

Peoples University
of Medical & Health Sciences for women
Nawabshah, Shaheed Benazirabad, Sindh, Pakistan



BID DOCUMENT

SINGLE STAGE - TWO ENVELOPE BIDDING PROCEDURE

**PROCUREMENT OF LABORATORY EQUIPMENT FOR
NURSING, PUMHSW**

NIT: PUMHSW / P.D / 2017/2988

Dated: 10/10/2017

TABLE OF CONTENTS

A.	INVITATION FOR BIDS (IFB)	2
B.	INSTRUCTIONS TO BIDDERS (ITB)	3
1.	INTRODUCTION	3
2.	THE BIDDING PROCEDURE	3
3.	THE BIDDING DOCUMENTS	4
4.	PREPARATION OF BIDS	5
5.	SUBMISSION OF BIDS	8
6.	OPENING AND EVALUATION OF BIDS	9
7.	AWARD OF CONTRACT	13
C.	GENERAL CONDITIONS OF CONTRACT (GCC)	16
1.	DEFINITIONS	16
2.	APPLICATION	17
3.	STANDARDS	17
4.	USE OF CONTRACT DOCUMENTS AND INFORMATION	17
5.	PATENT RIGHTS	18
6.	ENSURING STORAGE ARRANGEMENTS	18
7.	INSPECTIONS, TESTS AND TRAINING	18
8.	DELIVERY AND DOCUMENTS	19
9.	INSURANCE	19
10.	TRANSPORTATION	19
11.	INCIDENTAL SERVICES	20
12.	WARRANTY / GUARANTEE	21
13.	PAYMENT	21
14.	ASSIGNMENT	21
15.	DELAYS IN THE BIDDER'S PERFORMANCE	20
16.	PENALTIES/ LIQUIDATED DAMAGES	22
17.	TERMINATION FOR DEFAULT	22
18.	FORCE MAJEURE	22
19.	TERMINATION FOR INSOLVENCY	23
20.	ARBITRATION AND RESOLUTION OF DISPUTES	23
21.	PACKING	23
22.	GOVERNING LANGUAGE	23
23.	APPLICABLE LAW	24
D:	SPECIAL CONDITIONS OF CONTRACT (SCC)	25
E:	BID DATA SHEET	30
F:	SCHEDULE OF REQUIREMENTS	32
G:	TECHNICAL SPECIFICATIONS	35
H:	SAMPLE FORMS	
1.	PERFORMANCE GUARANTEE/SECURITY FORM	50
2.	MANUFACTURER'S AUTHORIZATION FORM	50
3.	ARTICLES OF AGREEMENT	51
4.	BID SECURITY(BANK GUARANTEE)	52
5.	BID SECURITY(BID BOND)	53
I:	BID FORM & PRICE SCHEDULE	
1.	BID FORM	55
2.	PRICE SCHEDULES	56



**PEOPLE'S UNIVERSITY
OF MEDICAL & HEALTH SCIENCES FOR WOMEN
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No PUMHSW / P.D / 2017 / 3014

Dated: 10-10-2017

SAY NO TO CORRUPTION

NOTICE FOR INVITING TENDERS

Bids are invited under sealed cover for the following **Civil works and Procurement of Equipments/ Instruments on item rate basis (DDP/C&F/FOR)** from contractors of repute and authorized Dealers / Distributors / Manufacturers/ Contractors, having registration with Federal Board of Revenue (FBR), Income Tax, Sindh Revenue Board & Pakistan Engineering Council in C-4 & above (Where applicable).

Sr. #	Tender Description	Tender Fee Rs.	Bid Procedure	Bid Security
01	Procurement of Equipment for Water Testing Lab:	3,000/-	Single Stage Two Envelope	5%
02	Procurement of Equipment for Nursing.	3,000/-		
03	Procurement of Equipment for R&D.	3,000/-		
04	Construction of External Development Works at New Campus.	5000/-	Single Stage Single Envelope	5%
05	External Electrification Works at New Campus.	5000/-		5%
06	Construction of O.H Water Tank at New Campus.	5000/-		5%
07	Furniture items for Hostel Blocks at New Campus.	10000/-		5%
08	Furniture items for Academic Block of Nursing & Community Medicine Department at New Campus.	10000/-		5%
Purchase Date	13-October-2017 to 30-October-17			
Bids Submission (Date & Time)	<i>For Serial # 01 to 03, 31-10-17 at 11:00(A.M.), For Serial # 04 to 08, 31-10-17 at 01:00(P.M.).</i>			
Bid Opening (Date & Time)	<i>For Serial # 01 to 03, 31-10-17 at 11:30(A.M.), For Serial # 04 to 08, 31-10-17 at 01:30(P.M.).</i>			
Bid Submission and Opening place	In Conference Hall of Vice Chancellor's Secretariat.			
<i>Note: In case of any unforeseen situation or official / 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.</i>				

The Interested bidders can obtain bid document from the office of 1- Purchase Officer (PUMHSW)
2- Office of the Project Director (PUMHSW)
on the submission of a written application, NTN, GST Certificates and Pay Order / Demand Draft of tender fee during office hours.

The Bid Documents are also available at PUMHSW website: www.pumhs.edu.pk and as well as from SPPRA websites: www.pprasingh.gov.pk.

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

The 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 from S. No. 01 to S. No. 03

The Procuring Agency reserves the right to reject any or all the bids subject to the relevant provisions of SPP Rules 2010 (Amended 2013).

PROF. DR. SHAMSUDDIN SHAIKH
Director Academics & Convener C.P.C
**PEOPLES UNIVERSITY OF MEDICAL &
HEALTH SCIENCES FOR WOMEN
SHAHEED BENAZIRABAD**

ENGR. DUR MUHAMMAD MANGI
Project Director
**PEOPLES UNIVERSITY OF MEDICAL &
HEALTH SCIENCES FOR WOMEN
SHAHEED BENAZIRABAD**

This issues with the approval of Vice Chancellor (PUMHSW) S.B.A

A: Instructions to Bidders. (ITB)

1. INTRODUCTION

1. GENERAL

1.1 Peoples University of Medical & Health Sciences for Women, Nawabshah(Shaheed Benazirabad), Sindh, intends to purchase the Laboratory Equipment for the Community Medicine, PUMHSW from HEC funded project titles “Establishment of college of Nursing & strengthening of Community Medicine. The purchase will be financed through the grant provided by the Higher Education Commission. This tender is issued for the supply, installation, putting into operation and demonstration of the working of the Laboratory Equipment as per the Schedule of requirements given in this tender document.

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 under SPPRA Rule number 46-2.

- (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. Article of Agreement
- vii. Manufacturer's Authorization Form
- viii. Performance Guarantee Form;
- ix. Bid Form; and
- x. Price Schedules.
- xi. Evaluation Criteria for Technical & Financial Proposals.

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 / alternate price quotation shall be treated as nonresponsive and shall be rejected.
- 9.7 If it was proved during the contract period that bidder has supplied the contracted item(s) to any other purchasing agency in Pakistan at the prices lower than the contracted prices, the balance amount will be deducted from the bill and / or security deposit of the bidder.

10. BID CURRENCIES

- 10.1 Prices shall be quoted in Pakistani Rupees for goods offered within the Procuring Agency's country on delivered duty paid (DDP).
- 10.2 Price shall be quoted in foreign currency for goods offered outside the Procuring Agency's country on CFR / C&F Basis. For the purpose of comparison, the prices quoted shall be converted to equivalent prices in Pakistani Rupees on the basis of the official State bank rate prevalent on the date of opening of the financial bid.

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, verifiable from products authenticated source i.e. website etc.
- 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. or till it is revalidated/extended for a period mutually agreed upon by the tenderer and the Director Academics / Chairman Central Purchase Committee PUMHSW Shaheed Benazirabad.
- 13.3 The Bid Security is required to protect the Procuring Agency against the risk of Bidder's conduct, which would warrant the Security's forfeiture;
- 13.4 The Bid Security may be forfeited:
 - (a) if a Bidder withdraws its bid during the period of bid validity; or (b) in the case of a successful Bidder, the Bidder fails:
 - (i) to sign the Contract; or

- (ii) to complete the supplies in accordance with the General / Specific 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. Peoples University of Medical & Health Sciences for Women (PUMHSW), PMC Hospital Road, Nawabshah (Shaheed Benazirabad), 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, 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		20
		Fully compliant with the required specifications	20
		Compliant with minor deviation (up to 10% subject to main function is not effected)	15
2	Product Certification		14
		Food and Drug Administration (FDA) 510K and European Community (CE) MDD or Japan Industrial Standard (JIS) / Japan Quality Assurance Organization (JQAO)	14
		European Community (CE) MDD and Japan Industrial Standard (JIS) / Japan Quality Assurance Organization (JQAO)	12
		Food and Drug Administration (FDA) 510K	10
		European Community (CE) MDD	08
		Japan Industrial Standard (JIS)/Japan Quality Assurance Organization (JQAO)	08
TOTAL MARKS PRODUCT EVALUATION (A)			34

B. BIDDER EVALUATION

S#	PARAMETERS	SUB-PARAMETERS	Total Marks
3	Legal Requirement		13
		1. Manufacturers, their agents, authorized dealers those who are having "MAL" (Manufacturer's Authorization Letter) addressed to the name of Peoples University of Medical & Health Sciences are eligible to participate in the Bidding. MAL is compulsorily required to ensure "after-sale-support" from Manufacturer and assurance of supply of genuine material	5
		2. Manufacturer Authorization	3
		Price Schedule (without prices)	4
		Bid Form (without prices)	4
4	Technical Staff		13
		Simple Technician (minimum two)	2
		Diploma Engineers (minimum two)	3
		Graduate Engineers (For High Tech / Critical equipment Graduate Engineer of relevant field is mandatory for each product) (minimum two)	5
		MSc / PhD qualification/Foreign training	3

5	Networking and Training		8
		Networking setup across Pakistan (1 mark for each setup upto maximum 6)	6
		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
6	Delivery		6
		4 to 6 Weeks or earlier	6
		7 to 12 Weeks or earlier	2
7	Past Experience / Performance		14
		Satisfactory performance certificate for the quoted equipment from the medical institutions within Pakistan (2 mark for each completion certificate / supply order up-to maximum 14)	14
8	Financial Status		6
		Bank Certificate	2
		Last year verified Balance Sheet / Income Tax Return Forms	2
		Yearly turn-over of over 50 Million	2
9	Bonus points		6
		Warranty period extension free of cost (the firm offered greater period will get the marks)	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)	2
TOTAL BIDDER EVALUATION (B)			66
GRAND TOTAL (A + B)			100

Note:

- If a bidder fails to obtain minimum 20 marks, against the criteria “**Conformity to the Purchaser's Specifications**” and **unable to provide valid manufacture Authorization** his offer will not be considered for further evaluation and rejected.
- Bidders achieving minimum 70 marks will be considered only for further process.

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW & Convener, C.P.C.

PMC Hospital Road, PUMHSW, Shaheed Benazirabad

24.2 Litigation History

The Bidder should not be involved in any litigation with the Procuring Agency/Govt. Deptt: (Provincial/Federal), else their bid will be rejected.

25. CONTACTING THE PROCURING AGENCY

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

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

26. REJECTION OF BIDS

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

27. RE-BIDDING

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

28. ANNOUNCEMENT OF EVALUATION REPORT

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

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 VARY QUANTITIES

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

31. LIMITATIONS ON NEGOTIATIONS

31.1 The Procuring Agency reserves the right to hold negotiation on 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 Seven days after the official announcement of the award, both the successful Bidder and the Procuring Agency will sign and date the Contract on legal stamp paper valuing 0.35% of the value of contract, (cost shall be borne by the bidder). In case the successful Bidder, after completion of all codal formalities, shows inability to sign the Contract, its Bid Security shall be forfeited. The firm may also be blacklisted from taking part in any future bidding of Procuring Agency for a period upto five Years. In such a situation, the Procuring Agency may make the award to the next lowest evaluated responsive bidder or move for re-bid.

34. PERFORMANCE SECURITY

- 34.1 The successful Bidder shall furnish Performance Security. Upon submission of Performance Security, the Bid Security will be returned to the Bidder. The amount of Performance Security is specified at Bid Data Sheet.
- 34.2 Failure of the successful Bidder to comply with any of the requirements specified in this document shall be considered as sufficient grounds for the annulment of the award and forfeiture of the Bid Security, in which event the Procuring Agency may make the award to the next lowest evaluated Bidder at the risk and cost of the former.

35. CORRUPT OR FRAUDULENT PRACTICES

- 35.1 (a) the Procuring Agency and the Bidders / Manufacturers / Contractors are expected to observe the highest standard of ethics during the procurement and execution of the Contract. In pursuance of this policy, the relevant terms / phrases as may apply are defined below:
 - (i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution; and
 - (ii) "fraudulent practice" means a misrepresentation 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 noncompetitive 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)

The **Scope of the Contract** shall be the supply, delivery, installation, putting into operation and demonstration of the working of the Lab Equipment for PUMHSW, in accordance with the technical Specifications and Bill of Quantities enclosed in this Tender Document.

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 Peoples University of Medical & Health Sciences for Women (PUMHSW), Shaheed Benazirabad.
- (h) **The Vice Chancellor** shall mean the Vice Chancellor of The Peoples University Of Medical & Health Sciences For Woman Shaheed Benazir Abad Sindh, including his successor in office and assignees, empowered to act in all matters pertaining to the University either directly or through the Director Academics / Chairman Central Purchase Committee PUMHSW Shaheed Benazirabad
- (i) "The Bidder" means the individual or firm supplying the goods under this Contract.
- (j) The "Contract Price" shall mean the sum mentioned in or calculated in accordance with the provisions of the Contract, which is to be paid to the Contractor for satisfactory execution of the Contract in accordance with these Conditions of Contract.
- (k) "Lab Equipment" for PUMHSW shall mean and include all Lab Equipment, literature, materials and articles to be provided by the Contractor under the Contract.

- (l) The "Specifications" shall mean the specifications annexed to or issued, herewith, and shall include the schedule and drawings attached hereto as well as the samples and patterns if any.
- (m) "Day" means official working day excluding national / official holidays.
- (n) "Month" shall mean the Calendar month.
- (o) Writing shall include any manuscript, type-written, printed or other statement reproduced in any visible form and whether under seal or under hand.

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.
- 3.2 The bidder must ensure / also warrant the use of best material in the making of Lab Equipment for the PUMHSW, SBA by the find that the Specifications for any items the Lab Equipment are lacking in details, they may give their own proposals with detailed specifications, preferably three alternate proposals if possible.
- 3.3 The Lab Equipment for PUMHSW, Shaheed Benazirabad offered by the tenders must be of a quality suitable for the purposes and operations for which they are required, and must be capable of rendering the required performance and services at site in the local conditions of extreme tropical climate, air, dust, water, power and fuel at Shaheed Banirabad
- 3.4 The Hardware for operation of Lab Equipment will be made available by University.
- 3.5 Wherever possible or feasible, each item of Lab Equipment offered must have its own protection devices, e.g, overload protection by circuit breakers or fuses, or voltage stabilizer for electric equipment.
- 3.6 The successful bidders may be asked to supply list of spares for 5 years satisfactory operation of any item of Lab Equipment, prior to award of the contract.

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. RIGHTS OF THE UNIVERSITY

6.1 The University reserves the right to award the contract to one bidder or divide it among several bidders. In the Event when two or more then bidders have same weightage than the quantity of the supply shall be distributed equally among all in that specific item.

7. ENSURING STORAGE ARRANGEMENTS

7.1 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.

8. INSPECTIONS, TESTS AND TRAINING

8.1 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.

8.2 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.

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

8.4 **Pre-shipment and After-fabrication Inspection:**

i The pre-shipment inspection and / or the inspection of Lab Equipment for PUMHSW Principals/Proprietor at the premises, if desired by the Contractor, shall be arranged by the Contractor at his / her own cost. The responsibility for the quality, quantity, correctness and adherence to the Specifications etc. of Lab Equipment of the University at Nawabshah shall lie solely and squarely on the Contractor.

ii The University may, at its discretion, waive pre-shipment inspection and hence issue the waiver in writing so that Lab Equipment for PUMHSW could be shipped under manufacturer's test certificate. This waiver shall be deemed as authorization to ship for the purpose of negotiating the letter of credit under Clause 13(b)ii.

iii The pre-shipment inspection and/or the waiver thereof shall in no any above the Contractor of any of his obligations under this Contract.

9. On-arrival Inspection

There shall be inspection of Laboratory Equipment for the Community Medicine at PUMHSW by the representatives of the University after arrival in the laboratory of the University in presence of the Contractor or his authorized representatives and the representatives of the insurance company, so desired by insurance company. The inspection report, which, inter-alia, should indicate the condition in which each item of Lab Equipment has been received, shall be signed by the above representatives. The Contractor shall coordinate with the insurance company for arranging the inspection at such date and time as is convenient to the above representatives.

10. Taking Over

Upon receipt in the Laboratory of the University and after inspection, as stated in Clause 9 above, the University will issue a taking-over certificate in respect of those items of Lab Equipment for PUMHSW, which are received in acceptable condition. The taking-over of the damaged items will be withheld until the same are repaired / replaced and are re-inspected and found in acceptable condition.

11. Installation

After inspection and taking over of Lab Equipment for PUMHSW, as stated in Clauses 9 and 10 above, the Contractor shall install those items of Lab Equipment, which are to be permanently positioned in place in the laboratories of the University. For this purpose, the Contractor shall co-ordinate with the Director Academics / Chairman Central Purchase Committee(PUMHSW) for making arrangements for Hardware needed for the installation.

12. Demonstration

12.1 After installation of Lab Equipment at PUMHSW as stated in Clause 11 a) above, the complete working of each item of lab Equipment for the purpose of performing the intended Laboratory experiments, testing of specimens and recording of the test results etc., shall be demonstrated fully to the designated staff of the University by the Contractor or his technical personnel.

12.2 The entire cost, including the T.A. / D.A. of the personnel involved in the demonstration, shall be borne by the Contractor.

1. DELIVERY AND DOCUMENTS

1.1 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.

2. INSURANCE

2.1 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.

3. TRANSPORTATION & SHIPMENT

3.1 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.

3.2 The goods shall be supplied on "D.D. P" basis at the *Peoples University of Medical & Health Sciences for Women (PUMHSW)* 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.

3.3 Lab Equipment for PUMHSW to be Imported

- i All those items Lab Equipment for PUMHSW, which are to be imported by the Contractor shall be shipped by whatever means the Contractor deems fit at his / her risk and cost. The Contractor must keep the University informed of the shipping arrangements, schedule of shipping, arrival at the port, clearance from the port, and transportation from the port to the University.
- ii All costs of loading of Lab Equipment for PUMHSW, from the wharves at port of shipment and also the cost of ship wharf age / berthing, demurrage charges, stevedoring, handling charges and other port and river dues in respect of shipment companies' vessels at the port of shipment and all other expenditure up to the stage of placing Lab Equipment for PUMHSW at rest on board the ship and the freight charges shall be borne by the Contractor.
- iii Similarly all costs of unloading Lab Equipment for PUMHSW of the University at Nawabshah at the wharves, wharf age / berthing, demurrage, stevedoring, handling charges and other port dues at the port of arrival in Pakistan, clearing of goods from port and transportation from the port up to the stage of placing Lab Equipment for PUMHSW, SBA position in the laboratory of the University shall be borne by the Contractor.
- iv All things being equal, Pakistan flag ships should be used, as far as possible, for shipment of Lab Equipment for PUMHSW, SBA If no such ship is available, such other ships may be used consistent with the execution of this Contract with economy and efficiency.
- v Lab Equipment for PUMHSW, SBA must be shipped under deck
- vi The Contractor shall send by air mail/courier service or personally deliver 4(four) sets of non-negotiable shipping documents direct to the Vice Chancellor of The Peoples University Of Medical & Health Sciences For Woman Shaheed Benazirabad Sindh, so as to reach him at least 8(eight) days before arrival of the ship at the port in Pakistan.

3.4 Lab Equipment for PUMHSW, Manufactured / Available in Pakistan

- i All those items of Lab Equipment for PUMHSW of the University at Nawabshah which are to be manufactured in Pakistan, or are to be supplied from the locally available stocks (whether imported or manufactured in Pakistan), may be transported from the place of manufacture or availability to Nawabshah by any mode of transportation as deemed convenient and suitable by the Contractor at his / her risk and cost.
- ii All costs of clearing goods, handling, loading, transportation, unloading and placing of Lab Equipment for PUMHSW of the University at Nawabshah in position in the Laboratory of the University shall be borne by the Contractor.

4. INCIDENTAL SERVICES

- 4.1 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, separately or jointly in the total price. The bidder is required to clearly mention the

product prices & incidental service cost, however, for comparison both the cost shall be considered collectively.

5. WARRANTY / GUARANTEE

- 5.1 The term period of warranty / guarantee means the period of twelve **(12) months** from the date on which the Stores have been put into operation and demonstrated to the University staff. In any case this period shall not exceed eighteen (18) months from the date of taking-over certificate.
- 5.2 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.
- 5.3 The provisions of this Clause include all the expenses that the Contractor may have to incur for delivery and installation of such replacement parts, material and equipment as are needed for satisfactory operation of the goods at the University premises.
- 5.4 The contractor shall provide warranty / guarantee for supply of kits and chemicals, consumables, films etc. for at least 05 years (where applicable).
- 5.5 The contractor shall remain responsible for providing after sale services even after expiry of warranty / guarantee period and sign a Service Contract including Parts with Procuring Agency for 05 years (minimum). **Bidder shall separately quote the price of service contract inclusive of parts.**
- 5.6 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.

6. PAYMENT

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

7. ASSIGNMENT

- 7.1 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.

8. DELAYS IN THE BIDDER'S PERFORMANCE

- 8.1 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.
- 8.2 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.

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

9. PENALTIES LIQUIDATED DAMAGES

9.1 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.

10. TERMINATION FOR DEFAULT

10.1 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.

11. FORCE MAJEURE

11.1 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.

12. TERMINATION FOR INSOLVENCY

12.1 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.

13. ARBITRATION AND RESOLUTION OF DISPUTES

13.1 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.

13.2 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.

13.3 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.

14. PACKING, MARKING AND HANDLING

14.1 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.

14.2 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.

14.3 All Lab Equipment for PUMHSW, whether imported or locally manufactured / available, shall be delivered to the University at Peoples University of Medical & Health Sciences for Women Shaheed Benazirabad Sindh, in safe and secure condition at the risk and cost of the Contractor.

14.4 The packing, marking and handling shall be so arranged by the Contractor as to prevent any loss of or damage to Lab Equipment for PUMHSW, SBA.

14.5 In case any of the items of Lab Equipment for PUMHSW are to be imported by the Contractor, the import shall be arranged by the Contractor himself / herself with such packing and marking and through such means as deemed fit

by him / her for safe and secure delivery at Peoples University Of Medical & Health Sciences For Woman Shaheed Benazirabad Sindh. The packing shall be the usual export packing to ensure safe journey by air, sea, rail and road, as the case may be, of Lab Equipment for the University to destination. Each packing shall be clearly marked in English with the following:

- 1 Port of Destination: **KARACHI.**
- 2 Name of the Ship: _____
- 3 Name of the Consignee: Vice Chancellor, Peoples University of Medical & Health Sciences for Woman Nawabshah, Shaheed Benazirabad.
- 4 Name of the Contractor: CONTRACTOR'S NAME & ADDRESS
- 5 Case Number & Contents: _____
- 6 Net Weight & Dimensions: (length, Breadth & Height)
- 7 Gross Weight: (Kg.)
- 8 Number & Date of Contract: _____
- 9 Marking: PUMHSW, SBA in 6 x 4 rectangle

15. GOVERNING LANGUAGE

15.1 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.

16. APPLICABLE LAW

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

D: Special Conditions of Contract (SCC)

1. DEFINITIONS (GCC CLAUSE 1)

GCC 1.1 (g) The Procuring Agency is the **Peoples University of Medical & Health Sciences for Women (PUMHSW)**.

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 @ 5% of the total bid value in the shape of Bank Draft / Pay Order / Call Deposit / Bank Guarantee in the name of the Peoples University of Medical & Health Sciences for Women (PUMHSW), Nawabshah, Shaheed Benazirabad. 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 10% of the Contract amount that will remain with the Peoples University of Medical & Health Sciences, Shaheed Benazirabad 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. Remaining shall be refunded after expiry of warranty period as determined in GCC clause 12.1.

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

GCC 7.1, 7.2 & 7.3

The goods received in the Peoples University of Medical & Health Sciences for Women, Shaheed Benazirabad, 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 Peoples University of Medical & Health Sciences for Women, Shaheed Benazirabad, 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.

The Contractor shall arrange the insurance for the Lab Equipment for PUMHSW in whatever way he / she deems fit at his / her risk and cost. The prices quoted in the offer of the Contractor shall include the cost of insurance. The Contractor shall have to inform the University of the Insurance Arrangements made by him / her for Lab Equipment.

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 desires to establish a Confirmed L/C or desires to make any amendment in LC etc. The amount shall be entirely discretion of the Competent Authority allow in case he feels no deviation or loss to the University in the procurement.

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 desires 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 Because 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 nondelivered 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:

20.3.1 Complaint Redressal Committee.

20.3.2 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:

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW &
Convener, Central Purchase Committee
PUMHSW, Shaheed Benazirabad
Email: procurement@pumhs.edu.pk
Contact: 0244-9370428

Bidder's address for notice purposes:

Name of Bidder: _____

Name of Contact Person & Designation: _____

Phone No. _____

Fax No. _____

Mobile Phone No. _____

Email Address _____

Contractor

Sign with stamp

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW & Convener, C.P.C.
PMC Hospital Road, PUMHSW, (SBA)

F: 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:
Peoples University of Medical & Health Sciences for Women (PUMHSW)
- ITB 1.1** Name of Contract:
Procurement of *Laboratory Equipment for the Nursing.*

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.**
- All the charges pertaining to handling and clearance of Lab Equipment for PUMHSW at the port including all taxes, levies, octrois etc. but excluding the duties for the payment of which the University is exempted by the Government. However, if the customs duties are charged for any items of Lab Equipment for which the Government the exemption, the University will make the payment.
- For the Lab Equipment for PUMHSW which are to be imported and for which the prices have been quoted on C&F basis in, the University will arrange payment in the foreign currency, to the extent of the C&F amount, as stated in Clause 9(b), through its bank in Pakistan in accordance with the prevailing foreign exchange control rules/regulations of the Government of Pakistan.
- 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 **5%** 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 Laboratory Equipment for the Community Medicine at PUMHSW.

ITB 16.1 (c) **Peoples University of Medical & Health Sciences for Women (PUMHSW)**,
PMC Hospital Road, Nawabshah, Shaheed Benazirabad.

“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: 31-10-17 at 11:00(A.M.), in the Conference Hall of Vice Chancellor’s Secretariat.

OPENING & EVALUATION OF BIDS

ITB 20.1 The bid opening shall take place at: 31-10-17 at 11:30(A.M.), in the Conference Hall of Vice Chancellor’s Secretariat.

ITB 26 **Bid Rejection**

a) The **erasing and/or alterations**, if any, in the Tender shall be authenticated by the authorized person by his full signature. Use of white fluid markers shall lead to rejection of bids.

b) **Ambiguous and incorrect answers** and/or incorrect filling of Tender Documents will render the tender liable to rejection.

ITB 31.1 Quantity 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 10% 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.

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 / CPT Basis):

- i. The shipment of the items of Stores which are to be imported shall be started as early as possible (**preferable within 45 days**); 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

PROCUREMENT OF LABORATORY EQUIPMENTS FOR SKILL LAB: COLLEGE OF NURSING, PUMHSW

Item No:	Name & Description Item of	Qty	Country Origen / Product code / Manufacturer
NURSLAB:1	Simulator Advanced Keri Manikin Should give realistic appearance as a woman, or as a man when the wig is removed and attachment of male genitals converts it for male catheterization and prostate exam simulations.	2	170-LF04022 Simulaids, USA Or Equivalent
NURSLAB:2	Special Training Doll Features a gastrostomy button, colostomy stoma, tracheotomy tube, PICC line, injection site where liquids can be injected, and intermittent urethral catheter.	2	SKU: #84002 Health Edco, USA Or Equivalent
	Intramuscular Injection Simulator Should show precise anatomical structure ,portable .During practice if practitioner injects too deeper the red indicating light must turn on and an alarm voice should come to hear ,simulating liquid from injecting site must come out .	2	LF00961U Enasco / Simulaids, USA Or Equivalent
NURSLAB:3	Advance Injection Arm White Skin Should provide complete venous access for IV therapy and phlebotomy, plus sites for intramuscular and intradermal injections. An extensive 8-line vascular system would available to allows students to practice venipuncture at all primary and secondary locations, including starting IVs and introducing over the Needle IV Catheters.	2	SV30 Dednoyer Geppert, USA Or Equivalent
NURSLAB:4	Pelvis with Fetal Skull Should provide anatomy of female pelvis with important structure in pelvis including fetus head.	2	SV30 Dednoyer Geppert, USA Or Equivalent
NURSLAB:5	Three Dimensional Cervical Effacement & Dilatation Model These simulators should provide soft realistic feel and touch to enhance the birthing simulation experience. Should provide lifelike simulation of cervical examination prior to birth with exceptional realism so that the visual and tactile sensations experienced provide a positive transition to patient procedures. The set should consist of six separate pelvic blocks. The internal texture, tissue density, and correct anatomical size would represent to provide the most realistic condition possible. The simulators should depict six different cervical conditions prior to birth. Each will clearly identify on the back side to indicate which condition exists internally. It should provide Students to gain a tactile understanding of no dilatation, 2 cm, 5 cm, 7 cm, 9 cm, and effacement conditions.	2	LF01068U Nasco, USA Or Equivalent
NURSLAB:6	O.B Manikin White An anatomically correct pelvic model with full term newborn and placenta to give trainees realistic practice in multiple techniques, and to learn the procedure for emergency childbirth. Disposable umbilical cords with clamps, easily replaceable extra vulva, powder to make simulated blood, a modular pregnant belly overlay with permanently installed fetus for training practice of the Leopold's maneuver to determine the fetus' lie by palpating its skull and kneecaps, and a clear abdominal overlay to see positioning are all included.	2	110-180 Simulaids , USA Or Equivalent
	Deluxe Blood Pressure Simulator with Speaker System This simulator should allow the presetting of values for both systolic and diastolic pressures. It should allow trainees to recognize the five Korotkoff phases. The electronically generated sounds are digitally recorded. The Blood Pressure Simulator should include the Life form Arm Replica with embedded speaker, sphygmomanometer, electronic control unit (six "AA" batteries included), instruction booklet, and hard carrying case. The simulator does not include a stethoscope.	2	LF01129U Nasco, USA Or Equivalent
NURSLAB:7	Pediatric Head This model should provide realistic sensation and response. The lifelike vinyl skin location of the vein. The synthetic rubber tubing for the veins should be accessible to provide a lifelike simulation of vein size, and feeling of puncture and palpation for practicing venipuncture.	2	LF00999U Nasco, USA Or Equivalent
NURSLAB:8	BUTTOCK intra-Muscular Injection Simulator Should simulate the realistic structure of human buttock with convenient, smooth skin and portable. Should contain precise anatomical structures. On inserting deeper injection should indicate red light with alarm voice.	2	Nasco, USA Or Equivalent
NURSLAB:9	Heart Catheterization Simulator All appropriate landmarks should be palpable for realistic identification of insertion sites. Synthetic skin should be removable from shoulder to reveal dissected musculature and location of veins, arteries, and other landmarks would be available to insert the needle introducer. Artificial blood connector provided to provide confirmation of proper needle location when "blood" flows from needle. Useable for Swan-Ganz catheter. Skin and veins should stand up to repeated puncture to allow training for sufficient staff members. Include practice proper care of the puncture site and parenteral administration of fluids. Practice measuring central venous pressure. Bandaging techniques including fluid supply bags (Total parental Nutrition) tubing sealant, needles, one quart of blood, and teaching guide in a hard carry case.	2	LF01012U Nasco, USA Or Equivalent
NURSLAB:10	Spinal Injection Simulator Should allow realistic demonstration and practice of all spinal injections. Spinal injection techniques include spinal anesthesia, spinal tap, epidural analgesia, caudal analgesia, sacral nerve block, and lumbar sympathetic block.	2	LF01036U Nasco, USA Or Equivalent
NURSLAB:11	A-B-C Breast Crises Full Manikin (A-B-C Breast Examination Set Lifelike model allowing palpation of glactophore malignant tumor, innocent tumor, lymphaden and lobules accrementation. Life like shape. skinny durable a metabolic under disinfections and cleanout.	2	SB14912U Nasco, USA Or Equivalent
NURSLAB:12	Airway Management Trainer Manikin Accurate anatomical landmarks, Side observing oral cavity and nasal cavity, Intubation skill training correct operations, Intubation skill training correct operations, Warning prompting	2	LF03602U Nasco, USA Or Equivalent
NURSLAB:13	E.M.T Casualty Simulator (Kit) This kit should contain variety of strap-on wounds for ease in getting the most impact with the least	2	SB22338U Nasco, USA

	skill used during incident training preparation. Additional stick-on wounds and makeup accessories that allow for more detailed enhancement round out this kit.		Or Equivalent
NURSLAB:14	Adult Water Rescue Manikin Rescue Frame: anodized aluminum, length 1.2 m Handle: anodized aluminum; comprising a standard handle (1.0 m) plus a telescopic boat-hook extension handle (1.7 to 3.0 m) Overall length max 5.2 m (effective reach max 4.5 m) Rescue Line: 15m x 12mm plaited polyester	2	SB32185U Nasco, USA Or Equivalent
NURSLAB:15	Kyle Year Old CPR Manikin with Carry Bag Must be Foam-filled, latex free, one-piece bodies that offer uni-body construction for virtually indestructible handling.	2	100-2951 Simulaids, USA Or Equivalent
NURSLAB:16	Female Catheterization Simulator The Female Catheterization Simulator with a bladder reservoir, urethra, and a valve simulating the internal urethral sphincter. The normal feeling of resistance and pressure should be experienced as a catheter is passed through the urethra, past the sphincter, and into the bladder.	2	LF00856U Nasco, USA Or Equivalent
NURSLAB:17	Surgical Bandaging Simulator A simulator with 14 surgical wounds including a Mid-Sternal Split with two simulated drains, a Sacral Decubitus Ulcer - Stage 2, with leg amputation Stump. The skin must contain drier feature, allowing the bandages to adhere better. Wound closures feature surgical staples for the Mid-Sternal Split, Thoracotomy, Nephrectomy, Laparotomy, Abdominal Hysterectomy, and Amputation Stump. Staples and sutures should be included.	2	LF00929U Nasco, USA Or Equivalent
NURSLAB:18	Breast Examination Simulator Normal and Abnormal Should facilitate to examine Breast self-examination (BSE) with detectable changes for carcinoma. Simulate female upper body with moderate 1. Simulate a female upper body with moderate size breast, be made of imported material, soft skin and realistic touch feeling. 2. can be tilted on the desk stop to demonstrate teaching. 3. with cloth elastic and can be worn in front for self-examination, adjustable length and tightness. 4. breast tumor and typical features: (hyperplasia mammary glands, slick fringe of the benign tumor in the mammary glands, metastasis of malignant tumor in left arm pit and clinical, sagging breast, tangerine pericarp-like changes of skin, Suffusion of one side mamilla)	2	LF00984U Nasco, USA Or Equivalent
NURSLAB:19	Model of variation parental cervix and birth clinical (soft) Phase 1: The orifice of the cervix with no expanding, with the appearance of cervical tunnels. The observable positional relation between the head of fetus and the square of ischial spine. Phase 2 the orifice of cervix with expansion of 2cm bigger and the cervical tunnels disappear 50%. the positional square ischial spine. Phase 3 the orifice of cervix with expansion of 4cm bigger and the disappearance of cervical the positional between the head of fetus and the square of ischial spine. Phase 4 the orifice of cervix has expanded 5cm bigger and the cervical tunnels disappear absolutely. the relation between head and fetus and square of ischial spine is 0. Phase 5 The orifice of cervix with expansion of 7cm bigger with the disappearance of cervical tunnels including the relation between head and fetus and square of ischial spine is .2. Phase 6 The orifice of cervix with expansion of 10cm bigger with the cervical tunnels disappearance absolutely showing the relation between head and fetus and square of ischial spine is .5.	2	
NURSLAB:20	ADVANCED TRAUMA ACCESSORIES (SOFT) The module should consist of 20 models which simulate most kind of wounds of body including burn, laceration, continuous, opened fracture, gun wound etc. This model is vivid and all parts feel good touch. Suitable for first-aid training of surgical trauma . Bleeding, hemostasis ,washing ,disinfections, enswathing of the wound.	2	
NURSLAB:21	Advance Military Makeup Casualty Simulation Kit Kit must contain following items Contents: Bleeding strap-on wounds complete with reservoir bags with pump assembly, 2 compound fractures of humerus, upper arm, 2 compound fractures of tibia, lower leg • 5 doz. assorted stick-on injury simulations, 1 makeup palette 1 scissors 1 mirror 1 measuring cup, 2 atomizer mist sprayers ,2 casualty simulation wax • 2 body adhesive for stick-on wounds, 2 bottles coagulant makeup blood, 3 pkgs. of powder to make 3 gallons of simulated blood, 1 methyl cellulose for blood thickening, 2 pkgs. broken Plexiglas for simulating glass imbedded wound 1 pkg.); 2 fake dirt, 1 glycerin for perspiration, 1 cold cream, 1 mineral oil 1 charcoal, 3 latex compound to simulate scars, 2 petroleum jelly • 2 pressure sensitive tape, 1 ea. Plastalene Modeling Paste, white, 1 ea. Plastalene Modeling Paste, dark, 2 makeup liners each in blue, brown, white yellow, black and flesh. Reorder is 1 each also included: an assortment of cotton balls, cotton applicators/swab sticks, tongue depressors tissues, makeup sponges, and spatulas, Size: 21" x 12" x 15". Ship weight 23 lbs.	2	Advance Military Makeup Casualty Simulation Kit Or Equivalent
NURSLAB:22	Basic Casualty Simulation Kit Useable for the following wounds Wounds: compound fracture Tibia; 12 assorted stick-on lacerations and open fractures Equipment of kit should contain. Rugged plastic case; assembled reservoir bag and pump on Tibia; atomizer mist sprayer. Supplies: coagulant makeup blood; blood powder to make 1 gal. simulated blood; casualty simulation wax; 1 pkg. broken Plexiglas (simulating glass imbedded wound); 1 ea. Grease paint white, blue, brown and red; 1 adhesive stick; 2 spatulas; 2 wood tongue depressors	2	SB30995U Nasco, USA Or Equivalent
NURSLAB:23	Multiple Casualty Simulation Kit Should be versatile than the basic kit, this kit should assist more complex wounds for testing higher levels of skill in bandaging and patient care, This kit must have the following items. Contents: Bleeding strap-on wounds complete with reservoir bags and pump assembly. 1 open amputation. 1 compound fracture of tibia, lower leg. 1 compound fracture of humerus, upper arm. 1 sucking wound of chest. 1 gunshot wound of palm Makeup Accessories: 1 bottle coagulant makeup blood. 1 pkg. of methyl cellulose for blood thickening. 3 packages powder to make three gallons of simulated blood. 24 assorted stick-on lacerations & open fracture wounds. 1 body adhesive for stick-on wounds. 1 casualty simulation wax. 1 pkg. broken Plexiglas for simulating	2	SB01622U Nasco, USA Or Equivalent

	glass embedded wound • 1 ea. grease paint colors: white blue, brown and red. 4 reservoir bags with pumps assembled. 1 atomizer mist sprayer. 3 spatulas. 3 wood tongue depressors Size: 21" x 12" x 12". Ship weight 11 lbs.		
NURSLAB:24	CPR Prime with electronic monitor 1. Simulation of child airway, Compression display device and warning device. Correct compression position displays, wrong compression intensity displays and warning prompting. Mouth-to-breath indicator light display and warning prompting. Inhalation <150 ml or inhalation>200ml. wrong indicator light display and warning prompting. 150ml <inhalation < 200ml, correct indicator light displays and warning prompting. Operation frequency :100 times per minute,120 times per minute (the latest international standard). Examine brachial artery response; Working condition: Power supply 220V passes through monostatic, output 6V power. 4 pieces of No.1 batteries, direct current.	2	100-1203 Simulaids, USA Or Equivalent
	CPR PRIME WITH INFANT CPR TRAINING MANKIN (SOFT) 1. Simulation of child airway. Compression display device and warning device. Correct compression position displays, wrong compression intensity displays and warning prompting. Artificial respiration indicator light unit and warning device: 30ml <inhalation < 50ml, correct indicator right display. Operation frequency :100 times per minute,120 times per minute (the latest international standard). Examine brachial artery response. Working condition: Power supply 220V passes through monostatic, output 6V power. 4 pieces of No.1 batteries, direct current.	2	100-1702 Simulaids, USA Or Equivalent
NURSLAB:25	CPR Bonnie with electronic monitor system CPR Pediatric manikins should air-filled, but can be filled with water to simulate the weight and "feel" of real children. Manikins feature realistic chest rise, lifelike rib cage with sternum, xiphoid process, suprasternal notch, and painted nipples for accurate CPR hand placement. Electronic monitoring console should indicate correct hand placement, adequate depth of compression, and ventilation by illuminating individual light signals. It should contain soft carry bag, clothing, and 12 disposable lungs. Size: 26" x 8" x 8" Ship weight 5 lbs.	2	100-1201 Simulaids, USA Or Equivalent
NURSLAB:26	CPR Billy with electronic monitor system should demonstrate Life-like rib cage with sternum, xiphoid process, suprasternal notch and painted nipples for accurate CPR hand placement. Adequate ventilation should show realistic chest rise. Manikins with electronics should indicate correct hand placement, adequate depth of compression and ventilation by illuminating individual light signals	2	100-1204 Simulaids, USA Or Equivalent
	Adult Chocking Manikin The manikin should provide excellent foreign body expulsion training. When correct clearing procedures are performed, the manikin will expel the object causing the obstruction. Anatomical landmarks. Lifelike feel. Durable	2	SB10234U Nasco, USA Or Equivalent
NURSLAB:27	I/V Training Hand and Arm The Ambu IV Trainer should offer a realistic training incorporated with 3 veins and 1 artery. The radial pulse should be manually simulated and must be felt on the wrist of the IV Arm.	2	SB32220U Nasco, USA Or Equivalent
	Pediatric Head Replacement Skin and Vein kit The module should show replacement Skin and Vein Kit for the Pediatric Injection Head Model. It should include: Pediatric Head skin. Pediatric Head vein set	2	LF01003U Nasco, USA Or Equivalent
NURSLAB:28	Tubing Sealant Should provide leak-tight sealing in a variety of applications. Including range of system pressures and temperatures. Compatible with different chemicals. a) PTFE Tape Pipe Thread Sealant Temperature Rating Up to 450°F (232°C) Tape Sizes 1/4 by 576 in. (6.4 mm by 1463 cm) for 1/8 to 3/8 in. male tapered pipe b) PTFE-Free Pipe Thread Sealant Pressure Rating 1/4 by 576 in. (6.4 mm by 1463 cm) for 1/8 to 3/8 in. male tapered pipe Temperature Rating -65 to 300°F (-53 to 148°C) Flash Point 355°F (179°C) Storage Shelf life is up to 5 years when stored at 45 to 85°F (8 to 29°C). c) Anaerobic Pipe Thread Sealant Cure Time At room temperature, allow 24 h minimum before pressurizing Pressure Rating Pipe or fitting working pressure up to 10 000 psig (689 bar) Temperature Rating -65 to 350°F (-53 to 176°C) Viscosity Greater than 100 000 cP Storage Temperature 45 to 85°F (7 to 29°C) Shelf Life Five years at recommended storage temperature	2	LF01099U Nasco, USA Or Equivalent
NURSLAB:29	Replacement skin and Vein Kit Replacement skin and veins for the discontinued "two vein" male IV arms: Adult IV Training Arm (375-61001), Adult IV Arm Kit (375-60001)	2	LF00986U Nasco, USA Or Equivalent
NURSLAB:30	Spinal Injection Simulator Replacement Kit. Simulator with skin, musculatures, and spinal cord. Should demonstrate Spinal Injection response.	2	LF01036U Nasco, USA Or Equivalent
NURSLAB:31	EAR Examination simulator Anatomically ear model with soft material should facilitate hands-on practice in clinical procedures such as straightening the auditory canal by pulling the auricle. The manikin neck tolerable to be tilted from side to side to learn head positioning. Foreign body removal should be practicable using simulated earwax and/or small objects, and a pair of ear models without eardrums.	2	
NURSLAB:32	Replacement Lungs for Airway Management Trainer Manikin Airway Management Trainer simulator should be useable for non-anesthetized patients for practicing intubation, ventilation, and suction techniques. Realistic anatomy and landmarks including teeth, tongue, oral and nasal pharynx, larynx, epiglottis, arytenoids, -false cords, true vocal cords, trachea, lungs, esophagus, and stomach should be access able.	2	
NURSLAB:33	Adult Airway Management Trainer Manikin Practicing of oral and nasal intubation, Practicing use of LMA (Laryngeal Mask Airway) and Comb tube, Correct tube placement can be checked by practical inflation test, Realistic anatomical features	2	LF03605U Nasco, USA Or Equivalent

	allow demonstration of Sellick Maneuver and laryngospasm, Bag-Valve-Mask ventilation can be practiced		
NURSLAB:34	CPR Face with Pieces white (PGK) Package of 10 light mouth/nose pieces.	2 Package s	Nasco, USA Or Equivalent
NURSLAB:35	Kyle Airway System. It includes: Replacement lungs for brad and Paul Manikins Jaw thrust aid Pkg. of 10.	2	SB29922U Nasco, USA Or Equivalent
NURSLAB:36	Skin and Vein Replacement Kit – Medium White skin, Black skin, Replaceable vein kit	2	LF01253U Nasco, USA
NURSLAB:37	Right Breast Replacement examination simulator. Should contain fixed lump, fluid filled cyst, and round lump. Ship weight 2 lbs.	2	LF00980(B)U Nasco, USA Or Equivalent
NURSLAB:38	Left Breast Replacement. Ship weight 2 lbs. Contains fixed lump, fluid filled cyst, and round lump.	2	Nasco, USA Or Equivalent
NURSLAB:39	Replacement Lungs for Trauma CPR Manikin. Replacement face shield/lungs for use with CPR Prompt Adult/Child manikins. Pack of 20	2	Nasco, USA Or Equivalent
NURSLAB:40	Lubricant Kit Should protect and prolong instrument life with lubricants that prevent rust and corrosion. Non-silicone, patient-safe lubricant should maintain effectiveness of grasping and cutting surfaces. Should Protect all types of metal instruments, including carbon steel. Will not interfere with steam or gas sterilization.	2	LF00895(B)UG Nasco, USA Or Equivalent
NURSLAB:41	General purpose wire push cart These versatile carts must feature three 18" x 36" shelves that can be adjusted or removed according to need. Rubber wheels provide smooth, quiet operation. Three adjustable shelves. Cart size: 18"W x 36"L x 38 1/2"H. Four 5" rubber casters Two push handles. Zinc-plated finish	2	Nasco, USA Or Equivalent
NURSLAB:42	Bed rail stretcher Size: 37"L x 19"H. Easily Raises/Lowers. Welded steel construction. Should require No tools for assembly. Brown finish	2	Nasco, USA Or Equivalent
NURSLAB:43	Soft Stretcher A strong, versatile, compact stretcher that should be used as a stair-chair, as well as a temporary transport lifter. Provided with handholds which allow convenient two or more-person transport of heavier patients. Made up of nylon fabric and automotive seat-belt webbing. Machine should be washable and dryable Measures 21" x 35". The soft stretcher has a 200 pound weight limit.	2	Nasco, USA Or Equivalent
NURSLAB:44	Tabletop IV Stand: Portable IV stand with 5" x 8" heavy metal base and 28" chrome-plated, two-hook pole. For instructional use only.	2	PN01264UG Nasco, USA Or Equivalent
NURSLAB:45	Stethoscope: Single-sided chest piece designed for easier grip and maneuvering. Tunable diaphragm: Hear high or low frequency sounds by slightly adjusting pressure on the chest piece. Soft-sealing ear tips provide an excellent acoustic seal and comfortable fit. Headset is easily adjusted for individual fit and comfort. Angled ear tubes align with ear canals. Non-chill diaphragm and rim provide patient comfort. Latex Free	2	Nasco, USA Or Equivalent
NURSLAB:46	Sphygmomanometer: Compact, twin-tube, graduated-scale sphygmomanometer Highly polished chromium-plated, rugged metal enclosure with metal ring, corrosion-protected. Precision metal air release valve with fine adjustment and wear-free. Micro filter protects air release valve and measuring system. Spoon-shaped grip of stainless steel. Specially tempered copper-beryllium diaphragm, resistant to aging. Metal screw-type connectors for cuffs. Diaphragm pressure-loading capacity up to 600 mmHg. Maximum error tolerance +/- 2 mmHg. Linear aluminum scale Ø 49 mm (1.9 in), easily legible up to 300 mmHg. Vinyl zipper case	2	SB34978U Nasco, USA Or Equivalent
NURSLAB:47	Wheel Chair Features: Weight Capacity / Wt Cap: 300 lb. Weight/ Each Weight: 33 lb HCPCS Code: K0004. Overall Dimensions Open: 36.25l x 25.5w – 31.5d. Rear Pockets: 11"w x 8.5"d. Overall Width Folded: 11.75". Overall Depth Folded: 30.5". Overall Depth: 31.5". Arm Rest: flip back. Upholstery: nylon. Seat Height: 20". Footplate Height From Floor: 3" – 7". Footrest: plastic. Seat Width: 18" Seat Width Between Arms: 17.75". Arm Height From Seat: 10.5". Back Height From Seat: 16.25". Overall Height: 36.25". Width Folded: 11.75" Overall Width: 25.5"	2	
NURSLAB:48	Mr. Clean Mouths This model should three times life size and should provide normal anatomy. it should facilitate great for teaching proper brushing and flossing techniques. comes with a giant toothbrush and carrying case.	2	SB29825U Nasco, USA Or Equivalent
NURSLAB:49	Giant Tooth Brush & teeth A 2 x life-sized model for demonstrating dental hygiene and tooth care. Complete with giant toothbrush. Dimensions (W x D x H) (approx.): 150 x 125 x 65mm.	2	Health Edco, USA Or Equivalent
NURSLAB:50	Mouth Carrying Case. Basic Buddy (10-Pack) should consists of 10 adult/child manikins, 100 lung/mouth protection bags, 2carrying cases, and 2 instruction manuals. Shipping weight 40 lbs.	2	Health Edco, USA Or Equivalent
NURSLAB:51	Prosplints Complete Adult Splint kit. This kit should include wrist/forearm splint, full arm splints (small and large), full leg splints (small and large), universal combo splint, universal rib splint, hard e-collars (small and medium), and carrying case. Quick application and removal. X-ray translucent/MRI compatible. Wipes clean for reuse. Folds for compact storage	2	Nasco, USA Or Equivalent
NURSLAB:52	Ophthalmoscope & otoscope. Single handle with interchangeable otoscope and ophthalmoscope head. Otoscope Head Features - Standard illumination with pivoting triple-magnifying glasses - Vacuum Bulb. Ophthalmoscope Head Features: Correction lens wheel in stages from +20 to -20 dioptries - 1 Diaphragm - Vacuum Bulb Colour: Night (Black). Contents: Piccolight C Otoscope Head - Piccolight Ophthalmoscope Head - Battery Handle - (2 x Type AA) - Batteries Not Included - Colour-coordinated Cloth Bag - 10 x 2.5mm Disposable Ear Funnels - 10 x 4mm Disposable Ear Funnels.	2	Nasco, USA Or Equivalent

NURSLAB:53	Full-Size Human Skeleton with Muscles and Ligaments Should offer to demonstrate the movements of the skull via the head joints, and trunk to the fully flexible spine, adjustable in natural body postures. The unique combination of muscle should show origins and insertions, the numbered bones, flexible ligaments and flexible spine with a slipped disc between the 3rd and 4th lumbar vertebrae clearly including 600 structures.	2	SB49572U Nasco, USA Or Equivalent
NURSLAB:54	Human Blood Circulation Schematic The model should demonstrate three independent systems that work together: the heart (cardiovascular), lungs (pulmonary), and arteries, veins, coronary and portal vessels (systemic). The system is responsible for the flow of blood, nutrients, oxygen and other gases, and as well as hormones to and from cells.	2	Nasco, USA Or Equivalent
NURSLAB:55	The Nervous system back side chart Should explore body regions layer-by-layer for in-depth understanding. The near life-size, full-color illustration of the human body details human anatomy .A sequence of four transparent Mylar overlays allows the peeling away of layer after layer of tissue, progressing ever more deeply into the body.	2	Health Edco, USA Or Equivalent
NURSLAB:56	Internal Organs wall Chart The Abdomen with Internal Organs and Kidneys Sticky Anatomy Wall Chart is a self-adhering anatomical chart should easy to apply, dry-erasable and easily moved from one surface to another.	2	Health Edco, USA Or Equivalent
NURSLAB:57	The Snellen wall chart It should allow students to understand acuity. Standard Snellen hanging wall chart read with the patient standing at a distance of 20 feet or a specially designed pocket card (held at 14 inches).	2	Health Edco, USA Or Equivalent
	Anatomy Chart: Anatomy and Injuries of the Shoulder Anatomy and Injuries of the Shoulder Anatomical Chart should depict the bones, muscles, ligaments, veins and arteries of the shoulder. With Illustration of posterior, lateral, anterior and superior views of the shoulder anatomy, as well as the socket of a normal shoulder joint.	2	Health Edco, USA Or Equivalent
NURSLAB:58	Hip Knee Inflammation chart: This laminated anatomical chart - 20" wide x 26" high – should demonstrate general hip and knee anatomy, as well as hip joint capsule, acetabulum, bursa, ligaments of the knee, and detailed anatomy of a tendon. This chart also illustrates rheumatoid arthritis, synovial membrane, bursitis, osteoarthritis, tendinitis, and gout	2	Health Edco, USA Or Equivalent
NURSLAB:59	Whiplash Injuries Chart. This chart should display whiplash's potential injuries, such as hyper flexion, hyperextension, spinal ligaments, ligament damage, muscle injury and spinal cord injury.	2	Health Edco, USA Or Equivalent
NURSLAB:60	Arthritis join injuries Chart. Chart should depict pictorial form of the main types of arthritis including: Osteoarthritis; Rheumatoid arthritis; Fibromyalgia; Lupus and Gout.	2	Health Edco, USA Or Equivalent
NURSLAB:61	Understand osteoporosis Chart This chart, including bone density loss, progressive spinal deformity, and fractures in the hip, wrist and lower spine. It should enlist risk factors, prevention and management techniques and discusses bone density testing. Shows commons sites of osteoporosis on the body and how bone strength changes with age. This clear visual aid is easy to understand and perfect for patient education.	2	Health Edco, USA Or Equivalent
NURSLAB:62	Preventing Cardiovascular Disease Folding Display It should Perfect for any event promoting cardiovascular health, this folding should display highlights several primary actions that anyone can take to help prevent cardiovascular disease.	2	
NURSLAB:63	Cholesterol Flip Chart Should provide the Understanding of the ins and outs of cholesterol can be as sticky as the substance itself. This six-panel, 12" x 17" flip chart should cover what cholesterol is, the difference between "good" and "bad" cholesterol, blood cholesterol level testing, the connection between cholesterol and cardiovascular disease, uncontrollable and controllable risk factors, and ways to improve cholesterol levels.	2	Health Edco, USA Or Equivalent
NURSLAB:64	Headache Chart. Top of the head = parietal ; vertex is the top most part Back of the head = occipital . Side of the head = temporal . Front of the head = frontal	2	Health Edco, USA Or Equivalent
NURSLAB:65	Understand Stroke Chart Aids in discussion of specific client deficits and needed therapy. Helping the students understand effects of stroke. Features medical terminology and excellent graphics. Laminated with flexible plastic • 20" x 26"	2	Health Edco, USA Or Equivalent
NURSLAB:66	Understand Epilepsy Chart. causes of epilepsy. illustrates how the brain works defines seizures including the phases of a seizure. Also should cover: the symptoms of epilepsy. what to do if someone has a seizure. diagnosing epilepsy. various tests used to diagnose. Laminated with flexible plastic • 20" x 26"	2	Health Edco, USA Or Equivalent
NURSLAB:67	Diseases of the digestive system chart. Should Include the following: Cancers of the esophagus. Barrett's esophagus. Esophageal varices. Cirrhosis. Fatty liver. Hepatitis (viral and bacterial). normal liver. Gallstones. Gastric and duodenal ulcers. Adenocarcinoma of stomach and pancreas. Gastritis. Pancreatitis. Cancers of the colon. Colonic polyps. Diverticulosis of the colon. Ulcerative colitis. Inflammatory Bowel Disease. Crohn's disease. Hernia (hiatal and inguinal). Hemorrhoids (internal and external). obstruction of the appendix	2	Health Edco, USA Or Equivalent
NURSLAB:68	Understand Ulcer Chart. Defines ulcer. Depict the stomach and cross sections of esophagus, duodenum and stomach layers. Illustrates what causes ulcers (erosion, acute and perforating). Also includes small photos of the types of ulcers. Illustrates how ulcers heal. Dimensions: 20" x 26". Our charts have 2 mounting styles: unmounted (paper) and flexible lamination (1.5mil).	2	Health Edco, USA Or Equivalent
NURSLAB:69	Diseases of the Urinary Chart. Chart should be in poster size (66cm x 51cm) laminated. The special plastic lamination process protects the charts from damage, helps prevent yellowing and soiling and keeps the charts in good condition. Lamination on the charts with special water soluble markers and then wipe clean	2	Health Edco, USA Or Equivalent
NURSLAB:70	Understand Asthma Chart. Should show pulmonary vein with alveoli exudates	2	Health Edco, USA Or Equivalent
NURSLAB:71	Understanding the common cold chart. Illustrates and discusses the role of the nose, paranasal sinuses, throat and tonsils, ear, and trachea and bronchi	2	Health Edco, USA Or Equivalent
NURSLAB:72	Danger of Smoking Chart Laminated chart which illustrates the common dangers of smoking: chronic bronchitis, emphysema,	2	Health Edco, USA Or Equivalent

	lung cancer, bladder cancer, stroke, mouth and throat cancer, heart disease, gastric ulcer, and fetal risk. Compares a healthy lung to a smoker's lung.		
NURSLAB:73	Danger of Cancer Chart. Should depict the types of gene and the sequence of cell cycle including risk factors. It should show different stages of malignant & non malignant tumors.	2	Health Edco, USA Or Equivalent
NURSLAB:74	Understanding HIV and Aids Chart. Defines HIV (Human Immunodeficiency Virus) and AIDS (Acquired Immunodeficiency Syndrome). Describes risk factors and how HIV is transmitted. Illustrates and explains the steps in the HIV lifecycle. Describes and graphs what happens to T-cells and HIV RNA during the stages of HIV infection, from the acute stage to advanced HIV. Lists signs and symptoms and briefly explains testing and treatments. Describes symptoms and shows locations of several AIDS-related diseases	2	Health Edco, USA Or Equivalent
NURSLAB:75	The Prostate Chart This informative chart should show a variety of views of a normal prostate, including sagittal, posterior, superior and anterior. It also shows zones of the prostate, vasculature and innervation. Hormonal influence on the prostate, as well as the glands of the prostate., are displayed. Also shows benign prostatic hyperplasia, prostate cancer and pathways for prostate cancer spread.	2	
NURSLAB:76	Infertility Chart Should define infertility and illustrates an ovum (egg) and spermatozoon (sperm). Defines semen analysis. Illustrates female internal genital organs and early cell division of a zygote. Describes and shows fertilization and implantation and blocked fallopian tubes. Lists common causes of infertility in both men and women.	2	Health Edco, USA Or Equivalent
NURSLAB:77	Disorders of the eye chart This colorful anatomical chart should present a graphic representation of diseases of the human eye. The poster should cover several aspects of diseases of the eye. Printed on premium glossy (200g) paper. Convenient Poster size 50x67cm (20x26").	2	Health Edco, USA Or Equivalent
NURSLAB:78	Understanding middle ear infection chart The Middle Ear Infections chart should provide detailed overview of the causes, symptoms, and treatments for otitis media, or infection of the middle ear. Acute otitis media, otitis media with effusion and Eustachian tube dysfunctions are explained through graphics and type. Heavy cover stock with protective varnish for durability.	2	Health Edco, USA Or Equivalent
NURSLAB:79	Disorders of the Teeth and Jaws chart Chart should show with detailed labeled illustrations normal anatomy of the tooth and various tooth and jaw disorders. The central image is a longitudinal section of a normal tooth The following tooth disorders should be illustrated and labeled. periodontal disease, three stages of dental caries, abscess formation. Normal anatomy of the mandible and temporomandibular joint shown with details of jaw opened and closed The following jaw disorders are illustrated and labeled: anterior dislocation of the TMJ, TMJ deterioration from osteoporosis, impaction - horizontal and mesioangular, glandular problems Also should include 12 dental anomalies: enamel hypoplasia, fusion, germination, microdontia, macrodontia, toothbrush abrasion, hypodontia, hyperdontia, pulp polyp, dens invaginatus, attrition, and erosion.	2	Health Edco, USA Or Equivalent
NURSLAB:80	The maturing body chart understanding Alzheimer's Chart This laminated Alzheimer's Disease chart that explains the mechanism and effects of the disease. The Alzheimer's poster: Defines Alzheimer's Disease (AD) and discusses the aging brain, dementia and diagnosing AD. Lists risk factors and describes the 3 main stages of Alzheimer's Disease. Provides key management techniques for both the patients and their families and caregivers. Illustrates and discusses the areas of the brain affected by the disease, amyloid plaques (also called senile plaques) and physical changes to the cerebral cortex.	2	Health Edco, USA Or Equivalent
NURSLAB:81	Understanding Mammography Display Equipped with high-bright LED backlights, Barco's Coronis 5MP LED renders more JNDs (Just Noticeable Differences) to help you see more shades of gray. Additionally, Per Pixel Uniformity ensures every pixel is DICOM-compliant at all times, which increases contrast to noise ratio. Subtle details become more noticeable more quickly, resulting in reduced windowing and leveling time.	2	Health Edco, USA Or Equivalent
NURSLAB:82	Understanding breast diseases chart (Book) It should include definition of breast cancer Illustrates and describes the most common types of the disease - DCIS and IDC Also illustrates normal breast anatomy with major structures labeled illustrates and describes the stages of breast cancer lists signs and symptoms and causes of breast cancer Provides an easy to follow diagram and instruction for breast self-examination (BSE).	2	Health Edco, USA Or Equivalent
NURSLAB:83	The Portable Chart Stand. Lightweight, black aluminum chart stand ,it will hold up to 25 same format charts. Chart grommets fit into adjustable floating rings. Charts flip up and over for convenient viewing. Size: 28" X 53", weight 8 lbs.	2	Health Edco, USA Or Equivalent
A-4 Specimen			
NURSLAB:84	Med Histology Slide set of 100 Providing a microscopic look at the anatomy of animal cells and tissues, this comprehensive collection helps students learn to identify different organs and tissues.	2	Carolina,USA Or Equivalent
NURSLAB:85	Human Stomach The stomach model that shows the different and individual layers of the stomach wall. The front half of the stomach should be removable for detailed study of the anatomy of the human stomach. The replica of the stomach should depict: Lower esophagus Vessels Nerves The stomach is a high quality anatomical replica great for use in the doctor's office or classroom. Stomach delivered on stand.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:86	RIGHT KIDNEY AND ADRENAL GLAND The vinyl-plastic Anatomical Kidney Model, complete with adrenal gland and proximal portion of the ureter, swings should open to expose its internal anatomy, including: the cortex, medulla, major and minor calyces, renal columns, pelvis and the ramifications of the renal artery and vein.	2	3b Or Equivalent
NURSLAB:87	Human Placenta	2	SB50983U Nasco,

	A cell-based model of the human placenta which can help to explain how pathogens cross from mother to unborn child.		USA Or Equivalent
NURSLAB:88	Human Fetus This should ideal model for training the main principals of baby care in prenatal classes for young parents. It should allow dressing, undressing, washing, changing diapers, and more. Due to the realistic size of a newborn infant you can use ordinary baby clothes. The dolls should have movable joints, their eyes are slightly opened, are anatomically correct and the front fontanel can be felt. About 21 inches long.	2	SB50978U Nasco, USA Or Equivalent
NURSLAB:89	Human Cardiopulmonary system The model should able to simulates physiological features such as the arterial blood pressure waveform, end-diastolic left ventricular volume, coronary capillary flow, pleural pressure, and arterial oxygen concentration. On simulating certain interventions by changing model parameters in the "Inputs" page. For example, the parameter for pulmonary valve resistance (Rpuv) can be increased to simulate pulmonary valve stenosis	2	SB17752U Nasco, USA Or Equivalent
NURSLAB:90	Human Appendix Features: This model should Show wall of the caecum and appendix. Separated into 2 parts and 17 positions are displayed. Specifications: Size: 16.5cmx11cmx7cm. Material: Advanced PVC. G.W.: 0.75kg	2	Denoyer Geppart USA Or Equivalent
NURSLAB:91	Human Larynx. The Human Larynx Anatomy Model should be in two-part anatomy. The larynx model is divided into two halves. The medially sectioned larynx model should show Larynx, Hyoid bone, Windpipe, Ligaments Muscles, Vessels, Nerves, Thyroid gland. Specification: The Human Larynx Anatomy Model is 3.5 x 3.5 x 5.5 in and weighs 0.33 lbs.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:92	Human Spleen. High quality polygonal model, correctly should depict an accurate representation of the original object. Model of spleen showing the surrounding vessels, on stand. Size 13 x 13 x 20 cm approx. Weight 240 g approx.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:93	Human MICRO ANATOMY OF ARTERY AND VEIN The artery and vein model should depict a medium-sized muscular artery with two adjacent veins from the antebrachial area with adjoining fat tissue and muscle enlarged 14 times. It should include: Various layers of wall structure in Cross & longitudinal sections. Flap valves. Duplication of tunica adventia	2	Denoyer Geppart USA Or Equivalent
NURSLAB:94	Human Heart Model: Should be separable in two parts vertically including four chambers. Should demonstrate following features. Ascending, transverse, descending aorta. Mitral valves. Tricuspid valves, semilunar valves. Conduction system. Coronary arteries. Should facilitate a better understanding of the anatomy and blood flow of the heart in cardiac valves during diastole and on the systole	2	3B Or Equivalent
NURSLAB:95	Human Nerve System. This nervous system relief model should show a schematic representation of the central and peripheral nervous system. ½ life size	2	3B Or Equivalent
NURSLAB:96	Human Dura Mater. Life size. Dissect able into 2 parts. Shows the dura in proportion to the sinus dura mater, the 12 pairs of cranial nerves, and arteries at the base of the brain. Size, 18 x 21 x 23 cm.	2	3B Or Equivalent
NURSLAB:97	Human Knee Joint Should be functional knee joint model with ligaments that show the anatomy and possible physiological movements of the human knee joint in exceptional detail. This model should demonstrate abductions, ante version, retroversion, internal and external rotation. This knee joint model also clearly defines the ACL and PCL. This model should consist of portions of the femur, tibia and fibula, menisci and patella.	2	3B Or Equivalent
NURSLAB:98	Human Skull Model with Brain The 3-part medical quality human skull replica is a first choice for basic anatomical studies of the skull. This skull model includes an anatomically correct 5-part brain. This medical grade skull model also makes a great present for medical professionals and students of medicine and allied health professions. High quality original skull cast Skull is handmade from hard, unbreakable plastic. Highly accurate representation of the fissures, foramina, processes, sutures etc. Can be disassembled into skull cap, base of skull and mandible. Mandible of skull is mounted on a spring to easily demonstrate natural movement	2	3B Or Equivalent
Specimen			
NURSLAB:99	Male Torso with Head 20 parts. The 3B Scientific Deluxe Torso offers all possibilities needing for detailed demonstrations in human anatomy and other areas including human torso. The hand painted human torso model contains the following removable parts and organs: 3-part head. 2-part heart. 2-part stomach. Liver with gall bladder. 4-part intestine tract. Front half of kidney. 2 lungs with sternum and rib attachments. 4-part male genital insert	2	3B Or Equivalent
NURSLAB:100	Torso with Head 20 parts. This life-size model of a human torso should be ideal for teaching anatomy in schools and universities. including: Half brain (with arteries). Eye and optic nerve. 2 half lungs with ribs and sternum. Female and male genital organs. Piece Small and Large intestine.	2	3B Or Equivalent
NURSLAB:101	Luxury Torso without Head two sex with pregnancy insert 24 parts The 3B Scientific Deluxe Torso should offer all possibilities for detailed demonstrations in human anatomy and other study subjects. The human torso model contains these removable parts and organs: 3-part head. 2-part stomach. Female chest wall. 2 lungs. 2-part heart, Liver with gall bladder. 4-part intestinal tract. Front half of kidney. 4-part male genital insert. 3-part female genital insert with fetus	2	Denoyer Geppart USA Or Equivalent
NURSLAB:102	Multi Torso. Should include 43 dissected or dissectible structures, 25 detachable part. You get complete musculature on one side and skin and surface topography on the other. You get 11 life-size organ systems: skin, skeletal, muscular, nervous and sense organs, respiratory, cardiovascular, lymphatic, digestive, urinary, endocrine, and reproductive systems. With 5 interchangeable pelvic inserts - genderless, male, non-pregnant female, or pregnant female in the 1st or 3rd trimesters - you get 5 different torso models rolled into one.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:103	Female MUSCULAR FIGURE WITHOUT INTERNAL ORGANS, 1/2 SCALE The complete human anatomy in a convenient size. This 84 cm (2 foot 9 inch) high model is a half-size version of our life-size muscle figure and is a perfect choice for thorough demonstration of human musculature and internal organs where space is a concern. Exquisitely hand detailed and complete with 33 removable and/or dissectible parts It should include: 5 arm and shoulder muscles, 8 leg and hip muscles, 2-part removable heart, 2 removable lungs, removable 2-part male and 2-part female genital inserts, and detachable arm, leg, head and abdominal wall for detailed study.	2	Denoyer Geppart USA Or Equivalent

NURSLAB:104	Muscle Arm, 6 part, 3/4 Life This muscled arm model should illustrate both the superficial and deeper muscles, five of which are removable from the muscled arm. Tendons, vessels, nerves and bone components of the left arm and shoulder are should be in great detail on this muscle model. Parts numbered on muscled arm for easy identification of parts.	2	3B Or Equivalent
NURSLAB:105	Muscular arm on Stand 6 parts The following muscles should be depicted in this life-size muscular arm model: Deltoid muscles. Biceps muscle of arm. Triceps muscle of arm. Long palmar muscle with radial flexor muscle of wrist. Brachioradial muscle with radial extensor muscle of wrist	2	Denoyer Geppart USA Or Equivalent
NURSLAB:106	FULL SIZE MUSCLE ANATOMY OF THE LOWER EXTREMITY, SEVEN-PARTS Mounted upright on a detachable support base, our deluxe life size lower extremity reproduction incorporating the muscles, tendons and nerves of the hip, thigh, leg, ankle and foot. You can disassemble the model into a total of seven component parts. First, detach the thigh from the lower leg (2) just below the knee: (3) biceps femoris (long head) along with the semitendinosus, (4) sartorius, (5) gluteus maximus, (6) rectus femoris, (7) gastrocnemius. Overall dimensions: 51x13x16 inches (130x33x41cm)	2	Denoyer Geppart USA Or Equivalent
NURSLAB:107	Muscle leg of the stand 9 parts The muscular leg model should illustrate both the superficial and deeper muscles, eight of which are removable. Tendons, vessels, nerves and bone components of the left leg and foot are shown in great detail in the muscular leg. All parts of muscular leg should be numbered. Muscular leg should be deliverable on removable stand.	2	3b Or Equivalent
NURSLAB:108	FULL-SIZE MUSCLE ANATOMY OF THE UPPER EXTREMITY, SIX-PARTS. This deluxe life size should interpret the muscles, tendons and nerves of the shoulder, arm, wrist and hand. To expose deep-lying structures, you can detach the following muscles: (1) deltoid, (2) biceps, (3) triceps, (4) palmaris longus with flexor carpi radialis, (5) brachio radialis with extensor carpi radialis brevis. Overall dimensions: 16x19x19 inches (41x48x48cm)	2	Denoyer Geppart USA Or Equivalent
NURSLAB:109	Muscle of the foot. This anatomically detailed model of the foot and lower leg should be disassembled into 6 removable parts for detailed study of the foot and ankle. The foot skeleton features not only the bones but also the muscles, tendons, ligaments, nerves, arteries, and veins of the foot. The frontal view of the foot model features the extensor muscles of the lower leg.	2	3b Or Equivalent
NURSLAB:110	Human Smooth muscles structure. Should depict All components of smooth cell: filament bodies; cavoli; actin, myosin, sarcomeres. It should include the part of human body containing smooth cell & its types.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:111	Skin Block Model, 70 Times This unique skin model should show a section of human skin in three dimensional form. Individual skin layers should be differentiated, and important structures of the skin such as hair, sebaceous and sweat glands, receptors, nerves and vessels shown in detail. This model of skin block model should be mounted on baseboard This skin block model details the human skin in 70 times life size.	2	Health Edco,USA Or Equivalent
NURSLAB:112	Skin section Desk model 40 items The two halves of this skin relief model should show the three layers of hairy and hairless skin in order to make clear the differences of the skin layers. This skin model should feature detail with hair follicles, sebaceous glands, sweat glands, receptor, nerves and vessels. This skin model is a great tool for demonstrating the anatomy of the human skin. Skin section delivered on base. The Skin section is 40 times full size.	2	Health Edco,USA Or Equivalent

A-6 Skeleton Models

NURSLAB:113	Human Skeleton standard mobile Hanging Stand This model stand should be made of a durable plastisol polymer design to be easily cleanable and withstand high temperatures.	2	SB02011U Nasco, USA Or Equivalent
NURSLAB:114	Human Skeleton Muscles Numbered Bones Joints and Flexible Spinal The Skeleton Anatomy Model should be an anatomy model from 3B Scientific and manufactured in Germany to demonstrate the movements of the skull and head joints as well as all natural human postures due to the fully flexible vertebral column. The unique combination of flexible vertebral column, muscle origins and insertions, numbered bones, flexible joint ligaments and a disc prolapse between the 3rd and 4th lumbar vertebrae display over 600 structures of medical/anatomical interest in this top human skeleton model. Should be Perfect for in depth study of the human skeleton and more.	2	3b Or Equivalent
NURSLAB:115	Human Skeleton with Joint ligaments Skeleton model should offer the functional and anatomical connections between the bones and the ligaments. Its elastic ligaments on the larger joints (shoulder, elbow, hip and knee) should be incorporated on the right side of the skeleton.	2	Carolina,USA Or Equivalent
NURSLAB:116	Human Skeleton with flexible spinal column The spine should be fully flexible and designed for hands-on demonstrations. The spine should contain these features: Full male pelvis and occipital plate, Fully flexible mounting in spine. L3-L4 disc prolapsed on spine. Spinal nerve exits. Cervical vertebral artery	2	3b Or Equivalent
NURSLAB:117	Skeleton Torso. Should contain following feature: Flexible spine with rib cage and shoulder showing: the cervical plexus and the brachial plexus, also showing sub occipital triangle and greater occipital nerve, anterior, medias and posterior scalene, longus capitis and longus colli muscles.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:118	General Surgical Skeleton Model: This life-size articulated with plastic skeleton should be ideal for teaching the basics of human anatomy. The arms and the legs should be removable for study. Features nerve branches, vertebral artery and herniated lumbar disc. The skull includes movable jaw, cut calvarium, suture lines and 3 removable lower teeth. Made of washable and unbreakable PVC plastic.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:119	Vertebral Column Model: This incredible spine model should include a female pelvis. The spines should fully flexible, allowing for realistic demonstration and portrayal of natural human movement. It should include flexibly mounted femur heads, a herniated disc, spinal nerves and arteries, all intervertebral discs, and occipital plate. It should depict real human skeleton to capture all of the bony landmarks and elements. This provides as much detail and accuracy as possible, aside from purchasing an actual cadaver. It must be accompanied with the simple metal stand	2	Denoyer Geppart USA Or Equivalent

		for hanging and display.		
NURSLAB:120	Hyoid Bone This should be a realistic replica of the human hyoid bone. The hyoid bone may be mounted on a non-removable stand for easy display. Useable detailed anatomy study.	2	Denoyer Geppart USA Or Equivalent	
NURSLAB:121	Cervical Spinal Column: It should Consists of, occipital plate, the 7 cervical vertebrae with intervertebral discs, cervical nerves, vertebral arteries and spinal cord. The cervical spinal column on flexible stand.	2	3b Or Equivalent	
NURSLAB:122	Lumber Spinal Column The human lumbar spinal column should Consists of the 5 lumbar vertebrae with intervertebral discs, sacrum with flap, coccyx, spinal nerves and dura mater of spinal cord. This should depict accurate anatomical detail for use in any anatomy classroom. The lumbar spinal column should be delivered on a removable high quality stand.	2	3b Or Equivalent	
NURSLAB:123	Female Pelvis Skeleton with Genital Organs, 3 Part: This female pelvis skeleton model is should be suitable for studying female genital organs in the context of their anatomical position in the pelvis. It should consist of female pelvis with a movable symphysis, hip bone, sacrum, coccyx, 2 lumbar vertebrae and a female genital insert with rectum. Womb and bladder can be removed for more detailed anatomical study	2	Health Edco,USA Or Equivalent	
NURSLAB:124	Female Pelvis Model: This high quality anatomy model of the female pelvis should include 2 lumbar vertebrae and a pair of femur heads. All bones cast from original human specimens, providing the highest level of anatomical detail. The model should not be dissectible, however should feature flexible assembly to demonstrate sliding movements and rotational movements between pelvis and sacrum. Measures 10.25 x 9.8 x 9.8 inches and weighs approximately 4 pounds.	2	Health Edco,USA Or Equivalent	
NURSLAB:125	Flexible Joint Model Set: Should follow the position and interplay of bones and ligaments in these four joint models. Features shoulder, knee, hip, and elbow joint models. Each model comes with its own stand.	2	3B Or Equivalent	
NURSLAB:125	FUNCTIONAL SHOULDER JOINT MODEL: This high quality life-size functional <u>shoulder joint model</u> should depict the <u>anatomy</u> and mechanics of the shoulder joint. Consisting of the scapula, clavicle, portion of humerus and joint ligaments, this fully flexible <u>shoulder joint model</u> clearly demonstrates abduction, ante version, retroversion and internal/external rotation.	2	3b Or Equivalent	
NURSLAB:126	Movable Wrist Joint: A life-sized model that depicts all mechanics of wrist joint include pronation supination, extension & flexion. It should include inter connected ligaments with the point of insertion .This should include portion of radius ,ulna and bone of wrist.	2	SB46562U Nasco, USA Or Equivalent	
NURSLAB:127	Movable Knee Joint This should demonstrate abductions, ante version, retroversion, internal and external rotation. This knee joint model also clearly defines the ACL and PCL. The color of the natural-cast bones of the knee joint should extremely realistic. The cartilage on the knee joint surfaces should be differentiated. This model consists of portions of the femur, tibia and fibula, menisci and patella. The Functional Knee joint model should be mounted on a base for easy display.	2	SB46562U Nasco, USA Or Equivalent	
NURSLAB:128	Movable Ankle Joint Should Comprise the lower halves of the tibia and fibula with the bones of the foot and ankle to show the range of natural movement.	2	SB46562U Nasco, USA Or Equivalent	
NURSLAB:129	Knee Joint Functional Model This high-quality deluxe functional <u>knee joint model</u> with ligaments shows the <u>anatomy</u> and possible physiological movements of the human <u>knee joint</u> in exceptional detail.	2	SB41404U Nasco, USA Or Equivalent	
NURSLAB:130	Hip Joint Functional Model The life-size right hip joint model should allow to understand the features of detachable ligament system allowing a complete view of each bone, ligament and cartilage. The ligaments should be made of an indestructible, sturdy elastic material for years of durable use. The ligaments' flexibility should allow the demonstration of the all of the natural movement of the hip and femur joint including raising of the thigh (ante version), retracting of the thigh (retroversion), lifting up of the thigh to the side (abduction), inner and outer rotation	2	3b Or Equivalent	
NURSLAB:131	Shoulder Joint Functional Model. This life sized model of the right shoulder joint should feature an exclusive detachable ligament system making it fully functional and allowing a complete view of each bone, ligament and cartilage. The ligaments should be made of an indestructible, hard elastic for years of durable use.	2	3b Or Equivalent	
NURSLAB:132	Functional Model of Hand Finger Joint Natural size, with the following movements: Flexion and extension, abduction and adduction, opposition and reposition of the thumb, dorsal and palmar flexion, radial abduction and ulnar abduction of the hand. Removable from stand with base.	2	Denoyer Geppart USA Or Equivalent	

A-7 Natural Skeleton

NURSLAB:133	Artificial Human Female Skeleton with Stand articulated. A miniature model, it should stand at 31 inches tall, making it very convenient for busy classrooms and offices. it should include a great amount of accurate detail. It should depict the skeletal structure of the human body, and accurately displays the muscle insertion and origin points.	2	Health Edco,USA Or Equivalent
NURSLAB:134	Artificial Human Male Skeleton with Stand articulated Must be provided with a stable metal stand with following features. Exceptional value for money. 3 year guarantee. Top quality natural casting. Final assembly carried out by hand. Made from a durable, unbreakable synthetic material. On a stable metal stand with 5 casters (painted white). Close to the realistic weight of around 200 bones. Natural skeleton size. 3 part assembled skull. Individually inserted teeth. Limbs can be removed quickly and easily. Skull with magnetic connections	2	Health Edco,USA Or Equivalent
NURSLAB:135	Human Skeleton Muscle numbered Bones Joints and Flexible Spine This model must allow to demonstrate the movements of the skull and head joints as well as all natural human postures due to the fully flexible vertebral column. The unique combination of flexible vertebral column, muscle origins and insertions, numbered bones, flexible joint ligaments and a disc prolapse between the 3rd and 4th lumbar vertebrae display over 600 structures of medical/anatomical interest in this top human skeleton model. Perfect for in depth study of the human skeleton and more.	2	Health Edco,USA Or Equivalent
NURSLAB:136	Artificial Bauchene Skull of an adult	2	3b

	Natural cast, made of somo-plast. Natural representation of bone structure in all anatomical details. All the bones should be mounted on a plastic base corresponding to the shape of the skull, and can be removed from this base: Frontal, parietal (2), temporal (2), zygomatic (2), nasal (2), occipital, Maxilla (2) with lacrimal (2), inferior nasal concha (2) and palatine (2), Vomer, ethmoid, sphenoid, Mandible. Particularly suitable for demonstrations as a result of a joint stand. Model separates into 22 parts.		Or Equivalent
NURSLAB:137	Artificial Human Skull It features great detail in the sutures, foramen and reproduction of the bony structures. Natural cast, in somo -plast with Removable vault.	2	3b Or Equivalent
NURSLAB:138	Human Skeleton Un assembled This life size disarticulate male human skeleton should be of high quality, medically detailed, perfect for teaching and learning of various bones of an adult. It includes 3-part skull, 23 intervertebral discs, with one hand and one foot on wire. Material: High Quality PVC with Laminated Skeletal System.	2	3b Or Equivalent
NURSLAB:139	Disarticulated Skeleton Male Plus Box This life size disarticulate male human skeleton should be of high quality, medically detailed, perfect for teaching and learning of various bones of an adult. It should include 3-part skull, 23 intervertebral discs, with one hand and one foot on wire. Material: High Quality PVC Should be included with Laminated Skeletal System Anatomical Chart (Poster)	2	3b Or Equivalent
NURSLAB:140	Atlas and Axis. This should be as a realistic replica of the human atlas and axis bones. The bones should wire mounted together, no stand.	2	3b Or Equivalent
NURSLAB:142	Cervical Vertebral Column. This model should contain seven cervical vertebrae, occipital plate, intervertebral discs, cervical nerves, vertebral arteries, and spinal cord for detailed examination. The model should be mounted on a flexible stand for display, is 7.5" tall, and weighs 0.66 lb.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:143	Thoracic Vertebral Column. This spinal replica should consist of the 12 thoracic vertebrae with intervertebral discs, thoracic nerves and spinal cord. Spinal column should be provided on flexible stand.	2	Health Edco,USA Or Equivalent
NURSLAB:144	Lobs of Vertebral Column. This human skull replica should be flexibly mounted on a cervical spine. Features must include the hindbrain, spinal cord, cervical nerves, vertebral arteries, basilar artery and rear cerebral arteries. Skull can be removed from stand. High quality original human skull cast. Skull should be handmade from hard, unbreakable plastic. Highly accurate representation of the fissures, foramina, processes, sutures etc. Can be disassembled into skull cap, base of skull and mandible. Mandible of skull should be mounted on a spring to easily demonstrate natural movement	2	3b Or Equivalent
NURSLAB:145	Skeleton of the arm with shoulder girdle Natural cast, in somo-plast. Should be Mounted on wire. Feature Includes: Scapula, Clavicle, Humerus, Radius, Ulna, Hand, Length: 88 cm, Weight: 660 g	2	Denoyer Geppart USA Or Equivalent
NURSLAB:146	Skeleton of the lower extremity with Pelvis Should Cast from natural specimen in SOMSO-Plast. Mounted and movable. Weight: 1.75 Lbs, Weight: 3.858085 Kg Dimensions (cm): Length: 100 cm Width: cm Height: cm Dimensions (In): Length 39-inch Width 0 inch Height 0 inch. This model should demonstrate femur, tibia, fibula, patellar bone, Tallus with the physiological mechanics with the attached ligaments.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:147	Hand Bone Full size solid cast of hand, wrist and forearm bones features: distal, middle and proximal phalanges, distal and proximal phalanges of the thumb, metacarpal bones, thenar muscle, palmar carpal ligament, median nerve, flexor digitorum superficialis and profundus tendons, triquetrum, pisiform, hamate, hook of hamate, palmaris longus tendon, interosseous membrane, radius and ulna. Ideal for clinical display and consumer education Model size: 11 1/2" x 3 3/4" x 1 1/4 Card size: 61/4" x 81/4" Suitable for Orthopaedics, Chiropractic Medicine, general anatomical study, podiatry, training for surgical dissection, sports medicine, or for patient education/demonstration of procedures. Life Size. Anatomically accurate. Well-made attractive white display stand.	2	3b Or Equivalent
NURSLAB:148	Hip Joint The mini hip <u>joint model</u> reduced to a half of natural size but should keep all of the functionality of larger <u>hip joint models</u> . In addition to the external anatomical structures, the hip joint cross-section should be mounted on the base, the medical or teaching can explain the happening from "within" the hip joint.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:149	Shoulder Joint. This should be life size deluxe shoulder <u>joint model</u> with ligaments. The <u>anatomy</u> and possible physiological movements of the <u>shoulder joint should</u> in remarkable detail. Clearly demonstrate abduction, anteversion, retroversion, internal and external rotation with this high quality shoulder model.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:150	Functional Model of the Knee Joint This life-size plastic model of the right knee should feature an exclusive detachable ligament system allowing a complete view of each bone, ligament and cartilage. The ligaments must be made of an indestructible, hard elastic for years of durable use. The ligaments' flexibility should allow demonstration of the full range of motion, including flexion, extension, inner and outer rotation. Can be removed from included stand. Made of durable SOMSO-Plast. Size: 13.5" x 7" x 7"	2	Denoyer Geppart USA Or Equivalent
NURSLAB:151	Elbow Joint The Elbow Joint Model should be of full-size right elbow bone that should include: humerus, radius and ulna, joint capsule, annular ligament of radius, oblique cord, radial collateral and ulnar collateral ligaments. This anatomical model should be rigid, and accompanied by patient education card and stand. Size: 8-1/2 x 2-1/4 x 4.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:152	Joint of Hand and fingers with Ligaments Natural size, made in SOMSO-Plast. It should Consists of the lower parts of ulna and radius, the carpal bones, metacarpal bones and the finger bones in connection with the ligamentous apparatus. Model should be one piece, on a stand with any base.	2	Denoyer Geppart USA Or Equivalent

NURSLAB:153	<p>Lumber Spinal Column The human lumbar spinal column model should consist of the 5 lumbar vertebrae with intervertebral discs, sacrum with flap, coccyx, spinal nerves and dura mater of spinal cord. This high quality spinal replica should have accurate anatomical detail for use in any anatomy classroom. The lumbar spinal column should be slightly flexible.</p>	2	Denoyer Geppart USA Or Equivalent
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A-8 Brain / Nerve System

NURSLAB:154	<p>Brain Model 4 Parts This 4-part brain model should medially have divided. All structures of the brain should be of hand-painted, numbered and identified in a product manual. The brain's right half can be disassembled into: Frontal with parietal lobes ,it should include Brain stem with temporal and occipital lobes Half of cerebellum</p>	2	3b Or Equivalent
NURSLAB:155	<p>Brain Model 8 Parts. Model of the human brain which is medially divided. Both halves of this brain can be disassembled into: Frontal with parietal lobes. Temporal with occipital lobes. Half of brain stem. Half of cerebellum</p>	2	Nasco, USA Or Equivalent
NURSLAB:156	<p>Brain Model with arteries 9 parts This medially divided deluxe brain model should show the brain arteries. The basilar artery of the brain should be removable for added detail. Both halves of this high quality brain model can be disassembled into: Frontal with parietal lobes. Temporal with occipital lobes. Half of brain stem. Half of cerebellum</p>	2	3b Or Equivalent
NURSLAB:157	<p>Brain 2 Parts This basic brain should be medially divided, anatomically accurate, life-size and unbreakable! The structures of the brain might be shown in one color, providing an introduction to the human nervous system and anatomy of the brain</p>	2	3b Or Equivalent
NURSLAB:158	<p>Brain 8 Parts This model should be based on XC-104D,should include 8 parts brain: frontal and parietal lobe, temporal and occipital lobe, encephalic trunk and cerebellum.</p>	2	3b Or Equivalent
NURSLAB:159	<p>Brain Ventricle This model should depict the both side ventricles of the brain, the 3rd and 4th ventricle and the Aquaeductus cerebri (Sylvius). The brain ventricles must be of life-size. This brain ventricle model should be provided on stand.</p>	2	Denoyer Geppart USA Or Equivalent
NURSLAB:160	<p>Base of the Head Should contain removable brain with arteries, natural size, made in SOMSO-Plast. The dura mater, the 12 pairs of cranial nerves and the basilar artery should be shown. The brain should be separable into 8 parts. Altogether in 9 parts. Base of the Head Model should be mounted on a green base.</p>	2	Denoyer Geppart USA Or Equivalent
NURSLAB:161	<p>Head Model 6 parts Featuring a removable 4-part brain half, with arteries. Eyeball with optic nerves is also removable. The nose, mouth cavity, pharynx, occiput and skull base should be exposed on one side. Mounted on baseboard.</p>	2	Denoyer Geppart USA Or Equivalent
NURSLAB:162	<p>Median Section of the Head This real model should show all relevant structures of the human head in great detail. The median section of the head should contain all the important anatomical structures. The quality model should be provided on a baseboard for easy display in a classroom or doctor's office.</p>	2	Denoyer Geppart USA Or Equivalent
NURSLAB:163	<p>Nervous System on the Head This nervous system relief model should show a schematic representation of the central and peripheral nervous system. An excellent nervous system model to study the structure of the human nervous system. This nervous system model should be of 1/2 life size The nervous system model is delivered on baseboard.</p>	2	3b Or Equivalent
NURSLAB:164	<p>Liver and Gallbladder. This 3B Scientific model should show the liver with: Ducts. Gall bladder. Pancreas, Duodenum. Vessels. Extra-hepatic ducts with gall bladder. Main pancreatic duct and their orifices. The anatomy of the liver with Gall Bladder, Pancreas and Duodenum is graphically should be illustrated.</p>	2	3b Or Equivalent
NURSLAB:165	<p>Motor Neuron Diorama. This model should provide Motor neuron diorama magnified more than 2,500 times, this motor neuron model should represent a fully three-dimensional reproduction of a motor nerve cell situated within a milieu of interacting neurons and a skeletal muscle fibre. The membranous envelope should have cut away from the neuron on the motor neuron model to expose the cytological ultra-structure, organelles and inclusions within the cell body. Branching dendrites, communicating synapses and a myelin-wrapped axon with node of Ranvier, project from the neuronal surface of the motor neuron model. A section of the axon lifts off of the motor neuron model to let you view the tightly-wound layers of the enveloping myelin sheath and neurolemma, as well as the Schwann cell which formed them. Motor neuron diorama mounted on a wooden base.</p>	2	3b Or Equivalent
NURSLAB:166	<p>Rigid Spinal cord with nerve branches. This spinal cord model should show a segment of the upper thoracic spinal cord and is laterally and longitudinally divided showing spinal nerve roots. It should approximately 6 times life size and comes on a baseboard. Height: 22 cm / 8.66 inches. Width: 20 cm., respectively 12 cm / 7.87 inches, respectively 4.72 inches. Depth: 12 cm / 4.72 inches. Weight: 400 g / 14.10 oz</p>	2	3b Or Equivalent
NURSLAB:167	<p>Spinal Cord with Nerves The Spinal cord model should illustrate the composition of the spinal cord, magnified to a scale of about 5:1. The spinal cord formed by a central channel surrounded by "gray matter" with an outer layer of "white matter". The base of the model should feature illustrations of the various cross-sections of the spinal cord through the white and gray matter at the neck, torso and lumbar and sacral regions. The Spinal Cord Model with Nerve endings must be supplied on a base.</p>	2	3b Or Equivalent
NURSLAB:168	<p>Spinal Cord in the Spinal Canal The model should show the brainstem and the spinal cord as well as the nerve branches up to the coccygeal plexus. On the left side the sympathetic trunk with its connections to the central nervous system should be shown. Spinal Cord in the Spinal Canal Model in one piece, mounted on a green base plate.</p>	2	3b Or Equivalent

	Sympathetic Nervous System	2	
NURSLAB:169	Neuron Model 1.Consists of two parts, including neuron body and neuron fiber. 2.Shows neuraxon hillock, dendritic arbor, neurofilament, etc. It should include Size: 2500 times life size, 38.5cm*28cm*13cm Material: Advanced PVC and Paint	2	3b Or Equivalent
NURSLAB:170	Transversly Striated Muscular Fiber With Motor end Plate Enlarged approx. 4000 times, made in SOMSO-Plast. Should be modelled from recent electron-microscopy. Mounted on green base. Height: 20 cm., width: 18 cm., depth: 18 cm., weight: 1 kg	2	3b Or Equivalent
NURSLAB:171	Fifth Cervical Vertebra Cervical Vertebra Model enlarged approximately 7 times, made of SOMO-Plast. The Fifth Cervical Vertebra Model, should show the spinal cord in transverse section with spinal nerves and spinal ganglion, artery and vein of the cervical vertebra. Fifth Cervical Vertebra Model in one piece, mounted on green board. Height: 28 cm / 11.02 inches. Width: 40 cm / 15.75 inches. Depth: 10 cm / 3.94 inches Weight: 1.6 kg / 3.52 Lbs	2	3b Or Equivalent

A-9 Organs of Sense

NURSLAB:172	Eye Ball Removable parts of this anatomical human eye model should include: Upper half of the sclera with cornea and eye muscle attachments Both halves of choroid with iris and retina Lens Vitreous humour This eye model is great for studying the anatomy of the human eye! Eye on base of bony orbit.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:173	Eye Model with Lid 8 Parts. Human Eye model, 5 times life size with 8 parts. Removable parts of the anatomical human eye model should include: Upper half of the sclera with cornea and eye muscle attachments. Both halves of choroid with iris and retina. Eye lens. Vitreous humor. Eyelid. Lachrymal system. Anatomical features around the eyeball	2	3b Or Equivalent
NURSLAB:174	Eye Balla / Approx 5 times Enlarged 6 parts Enlarged 5 times. Sectioned horizontally and separable into 6 parts. On base. Numbered with English Key Card. Upper half of the sclerotic membrane - 2, Retina with vitreous humour, lens, lower half of the sclerotic membrane. On base. Supplied with English Key Card. Size 13 x 13 x 21 cm approx. Weight 560 g approx.	2	3b Or Equivalent
NURSLAB:175	Eye Ball with part of Orbit. The Anatomical Eyeball Model enlarged approximately 3 times made in SOMSO-Plast. Features: Represented are all six muscles of the eye. The optic nerve is shown up to where it enters the base of the skull. The eyeball is sectioned horizontally. The Anatomical Eyeball Model separates into 8 parts: superior rectus and exterior straight muscle, upper half of the sclerotic membrane, choroid membrane and retina (2)vitreous humour. Lens orbit with base	2	3b Or Equivalent
NURSLAB:176	Deluxe Eight part Ear The Deluxe Eight-Part Ear should be of 5 times life-size, made in unbreakable vinyl. It provides a more complete perspective of the middle and inner ear structures within the temporal bone. The model should be displayable with all the skin peeled off the detachable auricle, exposing its cartilaginous structure, muscles, auricular arteries and nerves, as well as the entrance to the auditory canal. Sections of the petrous and mastoid portions of the temporal bone can be lifted off to expose the middle and inner ear chambers. The tympanic ring, as well as its see-through tympanic membrane and attached ossicles, can also be lifted out. The extractable labyrinth should be dissectible into three portions. Half of it, consisting of the semicircular canals and vestibule, demonstrates the sense of balance. Transparent tubing with colored liquid should represent two of the semicircular canals. An air bubble in each will move when tipped, demonstrating the canals' function in equilibrium. The other half of the labyrinth, upon removal, should show the vestibular and cochlear nerves, which join to form the auditory nerve. The cochlea itself should separate into halves to reveal cochlear, vestibular and tympanic ducts and the branching of the cochlear nerve	2	3b Or Equivalent
NURSLAB:177	Ear model: Should represent of outer, middle and inner ear. The human ear model should have removable eardrum with hammer, anvil and stirrup as well as 2-part labyrinth with cochlea and auditory/balance nerve. Ear on base.	2	3b Or Equivalent
NURSLAB:178	Labyrinth model: The labyrinth model should demonstrate with the major labyrinth structures including the superior semicircular canal, saccule and utricle, and the cochlea that can be dissected along its longitudinal axis. Anatomical model rod mounted for 360-degree view and study. Should include key card with 23 call outs.	2	3b Or Equivalent
NURSLAB:179	Section Through the Central Spinal of the Cochlea Enlarged 5 times, in somso-plast. The Scala of the vestibule, the Scala of the tympanum, the cochlea duct with tectorial membrane and organ of corti must be shown in one piece on a green base.	2	3b Or Equivalent

A-10 Organ of Respiration

NURSLAB:180	Lungs Model 7 Parts Showing larynx 2-parts removable, wind pipe with bronchial tree, heart 2-parts, removable, subclavian artery and vein, venacava, aorta, pulmonary artery, esophagus, 2 lungs front halves removable and diaphragm. On base. Supply with Key Card. Size: 42 x 30 x 14cm. Weight: 2Kg.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:181	Simulated Smokers Lungs This kit should feature simulated smoker's lungs and healthy pig lungs mounted side-by-side, facilitating comparison as they would be inflated with blows.	2	84349 Health Edco, USA Or Equivalent
NURSLAB:182	Heart Lung Table Model The model should illustrate the tracheobronchial system, the heart, the major vessels and the pulmonary vessels extending to sub segmental divisions. Separable into 4 parts.	2	HS8-2 Somso, Germany Or Equivalent
NURSLAB:183	Anatomy of Thorax The model should show a typical cross sectional view through the abdomen at the level of the T12 vertebra. The stomach, liver, kidney, spleen and other abdomen structures should be sectioned horizontally. Size:31*21*4cm	2	3b Or Equivalent
NURSLAB:184	Respiration Organa / Heart	2	3B Or Equivalent

	Fully three-dimensional and mounted on hardwood base, this life-size unbreakable plastic model should include lungs, trachea, heart, esophagus, and complete larynx with vocal cords, all in their natural position. The right half of the larynx can be removed, as well as the heart and half of the left lung, which exposes the bifurcation off the trachea and bronchial tree, the pulmonary arteries and veins. The heart splits in halves to show its four chambers and valves, thus providing understanding of the directional blood flow there. Pulmonary circulation should be easily traced, and with major vessels of the systemic circulation depicted, blood flow through the entire body can be demonstrated. 58 numbered structures should be identified in the corresponding key.		
NURSLAB:185	Lobule of the Lung with additional Model Pulmonary Alveoli 1. Lobule of the lung: enlarged approx. 150 times, made in SOMSO-Plast. Representation of lobule with arterial and venous circulation and bronchial branches. One acinus opens to show the alveolar duct. 2. Model of an adjacent alveolus: enlarged approx. 1000 times, made in SOMSO-Plast®. Representation of the alveolar wall, its vessels, the epithelial cover and the elastic and muscular elements On a stand with green base. Model in one piece.	2	3B Or Equivalent
NURSLAB:186	Larynx Model Enlarge 7 Parts This model of the human larynx should be twice the size of a normal larynx. The enlarged size allows users to see the anatomical details much more clearly than what can be observed on smaller models. This model is comprised of 7 different removable parts, each of which presents features of the larynx. This 7-part larynx model is medially sectioned, and includes the following structures: Larynx. Hyoid bone. Windpipe. Ligaments. Muscles. Vessels. Nerves. Thyroid gland Thyroid cartilage, 2 muscles and 2 thyroid gland halves are removable from larynx.	2	Denoyer Geppart USA Or Equivalent
NURSLAB:187	Larynx Model 2 Parts The larynx model should be into two halves. This medially sectioned larynx model should show: Larynx. Hyoid bone. Windpipe. Ligaments. Muscles. Vessels. Nerves. Thyroid gland	2	3B Or Equivalent
NURSLAB:188	Functional Larynx This functional larynx should depict the epiglottis, vocal cords and arytenoid cartilage. These parts are movable in the functional human larynx. Functional larynx should be rotatable on base.	2	0134-00 Denoyer Geppart USA Or Equivalent
NURSLAB:189	Larynx. This medially sectioned larynx model should show: Larynx. Hyoid bone. Windpipe. Ligaments. Muscles. Vessels. Nerves. Thyroid gland Thyroid cartilage, 2 muscles and 2 thyroid gland halves are removable from larynx.	2	3B Or Equivalent
NURSLAB:190	Human Larynx with tongue. The model should be dissected into 5 parts. The jaw should detachable, and the larynx medially divided. The tongue removable, and can also be divided in half. The sublingual and submandibular glands should be visible on the model. The model should be mounted on a display base made of durable SOMSO-Plast.	2	GS4 Somso, Germany Or Equivalent
NURSLAB:191	Nose and Nasal Cavities: Enlarged approx. 2 times, made in SOMSO-Plast®. Median section. The left half should show the bones of the base of the skull with removable upper and lower nasal conchae. Right half of the model should show the mimic muscles and the mucous membrane of the nose with removable nasal septum. Model separable altogether into 6 parts. SOMSO Nose and Nasal Cavities Model mounted on a green base.	2	
NURSLAB:192	Nose and Olfactory Set Nose and Olfactory Organ Set Two unbreakable plastic models should on one hardwood base depict the nose and nasal passages enlarged to 4 times their normal size. The model on the right should show the nasal septum, its arteries and veins, the inner group of olfactory nerve filaments, nasopalatine nerve, soft and hard palate, uvula and the cranial floor. The model on the left should depict the left nostril, olfactory nerve, bulb and filaments, sphenoid-palatine ganglion, communicating sinuses, arteries and veins, the pharyngeal orifice of the eustachian tube and the nasal conchae. The turbinate bone and nasolacrimal canal should also assessable.	2	0135-0 Denoyer Geppart USA Or Equivalent
NURSLAB:193	Cavities of Nose Mouth and Throat with Larynx Enlarged approximately twice, in SOMSO-Plast® Separates into ten parts: Upper part: Left side bones of skull. Right side mimic muscles. Median section through nasal cavity. Upper cavity of mouth. Upper region of throat. Lower part: Lower jaw. Removable tongue. Larynx. Pharyngeal wall. Sagittal section through larynx. On a removable green base. Height: 48 cm Width: 27 cm Depth: 38.5 cm. Weight: 5.9 kg	2	FS5 Somso, Germany Or Equivalent
NURSLAB:194	Eye in Scket with Assoc Struct Lecture Hall Model 5 times enlarged 11 parts This model should show both sides of an eye which should have enlarged 5 times. This model should show both sides of an eye which is enlarged 5 times. One side of the model shows the eye socket with a sagittal cutaway and the background to the eye and the electron microscopic fine structure of the retina be shown separately. On the other side it should show positioning of an eye with surrounded muscles and nerves. Size 33 x 23 x 20 cm approx. Weight 3.5 kg approx.	2	0182-0 Denoyer Geppart USA Or Equivalent
NURSLAB:195	Ear Giant Model 15 times full Size 3 parts At 15 times life-size, this 3-part human ear should be suitable for museums and special collections as well as large lecture halls and conferences. The giant ear should represent the outer, middle and inner ear. The auditory ossicles and the labyrinth with cochlea and vestibulocochlear nerve removable from the ear.	2	0133-0 Denoyer Geppart USA Or Equivalent
NURSLAB:196	Ear Should Represent of outer, middle and inner ear. The human ear model should have removable eardrum with hammer, anvil and stirrup as well as 2-part labyrinth with cochlea and auditory/balance nerve. Ear on base.	2	A310 Denoyer Geppart USA Or Equivalent

A-11 Vascular Systems (Heart / Vessels)

	Description	Qty	
NURSLAB:197	Heart of America	2	0821-00 Denoyer

	The Original Heart of America should be twice the size of a human adult heart to show detail and facilitate study. Three hinged portals should allow full access to heart chambers and valves. Attached portions of trachea and esophagus demonstrate their relationship to major vessels. Unbreakable vinyl model should be rotatable on wooden pedestal, or lifts off for pass-around viewing. Boasting about 63 cardiac structures, all of which should be number-coded and identifiable in a corresponding key Overall dimensions on base: 7x7x15 inches (18x18x38 cm).		Geppart USA Or Equivalent
NURSLAB:198	Series of Models Representing Congenital Organic Heart DFCT Consisting of 4 individual models. Heart Defects in SOMSO-Plast, it should include: Transposition of Great Vessels; Fallot s Tetralogy; Various Defects of the Ventricular Septum Total Atrioventricular Canal. Specifications: Weight: 1.75 kg. Description as for OS 7/1 to OS 7/4. Weight: 1.75 kg.	2	3B Or Equivalent
NURSLAB:199	Heart Model Full Size not to be Disassembled model. the human heart with this 4 dimensional take-apart model The 3" model should contain 32 detachable parts and display stand. Also includes Illustrated assembly guide and description of the anatomy along with some fun Q and A to test students' knowledge. Hand painted parts are medical education quality	2	3B Or Equivalent
NURSLAB:199	Hypertension Model This set of miniature anatomical model should demonstrate the parts of the body that can be damaged by hypertension. Includes brain, eye, heart, kidney, and artery models. Should provide with stand and key card that describe how hypertension affects these organs. Size: 6½" x 15" x 5".	2	3B Or Equivalent

A-12 Digestive Organs

NURSLAB:200	Set of Teeth of an Adult Natural size, consisting of 32 teeth in SOMSO-Plast® in a transparent box which can be opened. Height: 4 cm., width: 13 cm., depth: 9 cm., weight: 100 g	2	0829-26 Denoyer Geppart USA Or Equivalent
NURSLAB:201	Dentition Development The dentition development model be in cast from a natural specimen, 4 upper and lower jaw halves, 4 different stages of dentition development: It should include: New born. Approx. 5-year old child. Approx. 9-year old child. Young adult Dentition development model on a stand.	2	3B Or Equivalent
NURSLAB:202	Adult Maxilla Mandible life size mandible moveable Weight 1.1 lbs. SKU SP018. Model of mandible of synthetic spongy material with gum gingivae for implantation practice.		3B Or Equivalent
NURSLAB:203	Development of as set of Teeth: This model set should consist of four sturdy life-size plastic models, mounted on single hardwood base, which trace the development of human jaws and teeth from birth through to adulthood. Each model should depict the right half of the maxilla and mandible cut open to expose the roots of the teeth and developing teeth within the jaws. The models should be colour-coded to identify deciduous, successional and superadded permanent teeth, including the jaws of newborn, 5 year old, 9 year old and adult.	2	0108-00 Denoyer Geppart USA Or Equivalent
NURSLAB:204	Series of teeth 6 Models This 11 Set of Five Models of Teeth - Enlarged approx. 8 times in Somso-Plast. Each tooth should have mounted on a stand with a base. Includes Lower Incisor, Lower Canine), Bicuspid, Lower Molar with Caries); (First Upper Molar with Three Roots. Weight 2.2 kg	2	0114-00 Denoyer Geppart USA Or Equivalent
NURSLAB:205	Stomach Model 2 Parts Human Stomach Model-2 Parts Science Labs Both longitudinal and circular muscles layers should be assessable. Life-sized model separable into 2 parts, cardiac and pylorus sections, showing mucous membrane, gastric canal, arteries, nerves, position of the peritoneum.	2	3B Or Equivalent
NURSLAB:206	Digestive System 4 Parts Life size model of the human digestive system from mouth to anus, including liver and gall bladder. A portion of the colon should be removable to show the internal structure. With the addition of a stomach cover. On base, Size 33x81x10cm	2	0143-00 Denoyer Geppart USA Or Equivalent
NURSLAB:207	Intestinal Villi Magnified hundreds of times, this model should replicate three of the more than 5 million villi that line the small intestine. This vinyl anatomy model should depict the intestinal villi's essential role in digestion and nutrient absorption. Each villus should display a different aspect of these intriguing anatomical features. One villus must be shown intact. Another displayed to reveal its network of arterioles and venules. The remaining should be sectioned to show its lymphatic vessels. The corresponding key should identify 23 numbered structures.	2	0142-00 Denoyer Geppart USA Or Equivalent
NURSLAB:208	Liver Model This liver anatomy model should explain the anatomy and function of this important organ in the digestive system. Should offers information on the following anatomical features: antero-visceral view of the kidney organ the location of the liver in the body in relation to other organs such as the stomach, lungs and colon. the distribution of vessels and ducts. the duct system with gallstones in common sites. two views of liver segments: visceral view with biliary draining areas and posterior view. portal system, liver lobule, including microscopic view. liver cirrhosis, including microscopic view	2	3B Or Equivalent
NURSLAB:209	Liver with Gall Bladder The Liver and Gallbladder Model should be full size liver with attached gallbladder in a cut-away section showing inner anatomy of gallbladder, including gallstone. Education card should be available with the Liver and Gallbladder anatomical model, as well as a sturdy plastic base.	2	0141-00 Denoyer Geppart USA Or Equivalent
NURSLAB:210	Pancreas with Spleen and Duodenum Left Size Natural size, in Somso-Plast®. On the pancreas, the pancreatic duct should be shown up to its aperture, the duodenum should be partly open. In one piece. On a stand with green base.	2	3B Or Equivalent
NURSLAB:211	Model of the Pancreas	2	3B Or Equivalent

	Model should be the 1000 times. The model should show the delicate histological formation of excretory and excretory parts of the pancreas with histological color. Separable into 2 parts. SOMSO Model of the Pancreas delivered on a base. Dimensions and Weight: Weight: 2 kg 4.4 lbs. Length: 11 cm 4.33 inches. Width: 33 cm 13 inches. Height: 26 cm 10.25 inches		
NURSLAB:212	Internal Surface of the Jejunum Enlarged approx. 400 times, made in Somso-Plast. The finger-like protrusions should represent villi, the cavities crypts. A surface section should show the histological formation of a villus (histological coloring). Model in one piece. On a stand with green base.	2	JS14 Somso, Germany Or Equivalent
NURSLAB:213	Human Liver Cell This should depict the organelle of liver cell including: Portal venules; portal arteriole, Bile duct, Endoplasmic reticulum, Nucleus, Endosome, Ferritin. Life-size model, mounted on a base.	2	3B Or Equivalent
NURSLAB:214	Dental Manikin Chair mount headrest. This chair manikin outfit should be ideal for auxiliary training in the dental study. The outfit should be the simplest. Chair Manikin includes: Chair Mount, Articulated Soft Gingiva Dentoform with Removable Ivorine® Numbered Teeth and Front Screws for Mounting Rubber Dams, Aluminal skull, Soft outer plassein Head (Fletcher).	2	Nasco, USA Or Equivalent
NURSLAB:215	Mr. Gross Mouth. This hand painted, 3-D model should illustrate: Gingivitis, carcinomas, and tooth decay. Should Include a 4"-wide cancerous tongue made of realistic life form. Should be provided with a jar of tobacco that can be used to make tobacco juice. 9" x 12" x 6".	2	79161 Health Edco, USA Or Equivalent
NURSLAB:216	Mouth Carrying Case. Transporting and storing Clean Mouth Model .Model should be easy with this convenient carrying case.		
NURSLAB:217	Giant Toothbrush Should demonstrate the correct method of brushing the teeth and gums. Bendable wire springs must allow for easy movement: open, close and grind. Model should measure 6" from molar to molar. Include a giant size, soft nylon bristle toothbrush. Toothbrush is 14-1/2" long. Teeth/gums cannot be flossed.	2	79161 Health Edco, USA Or Equivalent

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. Port of Shipment and Country of origin of "MAJOR PART(S) OF THE EQUIPMENT" must be clearly reflected separately in the Technical and Financial bids. The "Origin" means the place where the "goods" are mined, grown, or produced.
- iii. Priority would be given to the goods manufactured in UK / USA / EU / JAPAN.
- iv. 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.
- v. Equipment must be quoted with all the standard accessories.
- vi. UPS/Power protection for the equipment shall be incorporated in the systems, otherwise prices must be quoted separately.
- vii. All the civil works will be carried-out by the Peoples University of Medical & Health Sciences, Shaheed Benazirabad with the consultation of the responsive bidder.
- viii. Goods must be comply to the GMP & WHO standards. Bidder must provide procedures and services for DQ, IQ, OQ and PQ (if applicable).
- ix. All site specific work to be required in the system viz. Lead Glass/special antistatic flooring, environment control/radiation protection must be quoted separately.
- x. 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.

TERMS & CONDITIONS

1. The original brochure/catalogue must accompany with offer and the equipment should comply/certified at CE/FDA. Standards.
2. Quantity at any time can be increased / decreased or can deleted at any time.
3. The Bidder / Suppliers must confirm free installation/Demonstration at consignee's end.
4. Two years parts warranty, Two year free service from the date of installation, Service Contract and available of spare part may also be confirmed by the bidders.
5. The supplier will be bound to supply the price list of spare parts and consumable at the time of tender i.e. for two years.
6. The supplier will be bound to provide free service during applicable warranty period and to supply spare parts accessories of the supplied equipment on demand.
7. Joint inspection will be carried out by the consignee & representative of Bidder with technical assistance from concerned specialist/end user.
8. In case of CIF the bidder pay L.C charges. Transport to consignee end, certificate will be issued by the consignee that the import has been made for the university education purpose so as to avail the facility of exemption of duties/taxes as per Government rules. However there shall be no liability on the part of procuring agency regarding clearance of goods in case of import or any kind of charges paid there-of in clearance process.
9. In case of failure on the part of Supplier to Supply as per specification or within the stipulated time without getting extension, penalty will be imposed on the supplier as per rules.
10. The Successful bidders will be bound to carry out job according to specification provided in the BOQ with in specified time given in the supply order, failing which his earnest money shall be forfeited. The successful bidder has to furnish such undertaking in writing on the stamp paper of Rs: 100/-
11. The rates should be given inclusive of GST, Income Tax & any other government duty.
12. Income tax, G.S.T, Stamp duty & other applicable taxes and duties at the government prescribed rates are deductible from the bill.
13. The item(s) which is/are exempted from GST, the rates for the same must be quoted accordingly, stating clearly in BOQ, the cost of all those item(s) excluding G.S.T at the time of payment, no claim for GST shall be paid.
14. All those Suppliers who have been blacklisted by any Government Department, their bids shall not be entertained.
15. Suppliers must produce eligibility as per SPPRA rules. In case of non-production of eligibility tender forms will not be issued.
16. Conditional tenders will not be accepted.
17. Payment will be made on availability of funds, if delayed due to any reason; no extra interest / mark-up will be accepted / paid.
18. Rejected consignment shall be returned back to dealers / suppliers at their own cost.
19. An amount equivalent to 10 % of security deposit shall be withheld from the bills which will be refunded on satisfactory completion of the job, as per clause 12 of GCC of this bidding document.
20. The bid validity period shall be for 90 days after opening of tender.
21. Bid money to unsuccessful bidder shall be refunded after one week of tender opening on receipt of application on official letter pad.

Contractor

Sign with stamp

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW & Convener, C.P.C.
PMC Hospital Road, PUMHSW, (SBA)

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 10% 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 Peoples University of Medical & Health Sciences
Nawabshah, Shaeed Benazirabad.

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 followup / 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.

ARTICLES OF AGREEMENT

This Agreement made this _____ day of _____ 20__ (year), by and between *the* Registrar & chairman purchase committee PUMHSW SBA, Sindh, including his successors in office and Assignees / Agents, acting through the purchase officer people University of Medical Health Sciences for woman Shaheed Benazirabad, hereinafter called the “**University**”, of the one part,

And _____ (name and designation of the authorized person)
of located at _____, hereinafter called the “**Contractor**” which expression shall include their successors, legal representatives of the second part.

Whereas the **University** requires **Laboratory Equipment for the Community Medicine at PUMHSW** at Nawabshah , and whereas the **Contractor** has agreed to supply, install, put into operation and demonstrate the working of the said Equipment valued at Rs. _____ (in figures and words) in the period of _____ months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the **Contractor**.

(amount in figures and words)

Now this Agreement witnesses as follows:

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by _____ on behalf of the **Contractor**, and by _____ (name and designation of the authorized person) on behalf of the **University**, all of which shall be deemed (name and designation of the authorized person) be deemed to form and be read and construed as part of this **Agreement** viz.:
 - a) Articles of Agreement;
 - b) Instructions to Tenderers;
 - c) Conditions of Contract;
 - d) Contractor’s Offer including the relevant correspondence prior to signing of this Agreement with all Annexures duly filled in;
 - e) The specifications of the equipment; and
 - f) Bill of Quantity with prices.
3. In consideration of the payment to be made to the Contractor, the **Contractor** hereby **covenants** with the University to supply, deliver, install, put into operation and demonstrate the working of the Laboratory Equipment in conformity in all respects of the Contract & the order form No. _____.
4. The **University** hereby **covenants to pay** the Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the Laboratory Equipment the contact price in the manner prescribed by the Contract and approved by the University.

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

WITNESSES:

University _____

Contractor _____

Witness No.1:

Witness No.1:

Signature: _____

Signature: _____

Name: _____

Name: _____

Designation: _____

Designation: _____

Witness No.2:

Witness No.2:

Signature: _____

Signature: _____

Name: _____

Name: _____

Designation: _____

Designation: _____

2.1 Form of Bid Security (Bank Guarantee)

[Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: _____ *[Name and Address of Employer]*

Date: _____

BID GUARANTEE No.: _____

We have been informed that *[name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated (hereinafter called "the Bid") for the execution of *[name of contract]* under Invitation for Bids No. ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *[name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[amount in figures]* (*[amount in words]*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB") of the IFB; or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful bidder; or (ii) twenty-eight days after the expiration of the Bidder's Bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

[signature(s)]

2.2 Form of Bid Security (Bid Bond)

[Purchaser should insert this form in the bidding document **only if alternative language of ITB 15.3 is used in the Bid Data Sheet** (Section III 15.3)]

BOND NO. _____

BY THIS BOND *[insert name of Bidder]* as Principal (hereinafter called “the Principal”), and *[insert name, legal title, and address of surety]*, **authorized to transact business in** *[insert name of country of Purchaser]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Purchaser]* as Obligee (hereinafter called “the Purchaser”) in the sum of *[insert amount of Bond]* (*). *[insert amount in words]*, for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted a written Bid to the Purchaser dated the ___ day of _____, 20___, for the supply of *[insert name and/or description of goods]* (hereinafter called the “Bid”).

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- (1) withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
- (2) refuses to accept the correction of errors in its Bid Price in accordance with the Instructions to Bidders; or
- (3) having been notified of the acceptance of its Bid by the Purchaser during the period of Bid validity;
 - (a) fails or refuses to execute the Contract Form in accordance with the Instructions to Bidders, if required; or
 - (b) fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;

then the Surety undertakes to immediately pay to the Purchaser up to the above amount upon receipt of the Purchaser's first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and affect up to and including the date 30 days after the date of expiration of the Bid validity as stated in the Invitation to Bid. Any demand in respect of this Bond should reach the Surety not later than the above date.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this ___ day of _____ 20___.

Principal: _____ Surety: _____
Corporate Seal (where appropriate)

(Signature)

(Signature)

(Printed name and title)

(Printed name and title)

(* The amount of the Bond shall be denominated in the currency of the Employer's country or the equivalent amount in a freely convertible currency)

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

FOR GOODS OFFERED WITHIN THE PROCURING AGENCY’S COUNTRY

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

Total Amount in Pak Rs.

*Price must be inclusive of all costs from factory to the University premises.

Name _____
 In the capacity of _____
 Signed _____
 Duly authorized to sign the Bid for and on behalf of _____
 Date _____

NOTE:

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

(b) Service Agreement for 5 Years including spare parts, regular maintenance:

- i. Percentage of total contract 1st Year _____
- ii. Percentage of total contract 2nd Year _____
- iii. Percentage of total contract 3rd Year _____
- iv. Percentage of total contract 4th Year _____
- v. Percentage of total contract 5th Year _____

(c) Service Agreement for 5 Years excluding spare parts but including regular maintenance:

- i. Percentage of total contract 1st Year _____
- ii. Percentage of total contract 2nd Year _____
- iii. Percentage of total contract 3rd Year _____
- iv. Percentage of total contract 4th Year _____
- v. Percentage of total contract 5th Year _____

Contractor

Sign with stamp

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW & Convener, C.P.C.
 PMC Hospital Road, PUMHSW, (SBA)

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

FOR GOODS OFFERED FROM OUTSIDE THE PROCURING AGENCY'S COUNTRY

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

Name _____
 In the capacity of _____
 Signed _____
 Duly authorized to sign the Bid for and on behalf of _____
 Date _____

NOTE:

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

(b) Incidental Cost (as per G.C.C. clause 1.1(d) and 11.1) _____

(c) Service Agreement for 5 Years including spare parts, regular maintenance:

- i. Percentage of total contract 1st Year _____
- ii. Percentage of total contract 2nd Year _____
- iii. Percentage of total contract 3rd Year _____
- iv. Percentage of total contract 4th Year _____
- v. Percentage of total contract 5th Year _____

(d) Service Agreement for 5 Years excluding spare parts but including regular maintenance:

- i. Percentage of total contract 1st Year _____
- ii. Percentage of total contract 2nd Year _____
- iii. Percentage of total contract 3rd Year _____
- iv. Percentage of total contract 4th Year _____
- v. Percentage of total contract 5th Year _____

Contractor

Sign with stamp

PROF. DR. SHAMSUDDIN SHAIKH

Director Academics PUMHSW & Convener, C.P.C.
 PMC Hospital Road, PUMHSW, (SBA)