage Cabinets as per angiogram standard x 2, paneling, lead lining, flooring, false ceiling, scrubbing area etc. Split air conditioning units for whole suite. Complete electricity works within Angio room including earthing and cabling etc. **TRAINING:** Four weeks local training for two technicians. Two visit of Application specialist for doctors and Technicians. **HAEMODYNAMIC MONITOR INCLUDED IN ANGIOGRAPHY (1 No.)** Multichannel (16 channels or more) to record at least 4 channels IBP, Cardiac output. Surface ECG in any configuration and simultaneous 12 lead ECG, NIBP and SpO2 measurement. The system must have complete software for all pediatric & adult, right / left heart, angio / valvular hemodynamic examinations including functionality for hemodynamic calculations such as gradients, valve areas, shunt. Including annotations and 12 channel ECG. Digital display of all the parameters like IBP, Heart rate, cardiac output parameters. It should be possible to print the waveforms simultaneously while acquiring the data in the back ground. It should be possible to store the waveforms on the hard disk / MOD of the physiological recording system. The system should include following: 10 x Invasive blood pressure transducer. Reusable interface/cable for 12 lead ECG (05 Nos.), NIBP (05 Nos.) and Cardiac Output. Holder for mounting the IBP transducer alongside the patient table. The system should have 10 GB or more hard disk for permanent storage. Two color monitors 17 inch Active matrix TFT inside the control room. One monitor in the examination room that should be installed on the ceiling	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	suspension with two monitors of imaging system. DVD / CD writer for archiving of study data and waveforms stored on the hard disk. Facility of freezing the homodynamic data and simultaneous recovery of recent data / compare stored data with current waveform. Upgradeable to Electrophysiology	
02.	**LABORATORY FOR CARDIOPULMONARY EXERCISE TESTING** The equipment consists of: - Movable trolley, with electrically insulated transformer compliant with the International regulations for medical devices - Drawer for stowing single mask and other accessories - Stowage for the equipment - Support shelves for the other component of the system - Compartment for cylinders - Equipment and related accessories - PC, monitor and printer, - Calibration and test cylinders **Technical Specification:** **Flowmeter:** For the detection of flow and volume, the equipment shall use a turbine flowmeter insensible to temperature, humidity and pressure. **Analysers:** The equipment shall incorporate a CO2 and O2 analysers for the measurement of O2 uptake and VCO2 production Both analysers shall have a virtual unlimited lifespan (O2 Paramgnetic, CO2 Infrared), they shall not require their periodical replace for efficiency exhaustion. **"Plug & play" technology** Equipment shall be modular. Configuration upgrades and service assistance shall be possible by adding pre calibrated boards with pneumatic circuitry that do not need soldering, complicated tech assistance or swapping the unit. **PC Connection USB** **Nutritional Assessment Canopy** The equipment shall have an option to add a nutritional assessment device that includes a Canopy Hood, having the following characteristics Measuring technology - Dilution method Hood Volume - 16 L Flow Range - 6-65 l/min Automatic detection of data stability threshold Visual and acoustic Allarm in case of sudden black out Internal independent battery to allow operation even in case of sudden black out. **Test requirements:** **Gas Exchange analysis** The equipment shall be able to measure on breath by breath basis, the expired gas composition (CO2 and O2) of an individual while resting or while performing a physical exercise.	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• Main parameters Oxygen Uptake (VO2); Carbon Dioxide production (VCO2) Tidal Volume (Vt) ; Respiratory Quotient (RQ); Minute Ventilation (VE); Heart Rate (HR); Anaerobic Threshold (AT); Respiratory Frequency (RF); ventilatory equivalent for O2 (VE/VO2); Ventilatory equivalent for CO2 (VE/VCO2); Oxygen pulse (VO2/HR); Cardiac Output extrapolated by VO2 max (as per: Stringer W, Hansen JE, Wasserman K. Cardiac Output estimated non-invasively from oxygen uptake during exercise. JAP 1997; 82(3): 908-912) **Spirometry** Main parameters: The equipment shall be able to measure all the dynamic lung volume and perform bronchial challenge tests • Forced Vital Capacity (FVC); Forced Expiratory Volume in 1 second (FEV1) Peak Expiratory Flow (PEF); Forced expiratory volume after 2 seconds (FEV2) Forced expiratory volume after 3 seconds (FEV3), Forced expiratory volume after 6 seconds (FEV6), % of FEV2 on FVC (FEV2/FVC%), % of FEV3 on FVC (FEV3/FVC%) Tiffenau index (FEV1/VC%), Inspiratory Slow Vital Capacity (IVC), Forced expiratory Volume in the firsts 0.5 seconds (FEV0.5); Bronchial Challenge test, Maximum Voluntary Ventilation (MVV) **Calorimetry** The equipment shall be able to measure the energy expenditure (kcal/min) at rest and during intense exercise. Energy Expenditure (EE); Energy Expenditure /Body Surface (EE/BSA); Energy Expenditure per Kg (EE/Kg); Fat (FAT % and grams); Carbohydrates (CHO % and grams); Proteine (PRO% and grams); Non proteic respiratory quotient (npRQ) **Resting Metabolic rate** The equipment shall be able to measure the Resting Metabolic Rate (RMR), with a simple and rapid test, using two different technologies: gas collection through Mask (either the standard or the disposable ones supplied on request) and, optionally **Canopy** Canopy shall consist of a comfortable hood connected to an external blower box that sucks air in and out the hood at an adjustable flowrate. Room air diluted with expired gas inside the hood, shall be analyzed in its composition and then converted into energy Expenditure per day. It must be possible to verify the accuracy of the measurement of the Respiratory Quotient with an Ethanol burning kit, which shall be supplied together with the equipment if required. **Main parameters for Both mask and Canopy technologies** Resting Metabolic rate (RMR Kcal/day); resting metabolic rate predicted (RMR pred Kcal/day); Oxygen Uptake (VO2 ml/min); Carbon Dioxide production (VCO2 ml/min); Basal Ventilation if measured with the mask (VE l/min), Respiratory Frequency if measured with the mask (RF) **Oxygen Saturation** The equipment shall be able to measure SpO2 at rest and during exercise with an	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	integrated Oximeter **Software requirements** **Operative system** The equipment shall be controlled via computer, by a Software Program running under windows environment. Compatible with Vista (32/64), Windows 7 (32/64), Windows 8 (32/64). **Main functions:** PC program shall be able to manage: tests sessions, patient archives, data elaboration, data reporting. Data acquired must be stored in the PC hard drive and user shall be able to edit them without overwriting: SW program must allow user to always retrieve the raw data as originally acquired. For further elaboration, the SW Program shall allow user to export all acquired data at least in the following format: manufacturer proprietary format, excel, txt, GDT. It shall be possible to install the SW program into different PCs on which user shall have the possibility to import tests, performed on different workstation, and fully manage/edit all data. SW program shall be able to fully control and integrate the data of external devices such as: common ergometers (bikes, treadmills, armergometers, etc), 12 leads stress test ECG.	

GROUP 2

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
03.	**HEMODIALYSIS MACHINE** • Single Patient Dialysis System with Single Needle and Double Needle system • Ultra filtration with diffusion and without diffusion • Digital and graphical monitoring of all parameters • Programmable Heparin management system with bolus option • Maintenance Assistance for Diagnostic and Calibration • Advance Alarm Display with touch system • Dialysis Treatment record display • KT/V Feature • Monitoring of Arterial Pressure, Venous Pressure, TMP, Conductivity, Temperature, Blood Flow, Heparin Flow, Dialysate Flow • Automatic priming with display • Automatic disinfectant mechanism and chemical with Hot water disinfection system • Blood pump flow indicator 0 to 600 ml/min • UF Volumetric Control System • Dialysate temperature regulation range 33$\overset{o}{C}$ to 40$\overset{o}{C}$ • Air Bubble Detector • Blood leak detector • Automatic Battery back up system for at least 30 minutes • Blood Pump Adjustable for BTL size 6.0mm to 8.0mm • Every Vendor should quote their Latest Models • Universal Machine for to use with any type of Standard Disposables and Disinfectant easily available in open market and not bonding with special brand.	**15 Nos.**
04.	**DIALYZER PREPROCESSORS** • Feed Flow Requirement not more then 2 to 4 liters/minute • Pressure requirement between 25 to 50 PSI • Dialyzer Reprocessing Capability for all type of Dialyzers • Process: Automatic Cleaning, Volume Measuring, Leak Testing and Chemical Filling • System should be capable for the reprocessing of all type of dialyzers • Automatic Calibration of TCV • TCV alarm threshold	**01 No.**
05.	**BICARB MIXING SYSTEM** Mixing Tank Capacity : 200 Ltr Mixing Tank Material : Stainless Steel 316L Mixing Tank Shape Upper : Round with cover Mixing Tank Shape Middle : Round	**02 Nos.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	Mixing Tank Shape Lower : Cone Frame : Stainless Steel Filling Tubing : Stainless Steel	
06.	**DIALYSIS CHAIR** • CPR Function • Trendelenburng Position • Automatic motorized control system for Adjustment of Legs, Back, Height • Food Tray / Table • Standard IV Pole • Digital Weighing Scale System for monitoring the change in patient weight by UF • Safe maximum load upto 240 Kgs. • Covering for protecting the chair not corrosion, waterproof, dustproof, easy to clean & disinfect and maintain. • Upholstery with polyurethane, luxurious, comfortable and durable. • Lockable Casters	**15 Nos.**
07.	**REVERSE OSMOSIS SYSTEM** **(For 30 Dialysis Machines)** System : Direct Feed / Loop Base Permeate Capacity : 1000 Ltr/H Concentrate Flow : 800 Ltr/H Salt Rejection : 98% Permeate Pressure : 2 ~ 3 Bar Frame : Stainless Steel Tubing : Stainless Steel Membrane Housing : Stainless Steel • Multistage Pump Three Phase (02 Nos.) • Pump Throttling Valve • R.O. Membrane (**04 Nos.)** • SS Membrane Housing Dead space free (**04 Nos.)** • SS Membrane End Caps Ferrule Butterfly Type • 5-Micron Sediment Pre-Filter with SS Plate • Concentrate Pressure Gauge • Loop to Pressure Gauge • Loop from Pressure Gauge • Low pressure cut-off switch • Loop pressure cut-off switch • Pump High Pressure cut off switch • Permeate Flow Meter • Concentrate Flow Meter • Concentrate Recycle Flow Meter • Loop Return Flow Meter	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• Electric Console • System controlling P.C.B. • Four Color patrol lamp • Loop / Product Water (T.D.S, Conductivity, Temperature) Meter • Feed Water (T.D.S, Conductivity, Temperature) Meter • Emergency Stop • R.O internal fitting completely SS along with Frame i. Automatic Multimedia Sand Filter (13X54) 01 No. ii. Automatic Activated carbon Filter (13X54) 01 No. iii. Automatic Water Softener (16X65) 02 Nos. iv. Booster Pump with Pressure Kit 1Hp 220v 01 No. v. Sediment Filter 20" Slim Opec 02 Nos.	

GROUP 3

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
08.	**BARIATRIC SURGERY TABLE** Length of table-top: 960 mm with kidney bridge: 1185 mm Length of head section: 300 mm Length of leg section: 700 mm Width of table-top: 550 mm Overall width: 600 mm Table footprint (length x width): 1140 mm x 705 mm Diameter of double castors: 125 mm Height adjustment range (w/o pads): 680 mm - 1,040 mm 620 mm - 1,120 mm - Incl. longitudinal shift function: 730 mm - 1,090 mm 680 mm - 1,180 mm Trendelenburg, electrohydraulic: 30° Reverse Trendelenburg, electrohydraulic: 30° Lateral adjustment, electrohydraulic: +/- 20° Longitudinal shift: approx. 290 mm Back section, electrohydraulic: - 40°/+ 70° Manual inclination of leg section, gas spring assisted: - 90° Spread angle of leg plates: 70° Inclination of head section, gas spring assisted: - 45°/+ 25° Tilt angle of head section pad: 25° Total weight incl. head and leg sections: 280 kg – incl. kidney bridge: 285 kg – incl. longitudinal shift function: 290 kg Total weight capacity: up to 400 kg Safe working load: up to 360 kg\ **Standard configuration:** ***Two-section, radiolucent table-top, composed of:*** Back section • Bariatric laparoscopic support • Bariatric patients extension ***Electrohydraulic adjustment functions:*** • High/Low • Trendelenburg/Reverse Trendelenburg • Lateral tilt • Back section • Leg plates **Override systems:** Independent adjustment of table functions by means of detachable emergency	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	control panel, electrohydraulic and emergency control handwheels at the column and foot pump (hydraulic). Radiolucent table-top, SAF mattress, 60 mm thick, antistatic. Stainless steel table frame construction, sandblasted and electropolished, disinfection-proof. Stainless steel side rails 25 x 10 mm on both sides of the table-top for attachment of accessories, Table base cover of impact-proof ABS, with two inlaid SST plates to protect the cover, SST floor pan. Chassis with 4 double castors, two of which antistatic, with central lock. 1 of these castors equipped with directional lock. 5th spring-loaded directional castor, activated by foot pedal on both sides. With return-to-zero function and crash detection.	
09.	**LAPROSCOPIC SURGERY EQUIPMENT WITH FULL HD-CAMERA SYSTEM** **Laparoscopy equipment with HD camera system included with below items and specification:** a) **Full HD Camera system with latest chip/sensor technology** Brilliant image display with user pre-set configurations. Power Supply: 100-240 VAC, 50/60 Hz Full HD image quality:(1920x1080p) Aspect Ratio : 16:09 Should have Feature for Predefine display setting according to the surgical speciality and also user define customized. **Video Output:** - DVI-D Signal - S-Video signal to 4-pin Mini DIN socket (2x) - RGB signal to D-sub socket - HD-SDI signal to BNC socket **Digital and parfocal zooming.** **Certified to :**Protection class 1/CF **Control:** Controllable button on camera head for light source and other valuable function. b) **Full HD camera with zoom coupler.** HD camera head, HD Camera Head max. resolution 1920 x 1080 pixel Progressive Scan, 50 Hz, with 2 freely programmable Camera Head buttons, with integrated Parfocal & digital Zoom focal For use with color system PAL and NTSC. c) **26" HD Flat Screen Monitor.** - Color System: PAL/NTSC - Aspect ratio: 16:09 - Resolution max: **1920 x 1200, Progresive Scan** - Composite: S-Video RGB, DVI and VGA Input - Brightness: 300cd/m2 - Contrast: 700:01 - Max Vewing Angle: 178° Vertical - Screen Size: 23" or more **Video input:** - Composite signal to BNC socket	**02 Nos.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	- S-video signal to 4-pin Mini DIN socket. - RGB signal TO 5 x BNC sockets - SDI signal to BNC socket - HD-SDI signal to BNC socket - DVI signal to DVI-D socket - Power Supply: 100-240 VAC, 50/60 Hz d) **LED light source for Laparoscopy :** - **Consisting of:** - Built in light tester - **HD Fiber Optic Light Cable, size 4.8 mm, length 250 cm, heat-resistant.** - Power Supply With Mains Cord: 100-125/220-240VAC, C2550/60Hz e) **Electronic insufflator 40 liter.** High pressure tube 1 meter pin index connector. Reusable silicon tube without gas warming device Including with all standard accessories power cord etc: f) **Should be offer with Full HD Telescope 0º Compatible with HD Laproscopic System** Diameter 10mm, Length 330mm, ViewAngle 0^o Degree Fiber optic light transmission incoperated, Autoclavable. g) **Should be offer with Full HD Telescope 30º Compatible with HD Laproscopic System** Diameter 10mm, Length 330mm, ViewAngle 30^o Degree Fiber optic light transmission incoperated, Autoclavable. h) **MOBILE VIDEO CART FOR ABOVE SYSTEM:** Basic Videocart, rides on 4 antistatic dual wheels 2 equipped with locking brakes, one fixed shelf with handles, main switch at vertical beam, integrated cable conduit in both vertical beams, Drawer unit with lock, 2 horizontal cable conduits. i) **System should be quoted along-with range of HD Telescope and Hand Instrument for General Laproscopic and Specialized Surgical Applications.**	

GROUP 4

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
10.	**ENDO-UROLOGY INSTRUMENTS FOR BLADDER STONES:** **STONE PUNCH SET** i. Forward-Oblique Telescope 30°, enlarged view, diameter 4 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated, color code: red (1 No.) ii. Punch-Working Element (1 No.) iii. Punch Sheath, with Central Valve, including connecitng tubes for in- and outflow, 25 Fr., straight beak, with obturator in- and outflow, 25 Fr., straight beak, with obturator (1 No.) iv. Insert Tube, with channel for flexible instruments, 7 Fr., with atraumatic beak for urethroscopy (1 No.)	**1 Set**
11.	**ENDO-UROLOGY INSTRUMENTS FOR RENAL STONES:** **PCNL SET** i. Wide-Angle Straight Forward Telescope 6°,with parallel eyepiece. Straight Instrument Channal. Autoclavable at 134° C. 1 Luer lock connector for inflow. Fiber optic light transmission incoroprated. Including Adaptors for use ligth cable Karl Storz, Wolf, ACMI, Zimmer and Olympus (1 No.) ii. Operating Sheath, 26 Fr., for continuous irrigation and suction, with LUER-Lock stopcock, rotatable, Color-code: black-red (1 No.) iii. Hollow Obturator and Fascial Dilator, Color code: black-red (1 No.) iv. Telescoping Dilation Set, consisting of: set of 6 dilators, sizes 9, 12, 15, 18, 21 and 24 Fr., with 2 rigid and 2 flexible guide rods (1 No.) v. Dilator, 27 Fr. (1 No.) vi. Forceps, for grasping larger stones and stone fragments, with fenestrated jaws and ring handle, double action jaws, 10.5 Fr., length 38 cm, color code: red-black (2 Nos.) vii. 30FR Sheath With Dialator (3 Nos.)	**1 Set**
12.	**ENDO-UROLOGY INSTRUMENTS FOR URETERIC STONES** **URETERORENOSCOPE** • Uretero-Renoscope autoclavable, length 43 cm, • Distal Tip: 7 Fr. • Instrument Sheath: 8 Fr., conical, 1 step, 8 - 13.5 Fr., • Working Chennel: 5 Fr., for use with instruments up to 4 Fr. • Telescope: Fiber Optic System, Direction Of View 6" • Length: 43/34 cm • EyePiece: Angled,Rigid **Accessories Rquired with equipment:** • Insertion Aid • Instrument Port with Sealing System and Quick Release Lock • LUER-LockTube Connector • LUER-LockTube Connector	**1 Set**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• Seal • Flow Control Stopcock • Tray i. Grasping Forceps for stone fragments, double action jaws, 4 Fr., rigid, length 60 cm, Color code: blue (2 Nos.) ii. Stone Basket, sterile, disposable, 2.5 Fr., length 120 cm (1 No.) iii. Suction Irrigation Unit power supply 100 - 240 VAC 50/60 Hz, (1 No.)Special Features: Inteligent, Purssure regulated double roller pump. balance between inflow & outflow for highest patient safety. Optimal Power values for several endo urological applications. continous comparison of pressure & flow values enables optimal fluid use. Preset parameters for endourological applications. pump parameters can be selected via touch screen. iv. Single-use IRRIGATION tubing set with two puncture needles. (1 No.) v. Single-use SUCTION tubing set (1 No.) vi. Pedal Footswitch, one-stage, digital, (1 No.) vii. Pneumatic probe, Ø2.0 mm, length 425 mm (1 No.) viii. Pneumatic probe, .Ø 1.0 mm, length 605 mm (1 No.) ix. Pneumatic probe, Ø 0.8 rnrn, length 605 mm (1 No.) x. Pneumatic probe Ø 1.0 mm, length 570 mm for combination with the ultrasound probes Ø 3.3 and e 3.8 mm, length 403 mm (1 No.) xi. Pneumatic probe, Ø1.0 mm length 497 mm for combination with the ultrasound probes Ø 3.3 mm and Ø 3.8 mm, length 330 mm (1 No.) xii. Pneumatic probe Ø 0.8 mm length 410 mm (1 No.) xiii. Pneumatic probe Ø 0.8 mm length 490 mm (1 No.) xiv. Pneumatic probe Ø 0.8 mm length 558 mm (1 No.) xv. Pneumatic probe Ø 0.8 mm length 668 mm for use with Lv3 suction tubes EL-213 (1 No.) xvi. Pneumatic probe Ø 1.0 mm length 482 mm (1 No.) xvii. Pneumatic probe Ø 1.0 mm length 636 mm (1 No.) xviii. Pneumatic probe Ø 1.3 mm length 410 mm (1 No.) xix. Pneumatic probe Ø 1.3 mm length 570 mm for use with US probe (1 No.) xx. Pneumatic probe Ø 1.6 mm length 380 mm (1 No.) xxi. Pneumatic probe Ø 1.6 mm length 453 mm (1 No.) xxii. Pneumatic probe Ø 1.6 mm length 490 mm (1 No.) xxiii. Pneumatic probe Ø 1.6 mm length 605 mm (1 No.) xxiv. Pneumatic probe Ø 3.2 mm length 425 mm (1 No.) xxv. Ureteral Balloon dialator 5fr with Radio opique (5 Nos.) xxvi. Ureteral Stone Basket 3Fr, 4Fr, 5 Fr with 4 wire Stenless Stell (3 Nos.)	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
13.	**EXTRACORPOREAL SHOCKWAVE LITHOTRIPSY SYSTEM** **SHOCKWAVE SYSTEM (1 NO.)** • Concept: Transportable shock wave system for inline ultrasound localization • Shock wave source positioning: Manual positioning in X-Y-Z coordinates with ultrasound guidance. • Flexibility of SW-source arm: Height adjustment: 428 mm Vertical movement range:1.468 mm • Shock wave source: Cylindrical Electromagnetic shock wave coil with parabolic reflector. • Shock wave penetration depth: 0 - 150 mm • Shock wave source diameter: 178 mm • Focus pressure: 6.4 - 120 Mpa • Average focus dimensions: 4 mm x 50 mm • Energy flux density: 0.04 - 2.1 mJ/mm² • Shock wave frequency: 1 – 4 SW/sec & ECG • Operating control: Selection of shock wave source parameters and shock wave release. **<u>ULTRASOUND LOCALIZATION SYSTEM (1 NO.)</u>** • Stand-alone ultrasound system forin-line localisation of stones and examination. • B&W ultrasound system: Tissue harmonic technology for electronic linear & electronic convex sector transducer. • Imaging modes: B-mode & M-mode. • Image memory: Up to 999 images (Compact Flash). • Cine mode: Up to 1300 images (dependent on ultrasound transducer used). • Monitor: 17" LCD monitor. • USB connection: For memory stick (images in DICOM, BMP or JPEG format). • System concept: Computer controlled beam-formercontinuous dynamic frequency scanningbroadband probe technology. • Link: Cross-hair generation as well as image. improvement due to change of scan depthand use of magnification. • Additional transducer: Connectors for two transducers • Localisation concept: In-line localisation and ultrasound guided patient • In-line transducer: 3.5 MHz convex transducer. • Frequency: 3.0 – 6.0 MHz. • In-line transducer attachment: Manual rotation & motorised Z-movement.	1 Set
14.	**BLADDER EVACUATOR**	**2 Nos.**

GROUP 5

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
15.	**CO_2 LASER MACHINE** • Continuous-wave (CW), Super pulse, Single pulse, Pulse Train, & cyclically repeated pulses. • Control Panel: 9.5", Display Size 6: (Touch Screen LCD) • Quick Tip panel for easy and time-saving parameter selection • Upgradable via USB • Easy-moving beam delivery system with excellent beam characteristics • Micro scan patterns for laser-assisted stapedial surgery • Safe locking of the articulated (mirror-joint) arm in two different positions • Reliable beam guidance with minimal spot sizes and high power densities • Comprehensive range of accessories for numerous medical fields. • Integrated, programmable "Soft Scan plus R" scanner for multi-disciplinary use. Type of laser: 25 Plus Wave length: 10.6 µm, infrared Laser Power on tissue: 2-25 w CO2 Laser tube Sealed off. DC-excited Continuous-wave (cw): 2 - 25 W Super pulse: 0.3 ms: 11 W, average, max power Single pulse: 5 ms - 10 s. Output power 10-25 W Program memory: 5 freely assignable memory locations (can be used for scanner as well) Focus diameter: 0.15 mm, with a focal distance of 50 mm (spot size) 0.20 mm with the standard focal distance of 127 mm 0.30 mm with a focal distance of 200 mm Protection Class: I Type (of applied part): B Laser Class 4 Power requirements: 230 V/ 50/60 Hz **Consisting Of:** Micromanipulator Micropoint 2R (+MICROSW) (1 No.) Focusing Handpiece 200 mm (1 No.) Backstop For Focusing Handpiece 200 MM (1 No.) Laser Protection Goggles CO2 laser (3 Nos.) Foot Switch (1 No.)	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
16.	**IMAGE GUIDED (NAVIGATION) SYSTEM COMPATIBLE FOR FESS INSTRUMENTS** **Navigation System Configuration:** Navigational Panel Unit (Optical / Electromagnetic) • 1x Navigation Unit • 1x Optical Mouse • 1x Navigation Camera/ Electromagnetic Fieldgenerator integrated into the headrest of the OR table • 1x Data Cable • 1x Video Cable • 1x Headband for Navigation • 1x Patient Tracker • 1x Navigation Probe **Special Features:** • The system provides optical, electromagnetic or hybrid tracking technology. • The system provides dedicated navigation instruments as well as an adapter system for fixation onto conventional surgical instruments. • The system should have only one (1) mobile cart with integrated tracking system or should be integrated into the endoscopy trolley. • The system should be portable, light weight and space saving • The system should have provision of the Rapid Data Transfer via CD-RW/DVD/USB 3.0/Network/PACS • The System should offer continuous endoscope navigation with the special "Augmented Reality" function. This makes planning data directly visible on the endoscope image. • The system should have a planning functionality to plan natural drainage pathways for Sinus Surgery based on the theory on Building Blocks. Those pathways and with Blocks marked cells should be displayed in the real-time endoscopy video to guide the surgeon on the displayed pathways to the sinuses. • The System should have special landing and alarm system ensures safe and quick navigation to anatomic targets before and during operations. Deviations from the path and approaches to critical anatomic structures are signaled acoustically and visually. • The navigation software includes the ability to display planning objects as a visual overlay on top of endoscopic video. • The system allows the simultaneous navigation of the endoscope and other navigated instruments. • The system must be interoperable with endoscopic and microscopic equipment in Full HD 1080p60. • The system is able to display the navigation information and the endoscopic image in Full-HD-Quality (1920x1080) on one or two monitors. • The system is capable of sending the video signal, in Full-HD-Quality (1920x1080) identical to the one presented on the monitor, to an external modality • The system should be supplied with navigated instruments, tracker references	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	for instruments and a patient and dedicated sterilization trays that are reusable and steam serializable (autoclavable) • ENT Navigation Software and navigated instruments support interventions in paranasal sinuses (FESS and transnasal approaches - endoscopic, microscopic, VITOM surgeries) and skull base (including lateral approaches) • The system should be plug and play with user friendly system software to control setup, registration and navigation • The system shall complete ENT and skull base surgery, navigation and its application package • The system should enable CT/MRI/CBCT data import in both multi-frame and single-frame utilizing DICOM 3.0 interface • The system should have automatic removal of CT-lens protection from the 3D model of the patient's image data for more accurate registration of the patient through surface scan. • The system should have the possibility to trim the patient image data to required section of view in order to achieve greater accuracy and resolution. • The system should have the possibility to correct the patient image data that was acquired in the wrong scan protocol, like lateral scan, so that the data can be used for navigation. • The system should enable automatic image fusion for up to eight (8) of different modalities (CT, MRI, CBCT) • The software should enable the assignment of multiple Risky Structures / regions of interest in sagittal, coronal and axial views • The system should preferably warn the surgeon by color change and/or audible signal when approaching defined risky structures • The navigated instruments are reusable and autoclavable • The software must include at least 3 types of patient registration including landmark and surface based registration. • Automatic detection of facial symmetry plane allowing a mirror copy of navigation points and 3D structures planned from one side to another side in order to compensate anatomical differences. • The navigated system should have snapshot storage function for documentation purpose • The system provides the option to install the planning software on other computers (also laptops) outside the operation theatre with a connection to PACS and the System in the operating theatre. • The navigation unit allows the documentation for recording still images and videos in FULL HD. **Navigated Instruments:** i. Navigated Suction Tube, curved upwards, for left and right-handed use, with cut-off hole, outer diameter >3 mm (1 No.) ii. Navigated Suction Tube, curved to left, for left and right-handed use, with cut-off hole, outer diameter >3 mm (1 No.) iii. Navigated Suction Tube, curved to right, for left and right-handed use, with cut-off hole, outer diameter >3 mm, length (1 No.) iv. Navigated Frontal Sinus Probe. (1 No.)	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	v. Wire Tray for Navigation Probe and Patient Tracker, incl. lid, silicone mat and fixing system for cleaning, sterilization and storage for at least one Navigation Probe and one Patient Tracker (1 No.) vi. Navigated Suction Tube, straight, for right-handed use, with cut-off hole, >3mm, (1 No.) vii. Navigated Suction Tube, curved upwards, for right-handed use, outer diameter >3 mm, (1 No.) viii. Adapters must be included to navigate the following standard surgical instruments. - Suction (up to 4mm) - Forceps / Blakesley - Endoscopes **Consisting of:** • License DICOM • USB Silicone Keyboard, with touchpad • Connecting Cable • DVI Connecting Cable • HDMI to DVI-CABLE 1x	
17.	**FESS INSTRUMENTS** i. Telescope, diameter 4 mm, length 18 cm, autoclavable, variable direction of view from 15° - 90°, adjustment knob for selecting the desired direction of view, fiber optic light transmission incorporated (1 No.) ii. Double Spoon Forceps, horizontal opening, 65° upturned, spoon diameter 3 mm, with cleaning connector, working length 12 cm (1 No.) iii. Punch, circular cutting, 65° upturned, for frontal sinus recess, diameter 3.5 mm, with cleaning connector, working length 17 cm, including Cleaning Tool (1 No.) iv. Nasal Forceps, straight, through-cutting, tissue-sparing, BLAKESLEY shape, size 0, width 3 mm, with cleaning connector, working length 13 cm (1 No.) v. Nasal Forceps, 45° upturned, through-cutting, tissue-sparing, BLAKESLEY shape, size 0, width 3 mm, with cleaning connector, working length 13 cm (1 No.) vi. Antrum Punch, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, right side downward and forward cutting, with cleaning connector, working length 10 cm (1 No.) vii. Antrum Punch, extremely powerful resection, patented uniform force transmission for gently controlled cutting, new ergonomic handle design, left side downward and forward cutting, with cleaning connector, working length 10 cm (1 No.) viii. Antrum Grasping Forceps, jaws curved downwards, fixed jaw curved 90°, movable jaw backward opening 120°, with cleaning connector, working length 10 cm (1 No.) ix. Bipolar Forceps with fine jaws, width 2mm, distally angled 45°, outer diameter 3.4 mm, working length 14 cm, with irrigation connector for cleaning Including: Bipolar Ring Handle, Outer Sheath, Inner Sheath,	**01 Set**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	Forceps Insert. (1 No.) x. Suction Elevator, flat tip 3 x 1.8 mm, lateral suction opening, bayonet-shaped, distal end curved, with grip plate, length 21 cm (1 No.) xi. Antrum Cannula, LUER-Lock, long curved, malleable, serrated grip plate, outer diameter 3 mm, length 12.5 cm (1 No.) xii. Lachrymal Probe, length 13 cm (1 No.) xiii. Suction Shaver Blade with integrated irrigation for Handpiece, straight, serializable, serrated cutting edge, rectangular cutting window, diameter 4 mm, length 12 cm, for use with Handpiece(1 No.) xiv. Shaver Blade with integrated irrigation for Handpiece, curved 35°, for single use, sterile, package of 5, cutting edge serrated backwards, rectangular cutting window, diameter 4 mm, length 12 cm, for use with Handpiece(1 No.) xv. Sinus Burr with integrated irrigation for Handpiece, curved 15°, diamond head, for single use, sterile, package of 5, drill diameter 3 mm, shaft diameter 4 mm, length 12 cm, for use with Handpiece(1 No.)	

GROUP 6

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
18.	**EMG / NCS MACHINE** 4 channel amplifier, 1 channel electrical Stimulator, MNC/SNC software modules, F-wave, H-Reflex software modules, Decrement test, Blink Reflex, Interference Pattern Analysis, Automatic Motor Unit Potential Analysis, Free Run EMG, SSEP software , Standard report software **SSEP software package** Note: included in all NCV/EMG Packages as standard **EMG/NCS kit EMG/NCS electrodes starter kit incl** 25 pcs. disposable concentric needle electrode, EMG surface electrode, Digital ring electrode, Velcro ground strap elec. adult, Bipolar felt pad electrode, Needle electrode cable with 100cm cable and 5-pole DIN connector **EP kit EP electrodes starter kit incl.** 6 tubes EEG adhesive paste Ten20, 6 tubes Nuprep skin preparation, 10 EEG silver electrodes, DIN style connector, 1 mtr silicone cable **IOM kit IOM Electrode Starter Kit f. AEP/SSEP/VEP:** 24 pc. Reusable Subdermal Needles incl. Cable 2 pc. Stimulation Electrode, 20 pc. Cup Electrodes, 2 pc. Grounding Electrode, 1 pkg. Nuprep, 1 pkg. Ten-20 **Original imported cart with isolation transformer and amplifier arm** For Desk Top Computer Display Printer **Features** • 4 channel amplifiers. • 1-2 channel electrical stimulators. • Quality sorted averaging method resulting in short examination time. • Touch panel control. • Customizable reports using MS WORD. • Internal amplifier switching option. • Voice stimulation. • Flexible and easily upgradable. Suitable for clinical and research diagnostics. • Broad range of software applications. **SOFTWARE PACKAGE FOR APPLICATION** **EMG** • Spontaneous EMG • Quantitative EMG • AMUP analysis • Interference pattern analysis • Single Fiber EMG	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• Multi Channel EMG in GPP Program • Macro EMG **NCS** • Motor nerve conduction. • Sensory nerve conduction. • F-wave. • H-Reflex. • Decrement Test. • Blink Reflex. • Inching. • Sympathetic Skin Response. • Collision Test. • MUNE. • Refractory Period. • Triple Stimulation. **EP** • Auditory evoked potentials. • Somatosensory evoked potentials. • Visual evoked potentials. • P300. • Electro Oculography. • Electro Nystagmography. • Electroretinography. Should have the option for additional software application • Heart rate variability. • Intra operative monitoring(IOM) • Normative reference values. • MPP Program • MS WORD report generator. • ASSR. • ERP. Power supply: 110/230 VAC ±10%50/60 Hz Isolation transformer: 600 W **Amplifier** Number of channels: 4 Interface: USB 2 Electrode Inputs: 4 switchable bipolar inputs Input Impedance: >1000 MOhm Maximum Input Range: ±32mV CMRR: >110 dB	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	Band Width: 0,016-100000 Hz Noise: <0,5 µV RMS Calibration: Square wave generator (amplitudeand frequency user definable) Impedance Measurement: Built-in impedance meter 0-30 KOhm at 20 Hz Sensitivity: 0,01 µV to 10 mV/division in 19 steps Low Frequency Filter: 0,01; 0,1; 0,5 and 1 Hz - 100 kHz in 1 Hz steps High Frequency Filter: 0,016-100000 Hz in 1 Hz steps Notch Filter: 50/60 Hz Time base: 0,2 msec/division to 1000 msec/division in 14 steps A/D Converter: 16 Bit analog digital converter at 1MHz Resolution: 2 nV **Electrical Stimulator option** Independent Output: 1 channel Stimulus Intensity: 0-3mA, 0-30mA, 0-100mA Stimulus Rate: 0.1 - 1000 Hz Train Count: unlimited Stimulus duration: 100µsec. to 2000 µsec. **Auditory Stimulator option** Stimulus Type: Click Stimulus Rate: 0,01 Hz to 100 Hz Stimulus Intensity: 0 to 138 dB SPL or 0-100dB nHL in 1 dB steps Stimulus duration: 100 µsec. Stimulus Polarity: Condensation, Rarefaction, Alternating Noise: 0-100 dB nHL Operating System: Windows 7 Professional **Visual Stimulator option** Stimulus Mode: Pattern reversal, Horizontal and vertical bars, Pattern Flash, LED Stimulator Stimulus Field: Full Field, Half Field, Quarter Field Fixation: User definable fixation point with different color Display Colors: 8 Trigger: 1 Trigger input, 1 Trigger output Meets the essential Regulatory and quality standards	

GROUP 7

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
19.	**ANESTHESIA VENTILATOR** Screen Size: 8 to 12 Inches Bellows: Latex Free 20 to 1600 ml tidal volume Drive Gas: Oxyger OR Air FUNCTION Tidal Volume (Vt): 20 to 1600 ml Rate (BPM): 4 to 100 BPM I.E Ratio: 1:0.2 to 1:8 Pressure Limit: 10 to 100 cmH_2O Fresh Gas Compensation: Automatic tidal Volume Adjustment Pressure Control: 10 to 70 cmH_2O Electronic PEEP: 4 to 20 cmH_2O ADVANCE MODE Trigger: 0.7 to 6 L/min (PEEP Reference) Trigger Window: 60% of expiratory time Tidal Volume (Vt): 20 to 1600 ml Minute Volume (Vm): 20 to 1600 ml Inspiratory Time (Ti): 0.5 to 5 seconds Support Pressure: 3 to 20 cmH_2O (PEEP Reference) ALARM AUTOMATIC Alarm Mute: 30 seconds Low Drive Gas Pressure: Less than 235 kPa (34 psi) High Continuous Air Pressure: Above 30 cmH_2O at start of Cycle Low Pressure: 4 to 14 cmH_2O PEEP referenced Low Tidal Volume: 50% of volume set (Spirometry) Main Failure: minimum 30 minutes battery backup Low Battery: minimum 5 minutes use Vents Lop: Internal or battery failure ***Must be compatible with existing Anesthesia Machines***	**02 Nos.**
20	**POWER CONDITIONING SYSTEMS** i. **70 KVA** Power conditioner & Energy Saving cum Current & Voltage Stabilizer System for Radiology Systems with Phase inversion protection **(1 No.)** ii. **100 KVA** Power conditioner & Energy Saving cum Current & Voltage Stabilizer System for Radiology Systems with Phase inversion protection **(1 No.)** iii. **120 KVA** Power conditioner & Energy Saving cum Current & Voltage Stabilizer System for Radiology Systems with Phase inversion protection **(2 Nos.)** iv. **150 KVA** Power conditioner & Energy Saving cum Current & Voltage Stabilizer System for Radiology Systems with Phase inversion protection **(2 Nos.)** v. **400 KVA** Power conditioner & Energy Saving cum Current & Voltage Stabilizer System for Radiology Systems with Phase inversion protection (**1 No.)**	**1 Set**

GROUP 8

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
21	**TEACHING AIDS** **a. ARTERIAL PUNCTURE ARM (10 Nos.)** • Simulation of hand placement during performance of Allen's Test is possible • Flexible wrist enables proper positioning • Arterial pressure may be generated manually • Artery palpation is possible • Percutaneous puncture sites in both brachial and radial artery • Infusible arteries with ability to pressurize system, enable blood backflow in syringe • Articulates to adult male manikins • Arm may be purchased separately Model No. 375-80001 Make Laerdal Medical **b. ADVANCE INJECTION ARM (10 Nos.)** • Venipuncture possible in the antecubital fossa or dorsum of the hand • Peripheral IV line insertion and removal • Accessible veins include median, basilic and cephalic • Palpable veins enable site selection and preparation • Infusible veins allow peripheral therapy with IV bolus or push injection method • Peripheral IV line maintenance including assessment and rotation of site and dressing, solution and tubing change • Replaceable skin and multi-vein system ensures longevity of model • Articulates to adult manikins Model No. 270-00001 Make Laerdal Medical **c. MALE CATHETERIZATION SIMULATOR (10 Nos.)** • Realistic articulation enables proper positioning for procedures • Interchangeable genitalia with connectors and reservoirs • Bilateral thigh, dorsal gluteal and ventral gluteal IM injections possible Model No. 375-21001 Make Laerdal Medical **d. FEMALE CATHETERIZATION SIMULATOR (10 Nos.)** • Realistic articulation enables proper positioning for procedures • Interchangeable genitalia with connectors and reservoirs • Bilateral thigh, dorsal gluteal and ventral gluteal IM injections possible Model No. 375-21001 Make Laerdal Medical	**1 Set**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	e. PROSTATE EXAM SIMULATOR (05 Nos.) This prostate exam simulator consists of a male abdomen body and 4 different interchangeable prostate glands which can be inserted to allow realistic practice in diagnosis of prostate cancer by rectal examination. The 4 prostate glands represent the following characteristics: • Benign, slightly enlarged, but otherwise normal prostate • Beginning stage of carcinoma, a discrete, hard nodule is palpable in the upper right quadrant of prostate • The spread of carcinoma is demonstrated, the small nodule has increased in size and has become an external hard mass on the surface of the prostate gland • Totally replaced with carcinoma, the entire prostate gland feels hard and irregular Model No. 1005594 Make: 3B Scientific **f. NG TUBE AND TRACHEAL CARE SIMULATOR (05 Nos.)** • Tracheostomy care • Tracheal suctioning • NG tube insertion • Removal NG tube irrigation, instillation and monitoring • Feeding tube insertion and removal • Gastric lavage and gavage • Nasoenteric and esophageal tube insertion, care and removal • Oropharyngeal and nasopharyngeal insertion and suctioning and Insertion, securing and care of endotracheal Model No. 375-10001 Make: Laerdal Medical **g. BREAST EXAM SIMULATOR (05 Nos.)** The Advanced Breast Exam Simulator offers unparalleled realism for teaching both clinical and self-breast examination. Unlike other simulators, tissue density actually varies within the simulated breast, just as it does in a live patient. Tumors of varying sizes (1-4 cm diameter), shapes (round, oval, irregular/stellate), and densities can be inserted by the instructor for an expanded combination of training scenarios.Tumors represent adenomas, cysts, malignant tumors, and enlarged lymph nodes. The trainer features palpable ribs, sternum and clavicles, and enlarged lympth nodes in the axillary and subclavicular areas. Peau d'orange ("orange peel skin") with inflammations, inverted nipple, skin dimpling and asymmeetry are also depicted on the incredibly realistic skin. The Advanced Breast Exam Simulator has been designed for supine examination, but may also be used standing upright if desired. Training may also be done without the overlay skin. Includes a rigid underbody, right and left breast inserts, overlay skin, three tumor sets (27 lumps), baby powder, hard carrying case, and instruction manual Model No. 1017235 Make: 3B Scientific	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	h. AUSCULTATION TRAINER WITH SMART SCOPE (02 Nos.) The instructor can select various conditions by a wireless remote control. When the student has identified the correct auscultation sites by palpating, the heart and lung sounds can be heard by using a special Stethoscope (SmartScope™). The simulator has 6 heart sites and 2 lung sites on the anterior and 16 lung sites on the posterior. One remote control can operate multiple sets of SmartScopes™ and manikins simultaneously so that this simulator is also great for group instruction. Remote control works over a range of up to 30 meters. The simulator is supplied in a storage case and comes with one remote control and one SmartScope™ with single- and dual-user headpieces. Operates using two "AA" and three "AAA" batteries (included). The following sounds can be auscultated: Heart sounds: 1.Normal 2.Aorticregurgitation 3.Pulmonarystenosis 4. Mitral stenosis 5. Holosystolic 6. Mid-systolic 7. S3 Gallop 8. S4 Gallop 9. Systolic click 10. Atrial septal defect 11. PDA 12. VSD Lungsounds: 1. Normal tracheal 2. Normal vesicular 3. Wheezes 4. Mono wheeze 5. Fine crackle 6. Coarse crackle 7. Ronchi crackle 8. Stridor 9. Cavernous 10. Bronchovesicular 11. Bronchial 12. Pulmonary edema 13. Infant 14. Friction rub 15. Egophony 16. Pectoriloquy Model No. 1005642 Make: 3B Scientific	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	i. ADULT BLS MANIKIN (05 Nos.) **Adult QCPR Manikin** 1. Resuscitation 2. Airway Features (Airway occlusion (head tilt/chin lift, jaw thrust),Sellick maneuver, Positive pressure ventilation & Realistic chest rise and fall 3. Blood pressure / pulses (Manual carotid pulses (pulse bulb) 4. Debriefing (Debriefing through recorded events (When used with SimPad SkillReporter) & Quick Review of CPR performance. 5. CPR (Ventilation with bag-valve-mask 6. QCPR Feedback (The following features are available when used with feedback devices a. Ventilation measurement and feedback b. Chest compressions c. Compression measurement and feedback d. Detailed CPR evaluation e. Compression counter f. Complete release feedback. 7. Wireless Simulation administration **SIMPAD SKILLREPORTER TABLET** a. Ventilation measurement and feedback b. Compression measurement and feedback c. Detailed CPR evaluation d. Complete release feedback e. Wireless Wifi Connectivity f. Based on AHA 2010 Guidelines of BLS g. Operated on Rechargeabel Batteries h. Operated with Session Viewer Software (Downloadable) (06 Adult QCPR Manikin can be operated with 01 Simpad Skill Reporter at a time) Model No. 171-00150 + 202-30033 Make: Laerdal Medical **j. BLS CHILD TRAINING MANIKIN (05 Nos.)** Type: Male torso child Airway: Non-breathing, disposable Squeeze bulb:n/a Carotid Pulse:No Compression generated :n/a Ribs, Xiphoid: Yes Navel: Yes Tongue / teeth: No Adam's apple: Yes Metronome: No Length; cm (in): 55 (21.5) The manikin has a removable full face mask made of polyvinylchloride (PVC). The manikin has a soft nose which can be occluded using the nose pinch technique.	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	The manikin has patent nasal. Model No. 18002040 Make: Laerdal Medical **k. BLS INFANT TRAINING MANIKIN (05 Nos.)** **INFANT QCPR MANIKIN:** **Airway features:** Airway occlusion (head tilt/chin lift, jaw thrust),Realistic chest rise and fall **Debriefing** Debriefing through recorded events Quick Review of CPR performance **Blood pressure/pulses:** Brachial pulses (pulse bulb) **CPR:** Mouth-to-mouth ventilations Ventilations with face shield Ventilations with pocket mask Ventilation with bag-valve-mask **QCPR feedback** The following features are available when used with feedback devices • Ventilation measurement and feedback • Chest compressions • Compression measurement and feedback • Detailed CPR evaluation (Not available with SkillGuide) • Compression counter (Not available with SkillGuide) • Complete release feedback **SIMPAD SKILLREPORTER TABLET** a. Ventilation measurement and feedback b. Compression measurement and feedback c. Detailed CPR evaluation d. Complete release feedback e. Wireless Wifi Connectivity f. Based on AHA 2010 Guidelines of BLS g. Operated on Rechargeabel Batteries h. Operated with Session Viewer Software (Downloadable) (Only 01 Infant QCPR Manikin can be operated with 01 Simpad Skill Reporter at a time) Model No. 161-01250 + 202-30033 Make: Laerdal Medical	
	l. RESPIRATORY ARREST MANIKIN FOR ETT INSERTION (05 Nos.) • Realistic representation of human anatomy, tissue, and skin • Allows students to undertake training that is directly transferable to the clinical setting • Practical training in clearing an obstructed airway and suctioning of liquid foreign matter • Minimal maintenance and robust design delivers cost effective training • Base plate mount allows stable practicing conditions	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• A hard carry case provides easy transportation and safe storage • Practicing of oral and nasal intubation • Practicing use of LMA (Laryngeal Mask Airway) and Combitube® • Correct tube placement can be checked by practical inflation test • Realistic anatomical features allow demonstration of Sellick Maneuver and laryngospasm • Bag-Valve-Mask ventilation can be practiced • Stomach inflation and vomiting situation can be simulated • Provides visual inspection of lung expansion • Provides auscultation of breath sounds • Airway demonstration model is standard with each trainer Model No. 25000033 Make: Laerdal Medical **m. LUMBER PUNCTURE TRAINER (05 Nos.)** • epidural anesthesia using the loss-of-resistance & hanging-drop technique • spinal anesthesia with realistic resistance of the dura and arachnoid mater with or without a cannula • fluid-filled spinal canal with realistic outflow rate thanks to the ability to adjust the excess pressure • an epidural catheter can be inserted into the epidural space • closed water system • easy to clean Model No. 1017891 Make: 3B Scientific **n. INTRA-OSSEOUS TRAINER (INFANT) (05 Nos.)** Intraosseous needle insertion Aspiration of simulated bone marrow Replaceable pads are prefilled with simulated bone marrow Model No. 080015 Make: Laerdal Medical **o. CHEST TUBE MANIKIN (02 Nos.)** This manikin is designed to specifically teach the theory, anatomy and skills needed to manage pre-hospital chest trauma as well as ongoing chest tube maintenance. The right side of the manikin has two cut-away viewing areas to provide awareness of the anatomical relationships between the skin surface, musculature, ribs and lungs. The left side has a pressurized tension pneumothroax site to relieve air that has accumulated within the pleural space and is restricting lung inflation. There is also a site where chest tubes may be surgically placed to treat pleural effusion by draining fluids from the pleural space. The fluid color, volume and viscosity is controlled by the instructor. The Chest Tube Manikin is perfect for teaching the concepts and mechanics of closed water-seal drainage systems like "Pleur-Eva" type units Model No. 1017946 Make: 3B Scientific	

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	p. ADVANCE LIFE SUPPORT BABY (05 Nos.) • Realistic airway anatomy with tongue, oropharynx, epiglottis, larynx, vocal cords and trachea • Practicing of bag-valve-mask ventilation, oral and nasal intubation and use of LMA (Laryngeal Mask Airway) • CPR can be performed • 3-lead, 4 connectors ECG monitoring • Available with optional HeartSim® 200 Rhythm Simulator • Intraosseous needle insertion with aspiration of bone marrow • Sellick Maneuver can be performed Model No. 08003040 Make: Laerdal Medical	
22.	**OPHTHALMOSCOPE**	**05 Nos.**
23	**OTOSCOPE**	**05 Nos.**

GROUP 9

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
24.	**5- SECTION OT TABLE FOR GENERAL SURGERY** Advance Electro-Hydraulic Operating Table can meet various requirements of operations. OR Table should be C-Arm compatible. Table should have Head & leg plates are interchangeable. Tabletop should be X-ray radiolucent. Table should have X- Ray cassette tunnel for X-ray. Kidney Bridge (Optional) Table should be fully automatic hand remote control operation for all movement. Table Mattress made of PU Material Anti-Corrosion and Easy Clean **Electro-Hydraulic Universal OR Table with Remote Control** **Should have option for fully manual override function for foot control in case of No A/C Power** **Should have** horizontal sliding table top up to 390mm or better Table should have patient safe load capacity 220KG or better. Including standards accessories Mattress, Arm rest And Anesthesia Screen. Features: 5- Section including (2-Leg Plate) Table Top: 500mm (W) X 2,000mm (L) or better Height Range: (675mm ~ 1,015) or better Trendelenburg: (25^{o}Up , 40^{o} Down) or better Lateral Tilt: (25^{o} Right / Left) or better Back Section: (60^{o}Up , 40^{o} Down) Head Section: 45^{o} Up (2steps) ,90^{o} Down (4Steps) Leg Section: 2-leg plate18^{o} Up (2 Steps) 90^{o} Down (4 Steps) 110^{o} (outward) Drive Mode: Electro-Hydraulic X –Ray Cassette Tunnel: Standard Power Supply: (AC100~240 V, 50 / 60Hz)	**01 No.**
25.	**SURGICAL DIATHERMY** High frequency surgical diathermy for mono polar and bi-polar cutting and coagulation for use in General Surgery, ENT, Gynaecology, Urology, Orthopedic, etc. Output frequency 320Khz ~ 375KHz Output power 300W or more. Monopolar cutting 300 W Pulse 40W Blend: 230W or more TUR (transurethral resection): 300W	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
26.	**LED SURGICAL OT LIGHT (DUAL ARM SYSTEM)** LED technology, assuring cold light, long life and low energy consumption. The lamp should be suitable for countless applications both for surgery and operating room for diagnosis, dental sector, gynaecology, dermatology, general medicine and surgery. Functions are easy-to-read, ergonomic and easy-to-clean. Simple touch control panel for below function: • ON/OFF function. • Light intensity adjustment. • DoF – Depth of Field – for a deep light. • ENDO Mode – Light for endoscopy ideal for minimal-invasive surgery. • SIZE – Light spot diameter adjustment to focus the operating area. • SYNC – Function to synchronize controls of the combined lamps with single lamp control. Product Class: I. Power Supply: 100 – 240 VAC ±10%. Frequency: 50/60Hz Light source: LEDs. Average Life: 50,000 hrs about. Lighting at the center, Ec @ 100cm: 160,000 lux with each dome. Light Adjustment: 5% to 100%. Color temperature, CCT: 4.500^{o}K. Color rendering index, Ra: 95. Index R_9. >90. Chromaticity coordinates: x=0.365, y=0.370 Light Field diameter: 24 – 33 cm. Focusable working distance: 70 – 150 cm. Handle: Removable and Sterilizable Painting: White RAL 9002.	

GROUP 10

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
27	**OXYGEN GENERATION PLANT FOR OJHA CAMPUS** ***with design criteria as follows*** • Design Production Capacity: 44 Nm3/h • Product Delivery Pressure 5.9 Bar • Design Air Feed Pressure 7.5 Bar • Atmospheric Dew Point Product: -40 degC • Max. Noise Level Leq 80 dBA Complete system with following 1 One (1) Air Compressor 2 Oil-lubricated rotary screw compressor 3 One (1) Air Dryer Refrigeration air dryer 4 One (1) Air Receiver Vertical carbon steel pressure vessel Safety valves set at appropriate pressure level Volume: 5.000 liter working pressure: 11,5 bar(g) 5 One (1) PSA Oxygen Generator Oxygen Generator containing process components including: • External inlet process air filters for removal of particles, oil vapor and condensate • Series of PSA banks, each existing of two towers filled with molecular sieve • Waste gas silencers, sized to muffle vent gas to design noise levels • Control cabinet, including process controller (PLC, Allen Bradley) with HMI Touch Panel • Set of electro-pneumatic valves and throttles • Interconnecting piping, electrical, and instrumentation • Safety valves set at appropriate pressure level • All piping, valves and instrumentation to mounted in a carbon steel cabinet • Performance test and report prior to shipment • Zirconium cell based oxygen analyzer with digital display (0-95%) • Electronic Product Flow Meter (0-60 Nm^3/h) • Oxygen Sterile Filtration 6 Two (2) PSA Oxygen Generator Oxygen Generator Dual Bank containing process components including: • External inlet process air filters for removal of particles, oil vapor and condensate • Series of PSA banks, each existing of two towers filled with molecular sieve • Waste gas silencers, sized to muffle vent gas to design noise levels • Set of electro-pneumatic valves and throttles • Interconnecting piping, electrical, and instrumentation • Safety valves set at appropriate pressure level • All piping, valves & instrumentation to mounted in carbon steel cabinet	**01 No.**

Item No.	NAME OF GOODS, TECHNICAL DESCRIPTION, SPECIFICATIONS, AND STANDARDS	Qty. Required
	• Performance test and report prior to shipment 7 One (1) Oxygen Receiver Vertical carbon steel pressure vessel Safety valves set at appropriate pressure level Volume: 3.000 liter Max. working pressure: 11 bar(g) 8 One (1) High Pressure Oxygen Compressor Oil free piston compressor 3,2 Nm^3/h 150 bar(g) 9 One (1) Oxygen Cylinder Filling Manifold Number of cylinders seats: 4 Standards / Certification In compliance with the actual directive for machines 2006/42/CEE and the actual directives 2009/105/CEE and 97/23/CEE for pressure vessels and pressurized components, all required certificates and/or declarations and/or labels of approval and/or conformity to be supplied. Turnkey Start-up & Commissioning Service at site of installation according to the conditions	

SPECIAL NOTE:

i. The Purchaser will evaluate and compare the bids on itemized basis OR on the basis of a group OR a combination of groups OR as total of groups.

ii. Country of Origin: UK, USA, Europe and Japan. However, Pakistan make instruments shall also be considered subject to approval of the samples.

iii. The above specifications are only for widest possible competition and not for favor any single contractor or supplier nor put others at a disadvantage. However, the brand name, catalogue No. / Name etc. has only been used for the reference purpose. Goods offered "AT LEAST EQUIVALENT" to requisite specifications shall also be considered.

iv. Equipment must be quoted with all the standard accessories.

v. UPS/Power protection for the equipment shall be incorporated in the systems, otherwise prices must be quoted separately.

vi. All the civil works will be carried-out by the Dow University of Health Sciences, Karachi with the consultation of the responsive bidder.

vii. Responsive bidder will provide the consultancy regarding the installation of the Equipment according to the GMP / WHO Standards (if applicable).

viii. All site specific work to be required in the system viz. Lead Glass/special antistatic flooring, environment control/radiation protection must be quoted separately.

ix. The bidder shall separately quote the price of service contract inclusive of parts as well as excluding the parts for 5 years (minimum) in term of %age for total contract value.

x. Bidder must be provided the User/Technical/Maintenance/Service manuals and Service Keys with each equipment.

H: Sample Forms

1. PERFORMANCE GUARANTEE/SECURITY FORM

To: [Name & Address of the Procuring Agency]

Whereas **[Name of Bidder]** (hereinafter called "the Bidder") has undertaken, in pursuance of Contract No. **[number]** dated **[date]** to supply **[description of goods]** (hereinafter called "the Contract").

And whereas it has been stipulated in the said Contract that the Bidder shall furnish to the Procuring Agency with a Bank Guarantee by a scheduled bank for the sum of 5% of the total Contract amount as Security for compliance with the Bidder's performance obligations in accordance with the Contract.

And whereas we have agreed to provide a Guarantee: for the said Bidder

Therefore, we hereby unconditionally and irrevocably guarantee, on behalf of the Bidder, 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 Bidder to be in default under the Contract and without requiring the Procuring Agency to initiate action against the Bidder and without cavil or argument any sum or sums within the limits of **[Amount of Guarantee]** as aforesaid. The amount stated in the demand made under this guarantee shall be conclusive proof of the amount payable by the Guarantor under this guarantee.

The obligations of the Guarantor under this guarantee shall be valid for four months after the completion of delivery of supplies by the Bidder to the Procuring Agency of the full quantity of the goods for which this Guarantee is being given, and until all and any obligations and sums due have been paid in full.

Signature and Seal of the Guarantors / Bank

Address

Date

2. MANUFACTURER'S AUTHORIZATION FORM

[SEE CLAUSE 11.1 (A) OF THE INSTRUCTION TO BIDDERS]

To: The Dow University of Health Sciences
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 Bidder / Agent]** to submit a bid, and subsequently follow-up / negotiate and sign the Contract with you against Invitation for Bids (IFB) / Tender Notice for the goods manufactured, by us, under the patent name of _____ _____ for performance of the contract.

We hereby commit and assure our full guarantee and warranty / guarantee as per Clause 12 of the General Conditions of Contract for the goods offered for supply by the above mentioned 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.

3. CONTRACT FORM

THIS AGREEMENT made the _____ day of _____ 2016 between *Dow University of Health Sciences, Karachi* of *Islamic Republic of Pakistan* (hereinafter called "the Procuring Agency") of the one part and ***[Name of Bidder]*** of ***[city and country of Bidder]*** (hereinafter called "the Bidder") of the other part:

WHEREAS the Procuring Agency invited bids for certain goods and ancillary services, viz., ***[brief description of goods and services]*** and has accepted a bid by the Bidder 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 Bidder as hereinafter mentioned, the Bidder 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 Bidder 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 by the Manufacturer / Agency Authorized Bidder / Authorized Agent	Signed / Sealed by Procuring

I: Bid Form & Price Schedule

1. BID FORM

To: The Dow University of Health Sciences
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 goods specified in the said Bidding Documents for the sum of **[Total Bid Amount Rs.]**, **[Bid Amount in words only]** or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this bid.

2. The free of cost / donation / discounts offered and the methodology for their application are: _____

_____

_____

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

4. If our bid is accepted, we shall obtain an unconditional guarantee of a bank in the sum of 5% of the Contract Price for the due performance of the Contract, in the form prescribed by the Procuring Agency.

5. We agree to the validity of this bid for 90 days from the date fixed for financial bid opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

6. Until a formal Contract is prepared and executed, this bid, together with the written acceptance thereof and notification of award, by the Procuring Agency, shall constitute a binding Contract between us.

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

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

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

FOR GOODS OFFERED WITHIN THE PROCURING AGENCY'S COUNTRY

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

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

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

FOR GOODS OFFERED FROM OUTSIDE THE PROCURING AGENCY'S COUNTRY

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

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____