

**OFFICE OF THE DIRECTOR**  
**JACOBABAD INSTITUTE OF MEDICAL SCIENCES (JIMS)**  
**JACOBABAD, SINDH.**



**BIDDING DOCUMENT**  
**FOR SUPPLY & INSTALLATION OF**  
**MEDICAL EQUIPMENT/INSTRUMENTS**  
**MACHINERY & GENERAL ITEMS**  
**2017-18**

Last date of submission **24<sup>th</sup> November, 2017**

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**INSTRUCTION TO BIDDERS / PREPARATION OF BID**

<b>SCOPE</b>	Jacobabad Institute of Medical Sciences (JIMS), Jacobabad intend to Purchase <b>SUPPLY &amp; INSTALLATION OF MEDICAL EQUIPMENT/INSTRUMENTS MACHINERY &amp; General Items</b> through National Competitive Bidding.
<b>1. Technical/ Financial Proposal</b>	<p>1.1 Technical and Financial proposal separately, i.e. single stage two envelope procedure. The envelope must contain on the top clearly written at corner for “TECHNICAL PROPOSAL” OR for “FINANCIAL PROPOSAL” in order to avoid any confusion. The tenders shall be submitted with all documents, drawing literature &amp; catalogue (in equipment) in Technical proposal. The name of manufacturer or supplier should be affixed on the face of envelope at the left side. Moreover, financial envelopes should contain financial bid each item separately. (Commercial offer must be quoted in each item/each envelope) The envelopes shall then be sealed in an outer envelope. The inner and outer envelopes shall be addressed and marked to the Procuring agency at the address given in the BDS, Initially envelope marked as “<b>TECHNICAL PROPOSAL</b>” shall be retained in the custody of the procuring agency without being opened.</p> <p>1.2 Tenders must be filled in with blue or black ink in the column provided or on separated letter head duly signed.</p> <p>1.3 The tenders must be free from erasing, cutting and overwriting. in case of erasing, cutting and overwriting, authorized person should sign &amp; stamp it.</p> <p>1.4 Conditional tenders will be ignored and will not be considered / entertained / accepted.</p> <p>1.5 The rates of each item should be written in figures as well as in words. In case of discrepancy the price in words will be taken as authenticate and final.</p> <p>1.6 <b>Original purchase receipt must be enclosed with the technical offer.</b></p>
<b>2. Ernest Money</b>	<p>2.1 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct, which would warrant the security's forfeiture The bid security shall be denominated in the currency of the of the bid.</p> <p>2.2 Tender shall be accompanied by Earnest Money @ 2% of the value of stores quoted by them in form of call deposit / pay order/demand draft in the name of <b>Director Jacobabad Institute of Medical Sciences (JIMS), Jacobabad.</b></p> <p>2.3 Copy of earnest money (without amount) must be attached along with the technical bid and the original along with financial bid in case of disclosure of price or amount of Earnest Money in the technical bid, the bid will be rejected.</p> <p>2.4 Bid security shall release to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.</p> <p>2.5 The successful Bidder's bid security shall be discharged upon the Bidder signing the contract, and furnishing the performance security.</p> <p>2.6 The bid security may be forfeited:</p> <p>a) if a Bidder withdraws its bid during the period of bid validity or</p>

	b) In the case of a successful Bidder, if the bidder fails: to sign the contract in accordance or to furnish performance security within time.
<b>3. Professional Documentation &amp; Conditions</b>	<p>3.3 List of hospitals, name of department, contact numbers of the end users, in which the quoted equipment are installed by bidder who is participating in this tender must be attached. Copy of previous installation report in a reputed Government/Private  Teaching Hospitals/ repair certificate if any, of the similar quoted item from the end user should be attached along with the bid Sole agent certificate for the quoted items from the Manufacturer must be attached by the bidder. Certificate should be valid for three years from the date of issue which should be verifiable by concerned authority.</p> <p>3.4 The bidder shall furnish General Sales Tax (GST) Registration Certificate of the firm failing which the offer will be ignored. In case the item is exempted from GST either documentary evidence or certificate from competent authority shall be attached with the offer.</p> <p>3.5 The bidder shall furnish copy of valid Professional Tax Certificate, Income Tax Certificate; Last three years paid income tax Challan and proof of registration with Chamber of Commerce.</p> <p>3.6 The equipment to be imported comply/certificate of CE / FDA /JIS standards certificate should be attached along with the offer.</p> <p>3.7 Bidder should submit a fresh bank certificate/statement showing strong financial capability of firm (Last Three Years).</p> <p>3.8 Tenderer are required to furnish a detail of technical quotation on their letter head and specify the standard and optional items / accessories as required in the tender specification. Bidder should clearly mention make, model and country of origin of the quoted items.</p> <p>3.9 No manufacturer shall authorize their distributor/ agent/ any firm or person to quote the same item which manufacturer quoted it-self in any tender. Failing which offer of the manufacturer will be considered and other shall be rejected.</p>
<b>4. Alternate Offer</b>	Tenderer shall purchase separate tender document and furnish purchase receipt for each alternate offer in case they intend submit alternate offer without separate purchase receipt (original) are supposed to be rejected
<b>5. Bid Validity</b>	<p>5.1 Bids shall remain valid for the period of 90 days after the date of bid opening prescribed by the Procuring agency. A bid valid for a shorter period shall be rejected by the Procuring agency as non responsive.</p> <p>5.2 In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security shall also be suitable, extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will neither be permitted to modify its bid</p>
<b>6. Bid Prices</b>	6.1 Price should be quoted " <b>FOR</b> " basis. FOR offer should be quoted on delivery to consignee's end <u><b>i.e Jacobabad Institute of Medical Sciences (JIMS), Jacobabad</b></u> inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed specified in the schedule of Requirements. No separate payment shall be made of the incidental services.

	<p>6.2 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.</p> <p>6.3 Prices quoted by the by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet.</p>
<b>7. Bid Currency</b>	Prices Shall be quoted in Pak Rupees.
<b>8. Bid Form</b>	The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.
<b>9. Documents Establishing Bidder's Eligibility and Qualification</b>	<p>9.1 The Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.</p> <p>a) that, in the case of a Bidder offering to supply goods under the contract which the bidder did not manufacture or otherwise produce, the bidder has been duly authorized by the good Manufacture or producer to supply the goods in the Islamic Republic of Pakistan.</p> <p>b) that the Bidder has the financial ,technical ,and production capability necessary to perform the contract; that the Bidders meets the qualification criteria listed in the Bid Data Sheet.</p>
<b>10. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents</b>	<p>The documents evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and Data, and shall consist of: a detailed description of the essential technical and performance characteristics of the goods;</p> <p>The Bidder shall note that standards for workmanship, material ,and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specification are intended to be descriptive only and not restrictive :till stated otherwise in Technical Specifications or Bid Data Sheet .The Bidder may substitute alternative standards, brand names , and /or catalogue numbers in its bid , provided that demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the in the Technical Specifications</p>
<b>11. Format and Signing of Bid</b>	<p>11.1 The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each <b>"ORIGINAL BID"</b> and <b>"COPY OF BID"</b> as appropriate. In the event of any discrepancy between them, the original shall govern.</p> <p>11.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.</p> <p>11.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.</p>
<b>12. Submission of Bids and its</b>	<p>12.1 If the outer envelope is not sealed and marked as required, the Procuring agency shall assume no responsibility for the bid's misplacement or premature opening</p>

<b>Deadline</b>	<p>12.2 Bids must be received by the Procuring agency at the address specified in BDS, not later than the time and date specified in Bid Data Shee.</p> <p>12.3 The Procuring agency may at its discretion extend the deadline for the submission of bids by amending the bidding documents, in such case all rights and obligations of the Procuring agency and bidders.</p>
<b>13. Late Submission of Bid</b>	Any bid received by the Procuring agency after the deadline for submission of bids prescribes by the Procuring agency shall be rejected and returned unopened to the Bidder.
<b>14. Modification and Withdrawal of Bids</b>	<p>14.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.</p> <p>14.2 No bid may be modified after the deadline for submission of bids.</p> <p>14.3 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security.</p>
<b>15. Taxes and Duties</b>	Supplier shall be entirely responsible for all taxes, duties (including stamp duty), license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.
<b>16. Overriding effect of SPPRA RULES 2010 (Amd: 2013)</b>	In case of conflict or primacy of interpretation the provisions of SPP Rules 2010 (amended 2013) shall have an overriding effect not withstanding anything to the contrary contained in these bidding documents
<b>17. Rights to reserve</b>	Procurement Agency/Committee reserve the rights to reject any bid, which is otherwise sub standard and of low quality or to amend or reject bid/tender at any stage.
<b>18. Liquidity Damage</b>	If the Supplier fails to deliver the goods or perform the services within the time period(s) specified in the contract, the Purchaser shall, without prejudice to its other remedies under the contract deduct from the Contract Price, as liquidated damages, a sum equivalent to 0.07 percent of the Contract Price for each day of delay until actual delivery or performance, up to a maximum deduction of 10% of the Contract Price. Once the maximum is reached, the purchaser may consider termination of the contract

Read and Agreed by M/s\_\_\_\_\_.

Name \_\_\_\_\_.

Signature with Stamp\_\_\_\_\_.

**19. DOCUMENTS CHECKLIST****PART II**

Please review the following list of all possible documents to be enclosed with the technical proposals.

Sr#	Document Description	Yes/No	Page No.
1.	Tender Purchase Receipt (Original)		
2.	Bid Security (copy of Pay Order/Bank Draft) (Original in Financial offer)		
3.	General & Special Conditions of Contract (Duly filled, Signed & Stamped by bidder each & every page)		
4.	Schedule of Requirements (dully filled, Signed with Stamp)		
5.	Technical Specifications (dully filled, Signed with Stamp)		
6.	Technical Proposal on Bidder's Letterhead		
<b>Bidders Documents</b>			
7.	Manufacturer's Authorization (as per sample form)		
8.	Undertaking (as per sample form)		
9.	Certificate (as per sample form)		
10.	Income Tax & GST Registration Professional Tax Certificate (Sindh) Certificates are mandatory, Bidder's FBR Status should be ACTIVE (For NTN and Sales Tax)		
11.	Valid PNRA registration certificate for required item i.e X-Ray etc.		
12.	Company Profile		
13.	Bank certificate/Statement with last three years turnover.		
14.	Income Tax Return (last two years)		
15.	Workshop for after sales services		
16.	Technical Team detail		
17.	The Bidder will ensure if item available in Pakistan or WBOC ID of Bidder must be active for Imported items.		
<b>Original Equipment Manufacturer (OEM or brand quoted)</b>			
18.	CE / FDS / JIS		
19.	References of offered model or brand (in Pakistan preferable in Sindh)		
<b>Additional Documents:</b>			

Note:

- Mandatory documents are mentioned in instruction to bidder
- All pages of bid except for un amended printed literature shall be initiated by the bidder

**19.1 Bidder's details for notice purpose**

Bidder Name	
Company	
Address	
Tel & Fax No.	
Contact Person & Cell No.	
Email Address	

**20 KNOCKOUT CLAUSES****PART II-B****EVALUATION CRITERIA (ELECTRO MEDICAL EQUIPMENTS)**

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

Sr. No.	Parameter	Yes/No & Page No.	Max Point	Points
1.	<b>Warranty</b>			
	a). Warranty (period more than required)		10	
	b). Warranty (period as required)		6	
2.	<b>Bidder's Legal Status, Certification &amp; Experience</b>			
	a). NTN, GST Certificate, PNRA (for x-ray item) and Professional Tax Certificate		8	
	b). Certificate of Item available in Pakistan or proof of WEBOCK ID of supplier.		4	
	c). Purchase orders of Last year (worth > 1.5 M) attach copy		2	
3.	<b>Bidder's Financial Status</b>			
	d). Turnover last year more than 40.00 million		6	
	a). Bank statement (last three years)		6	
	b). Income Tax return (last two year)		4	
	c). Audited Financial Statement		2	
4.	<b>Bidder's after sales services in sindh</b>			
	a). Service Workshop & availability of spare parts & accessories		8	
	b). Tool list		4	
	c). Qualified & Trained personnel (BE/BSc/DAE) with bio data		3	
	d). Trained personnel (labor)		2	
5.	<b>Original Equipment Manufacturer (OEM) or Brand quoted</b>			
	a). Manufacturer's Authorization		8	
	b). Brochure or Catalogue (Original)		6	
	c). FDA / CE (MDD)/ JIS		4	
6.	<b>References of OEM Brand model</b>			
	a). Government / Semi Government Teaching Hospital Institute		4	
	b). NGOs Hospital / Institute		2	
	c). Private Renowned Teaching Hospital/Institute		2	
	d). International Hospital / Institute.		2	
7.	Submission of undertaking on legal valid and attested stamp paper that the firm is not blacklisted and litigated by any Institute of Federal, Provincial Government or any Department /Agency / Organization / Autonomous Body or Private Sector Organization anywhere in Pakistan.		7	

**Bids achieving minimum 65 marks will be considered only.**

- The technical evaluation carried out by the Procurement Committee JIMS, Jacobabad will be final, which will be assessed on technical experience basis of the Consultant(s)/Specialists in the relevant specialty.

**Signed & Stamped by Bidder**

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**OPENING AND EVALUATION OF BIDS****PART II-C**

<b>21. Opening of Bids by the Procuring agency</b>	<p>21.1 The Procuring agency shall open all bids in the presence of bidder's representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register/attendance sheet evidencing their attendance.</p> <p>21.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presences or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may consider appropriate, will be announced at the opening.</p>
<b>22. Clarification of Bids</b>	<p>22.1 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.</p>
<b>23. Preliminary Examination</b>	<p>23.1 The Procuring agency shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.</p> <p>23.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.</p> <p>23.3 Prior to the detailed evaluation, the Procuring agency will determine the substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself.</p> <p>23.4 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.</p>
<b>24. Evaluation &amp; Comparison of Bids</b>	<p>24.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive.</p> <p>24.2 The Procuring agency's evaluation of a bid will be on delivery to consignee's end inclusive of all taxes, stamps, duties, levies, fees and installation and integration charges imposed till the delivery location and shall exclude any allowance for price adjustment during the period of execution of the contract.</p>
<b>25. Contacting the procuring agency</b>	<p>25.1 No Bidder shall contact the procuring agency on any matter relating to its bid, from the time of bid opening to the time the announcement of Bid Evaluation Report. If the Bidder wishes to bring additional information to the notice of the procuring agency, it should do so in writing.</p> <p>25.2 Any effort by a Bidder to influence the Procuring agency in its decision on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.</p>

**AWARD OF CONTRACT****PART II-D**

<b>26. Post – Qualification</b>	<p>26.1 In the absence of prequalification, the procuring agency may determine to its satisfaction whether that selected Bidder having submitted the lowest evaluation responsive bid is qualified to perform the contract satisfactorily.</p> <p>26.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Claus-7 as well as such other information as the Procuring agency deems necessary and appropriate.</p> <p>26.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to perform satisfactorily.</p>
<b>27. Award Criteria</b>	<p>27.1 The Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.</p>
<b>28. PA Right to Accept any Bid and to Reject any or All Bids</b>	<p>28.1 Subject to relevant provisions of SPP Rules 2010 (Amended 2013), the Procuring agency reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award.</p> <p>28.2 Pursuant to Rule 45 of SPP Rules 2010 (Amended 2013), Procuring agency shall hoist the evaluation report on Authority's web site within seven days prior to notify the award of contract.</p>
<b>29. Notification of Award</b>	<p>29.1 Prior to the expiration of the period of bid validity, the Procuring agency shall notify the successful Bidder in writing, that its bid has been accepted.</p> <p>29.2 Upon the successful Bidder's furnishing of the performance security pursuant to Clause 31, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security.</p>
<b>30. Signing of Contract</b>	<p>30.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.</p> <p>30.2 Within fourteen (14) days, or any other period specified in BDS, of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.</p>
<b>31. Performance Security</b>	<p>31.1 Within seven (07) days, or any other period specified in BDS, of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.</p> <p>31.2 Failure of the successful Bidder to comply with the requirement of Bid data sheet Clause 30 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.</p>

<p>32. fraudulent practices or Used Equipment</p>	<p>32.1 Under no circumstances the bidder shall provide used/repaired/refurbished or defected medical equipment. If such case happened then, the firm concerned will be black listed and earnest money/security deposit will be forfeited.</p> <p>32.2 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2009 and Rules made there under:</p> <p>(a) <b>"Corrupt and Fraudulent Practices"</b> means either one or any combination of the practices given below;</p> <p>(i) <b>"Coercive Practice"</b> means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;</p> <p>(ii) <b>"Collusive Practice"</b> means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;</p> <p>(iii) <b>"Corrupt Practice"</b> means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;</p> <p>(iv) <b>"Fraudulent Practice"</b> means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;</p> <p>b) <b>Obstructive Practice"</b> means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.</p>
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**General Conditions of Contract****Part – III**

<b>33. DEFINITIONS</b>	<p>33.1 In this Contract, the following terms shall be interpreted as indicated:</p> <ul style="list-style-type: none"> <li>a) "The Contract" means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.</li> <li>b) "The Contract Price" means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.</li> <li>c) "The Goods" means all of the equipment, machinery, and/or other materials, which the Supplier is required to supply to the Procuring agency under the Contract.</li> <li>d) "The Services" means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.</li> <li>e) "GCC" means the General Conditions of Contract contained in this section.</li> <li>f) "SCC" means the Special Conditions of Contract.</li> <li>g) "The Procuring agency" means the Sindh Public Procurement Regulatory Authority (SPPRA), Government of Sindh.</li> <li>h) "The Supplier" means the individual or firm supplying the Goods and Services under this Contract.</li> <li>i) "SPP Rules 2010" means the Sindh Public Procurement Rules 2010 (Amended 2013).</li> <li>j) "Day" means calendar day.</li> </ul>
<b>34. Standards</b>	<p>34.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods' country of origin. Such standards shall be the latest issued by the concerned institution.</p>
<b>35. Patent Rights</b>	<p>35.1 The Supplier shall indemnify the Procuring agency against all third- party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Islamic Republic of Pakistan.</p>
<b>36. Performance Security</b>	<p>36.1 Within seven (07) days, or any other duration as specified in SCC, of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.</p> <p>36.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.</p> <p>36.3 The performance security shall be denominated in the Pak rupees and shall be an unconditional bank guarantee, pay order, call deposit as, provided in the bidding documents or another form acceptable to the Procuring agency;</p> <p>36.4 The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract,</p>

	including any warranty obligations, unless specified otherwise in SCC.
<b>37. Inspections and Tests</b>	<p>37.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.</p> <p>37.2 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.</p> <p>37.3 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Manufacturer.</p> <p>37.4 Nothing in GCC Clause 37 shall in any way release the Supplier from any warranty or other obligations under this Contract.</p>
<b>38. Packing</b>	<p>38.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. 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.</p>
<b>39. Warranty &amp; Spare parts</b>	<p>39.1 03 years free service including warranty from the date of installation and further 02 years free service without parts. Additionally assurance for the availability of spare parts for at least 08 to 10 years may also be confirmed by the bidder</p> <p>39.2 The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.</p> <p>39.3 If the Supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract</p> <p>39.4 The Supplier should provide any or all of the notifications, and information pertaining to spare parts manufactured or distributed by the Supplier</p> <p>39.5 Free installation along with all accessories including labor charges/demonstration at consignee end must be borne by the bidder.</p> <p>39.6 The supplier will be bound to train nominated technical personnel (inland/outland) to operate / repair and maintain the supplied equipment</p> <p>39.7 If the <b>uptime percentage</b> for the measurement period (04 months) shall fall short of 95% the following formula will be applied to determine additional days in the warranty / services contract period.</p>

	<p>a. 100% - 95% No Penalty</p> <p>b. 95% - 90% The warranty period will be extended by 2.0 times the number of days as extra down time</p> <p>c. 90% - 80% The warranty period will be extended by 3.0 times the number of days as extra down time</p> <p>39.8 The firm will be bound to make arrangement for availability of qualified technical staff in hospital/site for prompt execution/coordination of after sale service</p>
<b>40. Delivery and Documents</b>	40.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping/ transportation and/or other documents to be furnished by the Supplier are specified in SCC.
<b>41. Insurance</b>	41.1 The Goods supplied under the Contract shall be delivered consignee's end under which risk is transferred to the Procuring agency after having been delivered; hence insurance coverage is Supplier's responsibility.
<b>42. Transportation</b>	42.1 The Supplier is required under the Contract to transport the Goods to a specified place of destination and shall be arranged by the Supplier, and related costs shall be deemed to have been included in the Contract Price.
<b>43. Incidental Services</b>	<p>43.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:</p> <p>(a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;</p> <p>(b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;</p> <p>(c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;</p> <p>(d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract;</p>
<b>44. Payment Method</b>	<p>44.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.</p> <p>44.2 The Supplier's request(s) for payment shall be made to the Procuring agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and upon fulfillment of other obligations stipulated in the Contract.</p> <p>44.3 Payments shall be made promptly by the Procuring agency, but in no case later than thirty (30) days after submission of an invoice or claim by the Supplier.</p> <p>44.4 The currency of payment is Pak. Rupees.</p>
<b>45. Prices</b>	45. Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid,
<b>46. Contract Amendments</b>	46.1 No variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.



<p><b>47.</b> <b>Delays in the Supplier's Performance</b></p>	<p>47.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring agency in the Schedule of Requirements.</p> <p>47.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.</p> <p>47.3 Except as provided under <b>GCC Clause 48</b> a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages unless an extension of time is agreed upon pursuant to GCC Clause 47.2 without the application of liquidated damages.</p>
<p><b>48.</b> <b>Liquidated damages</b></p>	<p>48.1 Subject to GCC Clause 51, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 49.</p>
<p><b>49.</b> <b>Termination for Default</b></p>	<p>49.1 The Procuring agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:</p> <p>(a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 47; or</p> <p>(b) if the Supplier fails to perform any other obligation(s) under the Contract.</p> <p>(c) if the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.</p>
<p><b>50.</b> <b>Force Majeure</b></p>	<p>50.1 Notwithstanding the provisions of GCC Clauses 47, 48 and 49, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.</p> <p>50.2 Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.</p> <p>50.3 If a Force Majeure situation arises, the Supplier shall promptly notify the</p>

	Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
<b>51. Resolution of Disputes</b>	51.1 Resolution of dispute shall be through Mechanism for Redressal of Grievances as provided in the rules or through Arbitration Act 1942.
<b>52. Governing Language</b>	52.2 The Contract shall be written in English language all correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.
<b>53. Applicable Law</b>	53.1 The Contract shall be interpreted in accordance with the SPP Rules 2010 (amended 2013).
<b>54. Taxes and Duties</b>	54.1 Supplier shall be entirely responsible for all taxes, duties (including stamp duty), license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.
<b>55. Overriding effect of SPP Rules 2010 (Amended 2013)</b>	55.1 In case of conflict or primacy of interpretation the provisions of SPP Rules 2010 (amended 2013) shall have an overriding effect notwithstanding anything to the contrary contained in these bidding documents

Read and Agreed by M/s \_\_\_\_\_.

Name \_\_\_\_\_.

Signature with Stamp \_\_\_\_\_.



**PART-IV****56. BID DATA SHEET**

Introduction	
1	<b>Name of Procuring Agency:</b> Jacobabad Institute of Medical Sciences (JIMS), Jacobabad, Airport Road, Jacobabad PH:0722-690003-04, Fax:0722-690005 email Add: jims.jcd@gmail.com .
2	<b>Name of Contract.</b> "Tender for Supply of & Installation of Medical Equipment/Instruments Machinery & GENERAL ITEMS"
Bid Price and Currency	
3	Prices quoted by the Bidder shall be <b>"fixed" and in" Pak Rupees"</b>
Preparation and Submission of Bids	
4	<p><b>Selection Criteria / Responsiveness Criteria:</b></p> <ol style="list-style-type: none"> <li><i>The bidder should be sole agent/exclusive distributor of Manufacturer. Authorization for this tender will not be accepted.</i></li> <li><i>The bidder must have done at least Five (05) Contacts of similar nature. "Similar nature means Supply of equipment etc. (Please submit copy of PO/Contract Agreement/Notification of Award).</i></li> <li><i>The Bidder should not have been barred by any of Provincial or Federal Govt. Deptt., Agency, Organization or autonomous body or Private sector organization anywhere in Pakistan. (Submission of undertaking on 100/- legal stamp paper).</i></li> <li><i>The bidder must have turnover/sales exceeding 40 Million in PKR annually in any of last three years. (Submission of Audited Annual Reports or verifiable Letter or statement from the Bank.</i></li> <li><i>All the proposed products should be well known, well reputed brands and widely used for its quality, performance and reliability.</i></li> <li><i>Latest Income Tax Certificate (NTN), Valid GST Registration Certificate.</i></li> <li><i>Valid PNRA registration certificate (for x-ray items)</i></li> <li><i>Price offered for any item should be for the entire quantity demanded, partial quantity offers shall straight way be rejected.</i></li> </ol> <p><b>Note:</b> Bidder must provide necessary supporting documents as proof in respect of the selection criteria mentioned above.</p>
5	<b>Amount of bid security.</b> 2% of Bid
6	<b>Bid validity period.</b> 90 days
6.1	<p><b>Bid validity</b> Clarification may be requested not later than <b>07 days</b> before the submission date For <b>Clarification of bid purposes</b> only, the Purchaser's address is:</p> <p>Attention: <b>Director JIMS, Jacobabad</b></p> <p>Address: Jacobabad Institue of Medical Sciences (JIMS), Airport Road, Jacobabad</p> <p>E-mail: <a href="mailto:jims.jcd@gmail.com">jims.jcd@gmail.com</a></p>
7	<b>Number of copies.</b> original "One copy"
8	<b>Amount of Performance Guarantee of @ 5% for Bid successful Bidder</b>
9	<b>Deadline for bid submission.</b> 24 <sup>th</sup> November, 2017 at 10.30 AM
10	<b>Bid Evaluation:</b> Lowest as best quality evaluated bid

**Part-V****57. Special Conditions of Contract**

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

**57.1 Definitions (GCC Clause 33)**

GCC 33 (g)—The Procuring Agency is: Office of the Director Jacobabad Institute of Medical Sciences (JIMS), Airport road, Jacobabad.

**57.2 Performance Security (GCC Clause 36)**

GCC 36—The amount of performance security, as a percentage of the Contract Price, shall be: 5%.

**57.3 Inspections and Tests (GCC Clause 37)**

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

**57.4 Delivery and Documents (GCC Clause 40)**

GCC 42—Supplier shall supply and install the goods within 30 Days after signing the contract and shall submit the following.

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

**57.5 Warranty (GCC Clause 39)**

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

**57.6 Payment (GCC Clause 44)**

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

**57.7 Liquidated Damages (GCC Clause 48)**

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

**57.8 Resolution of Disputes (GCC Clause 51)**

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

**57.9 Applicable Law (GCC Clause 53)**

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

**Part-VI****58. SCHEDULE OF REQUIREMENTS**

The delivery schedule hereafter expressed the date of delivery required.

S.No.	Product	Items Description	Quantity	Required Delivery Schedule from the Date of Contract Award	Location
1.	Tender for Supply of & Installation of Medical Equipment/Instruments Machinery & General Items				

**Note:** Specifications of above items are attached below.

## Part-VII

**59. SAMPLE FORM**

TECHNICAL SPECIFICATIONS			
<b>QUANTITY</b>			
Bidder's response column must be filled either YES or NO.			
Bidders must attach Technical literature for item quoted			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Items	Specifications	Bidder Compliance	
		Yes/No	If "No" indicate your Offer
<b>Make</b>	Specify		
<b>Model</b>	Specify		
<b>Manufacturers literature</b>	Specify		
<b>Type</b>	Specify		
& Other related specification			

JACOBABAD INSTITUTE OF MEDICAL SCIENCES JIMS

**59.1 Letter of Acceptance**

Date: \_\_\_\_\_

To:

The Director

Jacobabad Institute of Medical Sciences (JIMS),

Jacobabad

Dear Sir:

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver the required item in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

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

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to Five (5) percent of the Contract Price/Pay order for the due performance of the Contract, in the form prescribed by the Purchaser.

We agree to abide by this Bid for a period of 15 days from the date fixed for Bid opening under Clause 5 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

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

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 2017\_\_\_\_\_.

\_\_\_\_\_  
[signature]\_\_\_\_\_  
[in the capacity of]

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

## Name of Bidder \_\_\_\_\_ NIT Number \_\_\_\_\_ Page of \_\_\_\_\_

1	2	3	4	5	6	7
Item Name	Description	Country of origin	Quantity	Unit price Delivery Duty paid (DDP) / All Taxes	Total	Remarks (if any)
				<div>Words</div> <div>Figure</div>		

Total Bid amount in words: \_\_\_\_\_

Total Bid amount in figure: \_\_\_\_\_

Signature of Bidder

*Note:*

- (i) In case of discrepancy between unit price and total, the unit price shall prevail.
- (ii) The unit and total prices Delivered at main Medical Store JIMS, Jacobabad should include the price of incidental services. No separate payment shall be made for the incidental services.

[illegible]

**59.4. Contract Form**

THIS AGREEMENT made the \_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_ between *Director JIMS, Jacobabad.* (hereinafter called "the Procuring agency") of the one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called "the Supplier") of the other part:

WHEREAS the Procuring agency invited bids for certain goods and ancillary services, viz., **Tender for Supply & Installation of Medical Equipment/Instruments Machinery & General Items 2017-18.** And has accepted a bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

**NOW THIS AGREEMENT WITNESSED AS FOLLOWS:**

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications.
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract; and
  - (f) the Procuring agency's Notification of Award.
3. In consideration of the payments to be made by the Procuring agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract
4. The Procuring agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

INWITNESS whereof the parties here to have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Procuring agency)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Supplier)



**59.5. Performance Security Form**

To:

The Director  
Jacobabad Institute of Medical Sciences (JIMS),  
Jacobabad

WHEREAS *[name of Supplier]* (hereinafter called "the Supplier") has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated \_\_\_\_\_ 2017\_\_\_\_\_ to supply *[description of goods and services]* (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a Pay order of 5% of performance Security in favour of Director JIMS, Jacobabad as security for compliance with the Supplier's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Supplier)

**59.6. Manufacturer's Authorization Form**

To:

The Director

Jacobabad Institute of Medical Sciences (JIMS),

Jacobabad

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

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

We hereby extend our full guarantee and warranty as per Clause 44 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

---

*[signature for and on behalf of Manufacturer]*

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

**60. PURCHASER'S RIGHT TO VARY QUANTITIES AT TIME OF AWARD.**

The purchaser reserve the right to increase/decrease or delete the quantities of goods etc at the time of award of contract and also reserve the right to enhance the quantity goods and services originally specified in the schedule of requirements without any change in unit price of other terms and conditions of goods at any time during contract period.

**61. UNDERTAKING**

- 61.1 That I/We agree whether our tender accepted for total, partial or any single item. I/We also agreed to supply and accept the said item at the rates for the supply of contracted quantity within the stipulated period shown in the contract.
- 61.2 I/We understand and confirm the refund of cost different if the same good is/was supplied at lower rates to any other Government / Semi Government Institution in the Province in same fiscal year.
- 61.3 I/we undertake that: that If any of the information submitted in accordance to this tender enquiry found incorrect our contract may be cancelled at any stage on our cost and risk.

**62. CERTIFICATE**

We guarantee to supply the stores exactly in accordance with the requirement specified in the invitation to this tender

Signature & Stamp of Contractor\_\_\_\_\_

Name\_\_\_\_\_

Designation\_\_\_\_\_

Address\_\_\_\_\_

## PART VIII

## TECHNICAL SPECIFICATION

## ITEMS FOR OT/OR SUITE

## ITEM NO. 01

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/UK/EUROPE/JAPAN / FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	<b>ANESTHESIA MACHINE WITH INTEGRATED VENTILATOR AND VAPORIZER</b>	<b>Qty</b>	<b>3</b>
<b>Specification</b> <ul style="list-style-type: none"> <li>• Standard/Cascade flow tubes.</li> <li>• Cascade flow tubes with electronic flow display providing numeric representation of gas flow more than 5 ventilation mode</li> <li>• Large integrated TFT touch Display</li> <li>• Various monitoring wave form and parameters in different colors</li> <li>• VCV, PCV, SIMV, Spontaneous, PSV modes</li> <li>• Display more than 10 inch</li> <li>• O<sub>2</sub> Gas (O<sub>2</sub> / N<sub>2</sub>O / Air) with ventilator Comprising of:-</li> <li>• 3 Gas (Oxygen / N<sub>2</sub>O / Air)</li> <li>• Two Vaporisers Mounting</li> <li>• Integrated CO<sub>2</sub> absorption system, 1.5 liter or more</li> <li>• O<sub>2</sub> Gas Rota meter (O<sub>2</sub> + N<sub>2</sub>O + Air)</li> <li>• Mechanical Anti – Hypoxic Device.</li> <li>• Non – inter changeable pipeline inlets</li> <li>• Pipeline &amp; Cylinder gauges for O<sub>2</sub> + N<sub>2</sub>O+ Air alongwith hoses.</li> <li>• Pin Index cylinder yokes.</li> <li>• Gas Outlet and O<sub>2</sub> flush control.</li> <li>• O<sub>2</sub> Auxiliary O<sub>2</sub> power outlets.</li> <li>• Lockable castors.</li> <li>• Monitors Shelf.</li> <li>• Reusable/Autoclavable patient circuit.</li> <li>• Impact resistant &amp; easy to clean frame.</li> <li>• Work surface/writing tablet.</li> <li>• Absorber support arm.</li> <li>• O<sub>2</sub> Gas flow meter for O<sub>2</sub> + N<sub>2</sub>O + Air.</li> <li>• Sevoflurane /Isoflurane Vaporizer.</li> <li>• Working mode: closed, semi-closed, semi open</li> <li>• Three lockable drawer unit.</li> <li>• Main power outlet 220 / 240</li> <li>• Writing Shelf / Platform.</li> <li>• Battery back for ventilator 4 hours or more</li> <li>• High suction Controller with receiver jar of 1 Liter or more with connections and fittings.</li> <li>• SPA Carbon Dioxide Absorber with Bag</li> <li>• Vent and By Pass complete with detachable</li> <li>• Electronic alarms: Automatic and user setable</li> <li>• <b>Patient monitor with Gas Agent monitoring (Agent Analyzer) and Ende tidal CO<sub>2</sub> (EtCO<sub>2</sub>) monitoring should be quoted as Optional.</b></li> </ul>			

**ITEM NO. 02**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 02	<b>ICU VENTILATOR (04 ADULT 02 PEDIATRIC)</b>	<b>Qty</b>	<b>6</b>
<b>Specification</b>			
<p><b>Modes</b></p> <ul style="list-style-type: none"> <li>• CMV, ACMV, PCV, SIMV, SPONT, V-SIMV, NIV in all modes, CPAP and Volume support.</li> <li>• Should include PEADS, Adult <b>and Neonatal mode</b></li> <li>• <b>Tidal volume starting from 20 ml up to at least 2000 ml</b></li> <li>• Oxygen concentration : 21-100%</li> <li>• PEEP and CPAP ranges from 0 cmH<sub>2</sub>O not less than 35 cm H<sub>2</sub>O</li> <li>• Respiratory rate: 1-120bpm</li> <li>• Inspiratory time: 0.2 – 10 sec</li> <li>• Trend date: 72 hours or more</li> <li>• <b>Event Log: not less than 1000 events.</b></li> <li>○ 35 or more monitoring parameters</li> <li>○ Real time visualization of tidal volume, flow and pressure volume</li> <li>○ Visual representation of the ventilator dependency</li> <li>○ <u>Loops</u>: display of pressure - time, volume – time etc.</li> <li>○ Trend data: 70 hours or more.</li> </ul> <p><b>Power Supplies:</b> Up to 240 V AC at 50/60Hz Should have back up batteries with at least 2 hours functionality Integrated turbine</p> <p><b>Physical Dimensions:</b> Should have LCD display of 12" or more with touch screen</p> <p><b>To be supplied with</b> disposable patient breathing circuits for Adult and peads, supporting arm and original trolley</p> <p><b>Note:</b> Integrated CO<sub>2</sub> module should be quoted separately</p>			

**ITEM NO. 03**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 02	<b>PORTABLE SURGICAL OT LIGHT</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
Diameter of Cupola	500mm		
Light Intensity	≥ 80,000 LUX at 1 Meter		
Color Temp	Adjustable from 3500 to 5000 K		
Color Rendering Index	≥ 93		
Diameter of light spot	120-350 mm		
Illumination depth	70-1500 mm		
LED Service Life	50000 hours		
With battery backup			

## ITEM NO. 04

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 02	<b>OT HYDROLIC TABLE WITH ORTHOPEDIC TRACTION SYSTEM</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Radiolucent tabletop.</li> <li>• Built-in X-ray Cassette Channels</li> <li>• Table width 520 mm or more with rails.</li> <li>• Table Height (min) 680 mm to (max) 1140 mm</li> <li>• Lateral tilt - 20 / +20 degree or more</li> <li>• Trendelenburg-30/+30° maximum from horizontal</li> <li>• Reverse Trendelenburg 30° maximum from horizontal</li> <li>• Back rest adjustment up-50°/+80° max</li> <li>• Leg plate adjustment up -80°/+80° maximum.</li> <li>• Flexation adjustment</li> <li>• Sliding Table Top Upto 310mm</li> <li>• Auto Leveling</li> <li>• Spread of split leg plates 90 degree.</li> <li>• Manual Head plate adjustment -90 / +90 degree.</li> <li>• Patient Weight capacity 380kg or more.</li> <li>• Central Break</li> <li>• Kidney Bridge</li> <li>• Manual Over Ride</li> <li>• Complete with : Anesthesia Screen, Arm Boards , Basic Straps , Safety Clark Sockets</li> <li>• S.S Base</li> <li>• Operated on AC220V/with battery backup Up to 2Hrs</li> </ul>			
<b><u>Traction Unit with Complete Accessories.</u></b>			
<ul style="list-style-type: none"> <li>• Universal pelvic rest.</li> <li>• Traction accessory clamp</li> <li>• Abductor bar</li> <li>• Traction unit</li> <li>• Patient transfer board</li> </ul>			

## ITEM NO. 05

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 05	<b>OT HYDROLIC TABLE GENERAL + UROLOGY COMPATIBLE</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Radiolucent tabletop.</li> <li>• Built-in X-ray Cassette Channels</li> <li>• Table width 520 mm or more with rails.</li> <li>• Table Height (min) 680 mm to (max) 1140 mm</li> </ul>			

- Lateral tilt - 20 / +20 degree or more
- Trendelenburg-30/+30° maximum from horizontal
- Reverse Trendelenburg 30° maximum from horizontal
- Back rest adjustment up-50°/+80° max
- Leg plate adjustment up -80°/+80° maximum.
- Flexation adjustment
- Sliding Table Top Upto 310mm
- Auto Leveling
- Spread of split leg plates 90 degree.
- Manual Head plate adjustment -90 / +90 degree.
- Patient Weight capacity 380kg or more.
- Central Break
- Kidney Bridge
- Manual Over Ride
- Complete with : Anesthesia Screen, Arm Boards , lithotomy pole, drain pen, Basic Straps , Safety Clark Sockets
- Complete High Quality S.S Base
- Battery backup Up to 2Hrs

ITEM NO. 06

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 06	<b>FUMIGATION UNIT</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
Engine power: 1200W Chemical tank: ≥ 3L Fog droplet: 0~20 micrometer Spray fog volume: 0~14 ≥ L/hour			

ITEM NO. 07

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item 07	<b>04 O.T LIGHT- DOUBLE DOOM SURGICAL LIGHT WITH BATTERY + CAMERA + MONITOR &amp; 1 CAMERA SYSTEM WITH COMPLETE INSTALLATION</b>	<b>Qty</b>	<b>04</b>
<b>Specification</b>			
<b>Note : OT LIGHT &amp; CAMERA SYSTEM SHOULD BE QUOTED SEPARATELY ( external video stream through WIFI or Wiring installation from OT to Conference Room shall be include)</b>			
<b>LIGHT -1</b>			
<ul style="list-style-type: none"> <li>• Dimension Cupola: 700mm</li> <li>• Light Intensity : 160,000 LUX at 1 meter</li> </ul>			
<b>LIGHT -2</b>			
<ul style="list-style-type: none"> <li>• Dimension Cupola: 500mm</li> <li>• Light Intensity : 90,000 LUX at 1 meter</li> </ul>			

- Color Temp: Adjustable from 3500 to 5000K
- Color rendering Index:  $\geq 93$
- Diameter of light spot: 120-350 MM
- Illumination Depth: 700-1500 MM
- LED Service Life: 50000 Hours
- Control Via LCD
- Battery Backup:  $\geq 2$  Hours

**CAMERA:**

- Resolution:  $\geq 200$  Megapixel 920 x 1080
- Communication Mode: RS232
- Communication Protocol: HITACHI/SONY/VISCA or Equivalent
- Connector: LVCMOS-36PFPC
- Compatibility: 110/LVDS/30P
- Sensor Type: 1/2.9" CMOS
- Scan Mode: Progressive Scan
- Day and night system: Color/Black and white/Automatic
- Minimum Illumination: Color 0.1 Lux, Black and white: 0.01LUX
- Exposure Mode : A/M
- White Balance: Automatic/Indoor/Manual
- Focus Mode: A/M
- Gain Control: A/M
- Picture Effect: Automatic/Color/Black and white/Negative

**Electronic Amplification**

- Back Light Compensation: On/OFF

**Image Freeze:**

- Mirroring Function: Support (Horizontal Mirror + Vertical Mirror)
- Image Rollovers: Support

**Generic Specification:**

- Dimension: 56(W) x 56 (H) x 110 (L) MM
- Work Temperature And Humidity: -10C ~ 50C, 10% RH ~ 60%
- Storage Temperature and Humidity: -20C ~ 60C, 10%RH ~ 80%RH
- Synchronization Mode: Inter-Sync
- Video Output: Digital Signal
- SNR:  $\geq 50$ DB (AGC OFF)

**LENS**

- IRCUT : IRCUT Double Filter Automatic Switching
- Automatic Diaphragm: Support
- Optical Lenses : 10X, F=5MM
- Field Angle : H: 47 (W) ~ 5.3 (T), V : 35.6 (W) ~ 3.96 (T)

**Blank Screen:**

- Wide Dynamic : D-WDR



- DNR : 2D-DNR
- Electronic Shutter : 1/30S~1/10,000S
- Control Ratio : Adjustable
- Anti-Fog Function : Support
- Marginal : Support

**LCD Monitor**

- Screen Size :  $\geq 20.5''$
- Display Area : 475.2mm (W) x 267.3mm(H)
- Max Resolution : 1920 x 1080
- Display Color : 16.7 M
- Pixel Pitch : 0.2475 (H) x .2475 (V)
- Luminance : 300 cd / m<sup>2</sup>
- Viewing Angle : 85/85/75/65
- Response Time :  $\leq 9$ MS
- Field Frequency : 50Hz, 60Hz, 70Hz

**ITEM NO.08**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>FLUOROSCOPE C ARM SYSTEM WITH 6 LEAD APRON</b>	<b>Qty</b>	<b>01</b>
<b><u>Specification</u></b>			
<b><u>Xray Generator</u></b>			
<ul style="list-style-type: none"> <li>➤ Out Put Power 12 KW or more</li> <li>➤ Inverter frequency Up to 40 kHz</li> <li>➤ Automatic brightness control system</li> <li>➤ KV range (radiography &amp; Flourscopy) 40 to 120 kV 1-kV steps</li> <li>➤ MA range (radiographic) 20 mA, 120 mA</li> <li>➤ mAs range: Up to 250 mAs</li> <li>➤ Fluoroscopy :</li> <li>➤ Continuations mode: 0.2-5mA</li> <li>➤ Boost mA: 0.5-10mA</li> <li>➤</li> </ul>			
<b><u>X-ray Tube</u></b>			
<ul style="list-style-type: none"> <li>➤ Rotating Anode</li> <li>➤ Maximum X-ray tube voltage kV 125 kV</li> <li>➤ Focal spot 0.3/0.6 or better</li> <li>➤ Anode heat storage capacity not less than 300 KHU</li> <li>➤ Target angle 10°</li> </ul>			
<b><u>C-arm</u></b>			
<ul style="list-style-type: none"> <li>➤ SID 90 Cm or better</li> <li>➤ Orbital rotation should have 90°/45°</li> <li>➤ Horizontal travel 20 cm or more</li> <li>➤ Vertical travel 45 cm or more</li> <li>➤ Swinging <math>\pm 12^\circ</math> or better</li> <li>➤ C-arm rotation <math>\pm 200^\circ</math> or better</li> <li>➤ DICOM Send to PACS (DICOM 3.0) and CD-BURN and DICOM CINE to be provided</li> <li>➤ LIH Image Rotation 100 Frame or better</li> <li>➤ Image study Store 30000 or more</li> <li>➤ Should be able to perform Digital subtraction angiography with road map facility</li> <li>➤ Frame rate 1 to 30 frames/s or more</li> </ul>			

- Output: DICOM
- Anatomical programming
- Image Intensifier (I.I.)
- Input field size: 215/160/120 mm or similar
- Central resolution: 50 lp/cm or better
- Laser Guide
- Cassette Holder

**X-ray Grid**

- Grid : 103line/inch or better
- TV Camera
- Resolution: 1024 X 1024 or more
- A/D-Conversion: 14 bit or more
- Should be able to LIH Image rotation
- Image inversion should have both direction Horizontal and Vertical

**LCD Monitor**

- Screen size: 19" diagonal
- Pixels: 1280 x 1024
- Units to be mounted on the cart
- Two LCD monitors
- Lead Apron Qty 06

**ITEM NO. 09**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>LAPAROSCOPE COMPLETE SYSTEM WITH INSTALLATION &amp; ONLINE UPS</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<b><u>FULL HD Laparoscopy system with medical units</u></b>			
<b>Full HD Telescope Diameter 10mm, Length 330mm, ViewAngle 0</b>			<b>1</b>
<ul style="list-style-type: none"> <li>• Degree Fiber optic light transmission incorporated</li> <li>• Type: Autoclavable</li> </ul>			
<b>Full HD CMOS camera system</b> with latest sensor technology for brilliant			<b>1</b>
<ul style="list-style-type: none"> <li>• image display with user preset configurations</li> <li>• Full HD image quality: (1920x1080p)</li> <li>• Colour System : PAL/NTSC</li> <li>• Aspect Ratio : 16:09</li> </ul>			
<b><u>SPECIAL FEATURES:</u></b>			
Predefine display setting according to the surgical specialty and also Easy operation of camera functions via integrated control buttons in the camera head			
<b>Video Output:</b>			
<ul style="list-style-type: none"> <li>• DVI-D Signal (2)</li> <li>• S-Video signal to 4-pin Mini DIN socket (2x)</li> <li>• RGB signal to D-sub socket</li> <li>• HD-SDI signal to BNC socket</li> </ul>			
<b>Control:</b> Controllable button on camera head for light source and other valuable function.			
<b>Full HD CMOS camera with zoom coupler</b>			<b>1</b>
<ul style="list-style-type: none"> <li>• HD camera head, HD Camera Head max. resolution 1920 x 1080 pixel Progressive Scan, 50/60 Hz, with 2 freely programable</li> <li>• Camera Head buttons, with integrated Parfocal-Zoom focal</li> <li>• length f = 13 - 32mm For use with color system PAL and NTSC</li> </ul>			
<b>26" HD Flat Screen Monitor, Desktop</b>			<b>1</b>

- Color System: PAL/NTSC
- Aspect ratio: 16:09
- Resolution max: 1920 x 1200, Progressive Scan
- Composite: S-Video RGB, DVI and VGA Input
- Brightness: 300cd/m<sup>2</sup>
- Contrast: 700:01
- Max Viewing Angle: 178° Vertical

**Video input:** - Composite signal to BNC socket

- S-video signal to 4-pin Mini DIN socket

**MONITOR STAND FOR LCD HD MONITOR**

**1**

**LED light source, with integrated measurement system for light cable**

**1**

transmission measurement, push to stand by and rotation knob

**Electronic insufflator 40 Liter** with integrated gas preheating device and max flow upto 40 litre/minute

**1**

Reusable silicon tube

**1**

CO<sub>2</sub>-FILTER STER 25 UNITS

**1**

**FULL HD Fiber Optic Light Cable, size 4.8 mm, length 250 cm, heat-resistant**

**1**

**Endo Trolley Imported - Wide**

**1**

**Trocar, size 10 mm, color code: green, Consisting of:**

- Pyramidal Obturator, Length 110mm
- Special trocar Body
- Trocar shaft
- FLAP VALVE F/1012.5&15MM TROC

**2**

**2**

**2**

**1**

**Trocar, size 5.5 mm, Consisting of:**

- Pyramidal Obturator, Length 110mm
- Complete trocar
- FLAP VALVE F/2.55.57MM TROCARS

**2**

**2**

**1**

**Veress Insufflations Needle 12cm**

**1**

**Reduction Sleeve**

**1**

**( 10/5mm) length 165mm**

**Atraumatic Alligator Forceps , rotating, with** connector pin for unipolar coagulation, size 5 mm, length 33 cm, Single action jaws, **Consisting of:**

**1**

Forcep insert

Outer Tube, insulated

Plastic Handle, ratchet & non ratchet

**Universal grasper and dissecting forceps**

**1**

connector pin for unipolar coagulation, size 5 mm, length 35cm, Double action jaws,

**Adtec fixation & Dissecting Forceps 2x4 teeth, rotating, with**

**1**

connector pin for unipolar coagulation, size 5 mm, length 35cm, Single action jaws,

**Maryland Dissecting Forceps, rotating, with**

**1**

connector pin for unipolar coagulation, size 5 mm, length 35cm, double action jaws,

**Consisting of:**

Forcep insert

Outer Tube, insulated

Plastic Handle, without ratchet

**Medium Metzenbaum scissor, Bladdes Curved, rotating , with**

**1**

connector pin for unipolar coagulation, size 5 mm, length 35cm,

Single action jaws,

**Consisting of:**

Forcep insert

Outer Tube, insulated

Plastic Handle, Without Ratchet	
<b>Adtec bullet fixation &amp; grasping Forceps, rotating, with</b>	<b>1</b>
connector pin for unipolar coagulation, size 5 mm, length 35cm,	
Single action jaws,	
<b>Consisting of:</b>	
Forcep insert	
Outer Tube, insulated	
Plastic Handle, universal	
<b>Laparoscopy L -hook electrode with modular shaft</b>	
Diameter 5mm length 340mm	
Consists Of:	
<b>Handle for Electrode</b>	<b>1</b>
<b>J- Hook Electrodes</b>	<b>2</b>
<b>L- Hook Electrodes</b>	<b>1</b>
<b>HF High frequency cable</b>	<b>1</b>
<b>Suction &amp; irrigation tube, 2 way stopcock, 5mm, 31cm</b>	<b>1</b>
<b>CLIP APPLICATOR LOCAL PROVIDED ( FOC)</b>	<b>1</b>

ITEM NO. 10

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>FIBER OPTIC INTUBATING SCOPE SYSTEM FOR ANESTHESIA</b>	<b>Qty</b>	<b>02</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Latest CMOS technology based scope</li> <li>• Integrated LED Light Source</li> <li>• Fibreless scope with a camera chip on the tip technology</li> <li>• Image quality of 110,000 pixels or more</li> <li>• Controls button for Imaging, White Balance &amp; Video Recording</li> <li>• Deflection up/down: 140°/140°</li> <li>• Direction of view: 0°</li> <li>• Angle of view: 100°</li> <li>• Working length: 65 cm or better</li> <li>• Total length: 93 cm or better</li> <li>• Working channel inner diameter: 1.5 mm or better</li> </ul>			
<b>Including Accessories:</b>			
<ul style="list-style-type: none"> <li>• Leakage Tester 1</li> <li>• Tube Holder 1</li> <li>• Cleaning Brush 1</li> <li>• Irrigation Adaptor 1</li> <li>• Suction Valve 1</li> <li>• Bronchoscope Insertion Tube, size 4 1</li> <li>• Bronchoscope Insertion Tube, size 2 1</li> <li>• Plug, package of 10 1</li> <li>• Protection Cap 1</li> </ul>			
<b>Portable Monitor</b>			
7" or more TFT Wide Angle View Display			
Can connect Video Endoscope & Video Laryngoscope with toggle button			

Video Imaging in 4:3 format  
 High image resolution with 110,000 pixels or more  
 Documentation with SD Storage and backup on USB memory  
 Connection for use of two video endoscopes  
 HDMI output for connection to a external monitor  
 Play back system for images & videos  
 Operates even during charging  
 2 hours battery back-up  
 Proshield for Flexible scope 1  
 Holder for Flexible scope 1  
 Imported Stand from the same manufacturer 1  
 Plastic sterilization container for flexible endoscopes 1

## ITEM NO. 11

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	TISSUE FUSION AND VESSEL SEALING SYSTEM	Qty	01
<b>Specification</b>			
<b>WITH ADVANCE BIPOLAR AND MONOPLOAR SYSTEM</b>			
Mode	Rated Load ( )	Rated Output Power (W)	Peak Voltage
<b>Monopolar CUT</b>			
PURE	250 or above	300 or above	910 or above
BLEND	300 or above	200 or above	1100 or above
Unique Mode	300 or above	200 or above	1549 or above
<b>Monopolar COAG</b>			
FULGURATE	500 or above	120 or above	3135 or above
SPRAY	500 or above	120 or above	3575 or above
SOFT	100 or above	120 or above	240 or above
<b>Bipolar</b>			
LOW (1-15 W)	100 or above	15 or above	88 or above
MEDIUM (16-40 W)	100 or above	40 or above	143 or above
HIGH (45-95 W)	100 or above	95 or above	310 or above
<b>Vessel Sealing</b>	20 or above	350 or above	163 or above
<b>Bipolar Resection</b>			
CUT	500 or above	375 or above	495 or above
COAG	100 or above	175 or above	212 or above
• Defibrillator Proof			
<b>Accessories Includes</b>			
Vessel Sealing Hand instrument 10mm		04	
Vessel Sealing Hand instrument 5mm		04	
Monopolar Hand switching Leads		10	
Bipolar Lead		04	
Bipolar Forceps		01	
Patient Return Electrode Cord Reusable		01	
Patient Return Electrode		100	
Vessel sealing Footswitch		01	
Monopolar Footswitch		01	
Bipolar Footswitch		01	

ITEM NO. 12

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SHOE COVER WRAPPING MACHINE</b>	<b>Qty</b>	<b>02</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Capacity 1000pcs or more</li> <li>Life 300,000 time or more</li> <li>Standby time <math>\leq</math> 80w</li> <li>Preheating time <math>&lt;</math> 120s</li> <li><u>ABS Material</u></li> <li><u>Additional 20 rolls of wrapping</u></li> </ul>			

PHYSIOTHERAPYITEM NO.13

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>THERAPEUTIC ULTRASOUND</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Should be dual frequency ultrasound 1 MHz and 3 MHz.</li> <li>Touch screen display.</li> <li>Easy wipe clean and reducing the risk of cross-infection.</li> <li>Treatment Programs more than 9 user-defined set-ups</li> <li>Treatment Time should be 0 ~ 30 min or better.</li> <li>Maximum Intensity should be 1.5 W/cm<sup>2</sup> in CW, 3.0 W/cm<sup>2</sup> in pulsed and pulse duration should be 2ms.</li> <li>Treatment Protocols should be pressure ulcers, chronic venous ulcers, trigger point low irritability, tendon injury/ lesion, chronic osteoarthritis, rheumatoid arthritis, tennis elbow, carpal tunnel, fibromyalgia, soft tissue stretch, impingement syndrome, calcific tendonitis, perineal pain (persistent), perineal pain (partum)</li> <li>Output Modes CW pulsed should be 1:1, 1:2, 1:4 and 1:9 or better</li> <li>Maximum Output Power should be 6W average</li> <li>Accessories should be supplied: Large treatment head, one bottle of coupling gel (250ml).</li> </ul>			

ITEM NO. 14

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF HYDRO COLLATOR</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Stainless steel and supplied with a basket and support hooks for standard hot pack bags</li> <li>Water capacity should be 60 liters or more</li> <li>Should have protective resistance heating grill.</li> </ul>			

- Temperature range from 1 – 90 degree or better.
- Adjustable digital thermostat
- Fully insulated to reduce heat loss
- Full drainage valve
- Lockable wheels for better mobility and improved heat insulation.
- Holding capacity of hot pack should be 10 packs.

**ITEM NO.15**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF MULTIPLE CURRENT</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Multi-frequency Therapy Machines.</li> <li>• Should LCD Display.</li> <li>• System should be use in various treatments including bone growth stimulation, tendon injury/ lesion, chronic osteoarthritis, rheumatoid arthritis, tennis elbow and many other conditions.</li> <li>• Should be Low and medium frequency outputs.</li> <li>• Rehabilitation purposes, preventing muscle atrophy caused by musculoskeletal injuries, such as damage to bones, joints, muscles, ligaments and tendons.</li> <li>• Stimulation includes Interferential, Russian, Diadynamic, TENS, Sinusoidal, Faradic, Galvanic, Interrupted Galvanic, Trabert, Medi-Wave, Micro-current and S/D curve.</li> <li>• Should be three carrier frequencies of 2 kHz, 4 kHz and 8 kHz or better.</li> <li>• Vector facility should be available.</li> <li>• Peak constant current should be 0 – 80 mA or more.</li> <li>• Treatment protocols: Pain relief, Oedema, Stimulate local blood flow, OA Knee, Chronic low back pain, acute low back pain, Fibromyalgia, Trigger points, Post-operative knee pain, Fracture healing, Stress incontinence, Urge incontinence, Constipation etc.</li> <li>• Should be 2 independent output channels which allows 2 different treatments</li> <li>• Treatment Time should be 0 – 30 minutes.</li> </ul>			

**ITEM NO. 16**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PULSE &amp; CONTINUOUS SHORT WAVE DIATHERMY</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Continuous and pulsed shortwave therapy with up to 10 programmable memory functions.</li> <li>• Touch screen display</li> <li>• Output power continuous HF Max 400W or less pulsed HF Max between 1,000W pulsed.</li> <li>• Wide range of pulse widths between 20 - 350 microseconds or more.</li> <li>• Wide range of pulse frequencies between 5 - 700 pulses per second or more</li> <li>• Distinctive ergonomic design with rugged, lockable castors.</li> <li>• Up to 30 minutes treatment time.</li> <li>• Choice of output modes should be continuous or pulsed 1 in 3, 2 in 3 and 3 in 3 or more.</li> <li>• Should be with durable electrode arms and two 100mm capacitive electrodes</li> </ul>			

ITEM NO. 17

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>CERVICAL TRACTION</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Should be large and high-visibility LCD screen display in ten languages.</li> <li>LCD Display should be 320 x 240 pixels or more.</li> <li>Should be eight traction modes; intermittent, static, progressive, regressive, cyclic, and combinations thereof.</li> <li>Pulling speed selectable from five preset values.</li> <li>The number of ramp steps and the pause time of each step are selectable. Combining these parameters with pulling speed and traction mode makes the model suitable for various symptoms.</li> <li>Memories of free program should be 30 or more.</li> <li>Should be automatic calibration of traction force to maintain correct traction force.</li> <li>Should be displayed on the screen of both the set value and the actual value.</li> <li>One of three melodies signaling the end of therapy should be selected to distinguish which system has completed therapy.</li> <li>Pleasant touch key sound. Either monotone or sol-fa sounds should be selected.</li> </ul>			

ITEM NO. 18

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>WAX THERAPY UNIT</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Mobile type wax bath for even heat distribution.</li> <li>Thermostatically controlled with a safety cut-out in the event of lack of water</li> <li>Water Capacity should be 15 liters or more.</li> <li>Temperature between 45° to 47°C.</li> <li>Overheating safety mechanism.</li> <li>Complete with 25 kg wax.</li> </ul>			

ITEM NO. 19

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>Treadmill</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Patient weight capacity not less than 130 kg.</li> <li>Large LCD screen with a blue backlight for a clear display for viewing during exercise.</li> <li>Display shows: Watch your time, speed, elevation, pulse distance, calories, program and other functions while you work-out to ensure your body is safe from injury and your progress at the right pace including 7 High Intensity Interval Training programs.</li> <li>Each program can be individually tailored to specific time or distance</li> <li>The Bluetooth connectivity works with the high-powered stereo speakers for music playback to aid in movement.</li> </ul>			



- 3 or 4 direct speed buttons.
- Speed should be 0.3 – 18 km/h or better
- Incline should be 0 – 10% or better.
- Soft drop folding mechanism and cool down feature
- Cushioning fully shock absorbed deck
- Handrail buttons adjusting speed and elevation

**ITEM NO. 20**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>TENS UNIT</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Should be dual-channel output with memory function.</li> <li>• LCD display that is easy to use.</li> <li>• Use for chronic, severe and acute pain.</li> <li>• Pulse width should be variable 50 ~ 200µs or better.</li> <li>• Frequency variation should be 1 ~ 200Hz or better.</li> <li>• Should be continuous, burst or modulated mode.</li> <li>• Weight should be 120g or less.</li> </ul>			

**ITEM NO. 21**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>ELECTROTHERAPY LOW FREQUENCY</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Multi-frequency Therapy Machines.</li> <li>• Should LCD Display.</li> <li>• System should be use in various treatments including bone growth stimulation, tendon injury/ lesion, chronic osteoarthritis, rheumatoid arthritis, tennis elbow and many other conditions.</li> <li>• Should be Low and medium frequency outputs.</li> <li>• Should be used for rehabilitation purposes, preventing muscle atrophy caused by musculoskeletal injuries, such as damage to bones, joints, muscles, ligaments and tendons.</li> <li>• Stimulation includes Interferential, Russian, Dynamic, TENS, Sinusoidal, Faradic, Galvanic, Interrupted Galvanic, Trabert, Medi-Wave, Micro-current and S/D curve.</li> <li>• Should be three carrier frequencies of 2 kHz, 4 kHz and 8 kHz or better.</li> <li>• Vector facility should be available.</li> <li>• Peak constant current should be 0 – 80 mA or more.</li> <li>• Treatment protocols: Pain relief, Oedema, Stimulate local blood flow, OA Knee, Chronic low back pain, acute low back pain, Fibromyalgia, Trigger points, Post-operative knee pain, Fracture healing, Stress incontinence, Urge incontinence, Constipation etc.</li> <li>• Should be 2 independent output channels which allows 2 different treatments</li> <li>• Treatment Time should be 0 – 30 minutes</li> </ul>			

ITEM NO.22

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	INTERFERENTIAL THERAPY WITH SUCTION	Qty	1
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Should be touch screen technology.</li> <li>Three carrier frequencies should be 2 kHz, 4 kHz and 8 kHz.</li> <li>Peak constant range should be 0 ~ 100mA or 0-70/140V peak constant voltage, depending upon mode.</li> <li>Treatment protocols should be pain relief, oedema, stimulate local blood flow, OA knee, chronic low back pain, acute low back pain, fibromyalgia, trigger points, postoperative knee pain, fracture healing, stress incontinence, urge incontinence, constipation (children)</li> <li>Output should be 2 independent channels which allow 2 different treatments.</li> <li>Easy wipe clean reducing the risk of cross-infection.</li> <li>Power Input should be 18 V, 3.33A external PSU</li> <li>Compatible Suction / Vacuum unit to be used with Interferential unit</li> <li>Should be pulsed or continuous vacuum.</li> <li>Channel selection option: Channels A B or Channel A only.</li> <li>Powerful new super-quiet vacuum with virtually no vibration.</li> </ul> <p><b>Accessories should be supplied:</b></p> <ul style="list-style-type: none"> <li>➤ 2/4-pole patient lead and four electrode connection cables (blue and yellow).</li> <li>➤ Four medium (100 x 70 mm) rubber electrodes.</li> <li>➤ Four medium sponge covers.</li> <li>➤ Two stretch bandages (1200 x 75 mm).</li> <li>➤ Four vacuum electrode cups (60mm) each with sponge inserts.</li> <li>➤ Four vacuum electrode leads.</li> <li>➤ One link lead to connect to inferential unit.</li> </ul>			

ITEM NO. 23

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	TABLE FIXED HEIGHT TRACTION PLUS UNIT	Qty	1
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Should be hydraulic height adjustment.</li> <li>Should be able to lift up to 220 kg or more from its lowest height.</li> <li>Rolling top with a full travel of 20 cm or more.</li> <li>Should be breathing hole and plug fitted</li> <li>Should be Cervical, thoracic and pelvic masts and harnesses</li> <li>Should be backrest adjustment by gas strut mechanism</li> <li>Backrest angle adjustable from -35° to 80° vertical</li> <li>Hoist clearance of 12 cm or more</li> <li>Robust retractable castors for excellent mobility and safety.</li> </ul>			

ITEM NO. 24

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>BICYCLE EXERCISE</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Should be electronically controlled magnetic resistance with 15 stages.</li> <li>• Should be 4 user memory plus 1 guest user</li> <li>• Back lit LCD with 10 training programs and program editor, including heart rate controlled program</li> <li>• Drive wheel rotational index 7 or more for very smooth movement.</li> <li>• Horizontally and vertically adjustable saddle.</li> <li>• Reliable locking and tool free interchanging saddle</li> <li>• Integrated pulse receiver for use with chest strap, and hand pulse sensors.</li> <li>• Pulse recovery setting and fitness rating.</li> <li>• Should be height adjustable handle bars.</li> <li>• Transport castors at front, rear stabilizers at the rear.</li> <li>• Load Capacity should be 125 kg or more.</li> </ul>			

DENTAL ITEMSITEM NO. 25

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>AUTOCCLAVE- CLASS B</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Smart with multi safety protection Functions</li> <li>• Built-in printer</li> <li>• 24Litre</li> <li>• Integrated Self-contained Steam Generator (Better Steam Infusion)</li> <li>• <math>\geq</math> Five procedure and Automatic process</li> <li>• Intelligent Vacuum Drying</li> <li>• Double water pumps</li> <li>• Double condensers</li> <li>• Double fans,</li> <li>• Detachable Rear Panel</li> </ul>			

ITEM NO. 26

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>ULTRA SONIC SCALAR</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• With Endo irrigation option Complete with Detachable Metal Type Hand piece,</li> <li>• Scaling, Perio, Endo irrigation Complete with Metal Hand piece</li> <li>• 5 Tips, Tips Changing Key, Water Tubing, Foot Control &amp; Power Supply</li> </ul>			

**RADIOLOGY ITEMS****ITEM NO. 27**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>X-RAY 300 MA DIGITAL RADIOGRAPHY (DR)</b>	<b>Qty</b>	<b>02</b>
<b>Specification</b>			
<p>Digital Radiography with flat panel detector complete with work station, printer unit  300mA/125kV High frequency X-Ray generator with universal tube stand and mobile table.  X-ray generator :  High frequency inverter type microprocessor x-ray generator.  Three phase , 32 kW Generator.  Automatic line compensation.  Over load tube protection.  Radiographic kVP 40~125kV  Radiographic mA 10~300mA or more  Exposure time: 1 ms ~ 6s or more.  500 or more Anatomical program.</p> <p>X-Ray Tube:  Maximum Tension, 125 KVP.  Small focus 1.0 mm.  Large focus 2.0 mm.  Anode Heat capacity 140 KHU</p> <p>Universal stand:  Arm: Source image distance (S.I.D): from 125 to 175cm or better.  Vertical movement : 105cm or better.  Arm's rotation: +/- 120° or better.  Tube's rotation: +/- 180°.  Bucky center/floor distance: From 39 to 155 cm.  Tilting : +/- 45°.  Grid: ratio 8:1 or better</p> <p>X-ray table:  table top dimension: length: 190~220 cm.  height 60~90cm.  Table top weight capacity not less then 200kg.</p> <p>Manual Collimator with light indicator</p> <p>Flat Panel Digital X-Ray Detector (FPD)  14x17" Cesium Iodide (CsI) with Amorphous Silicon  Pixel Matrix: 3556 (H) × 4320 (V)  Pixel Pitch: 148μ m or less  DQE : &gt; 70 %</p>			

A/D Conversion: 16 bit

Work Station

Processor : Intel Core I3-2120, 1GT)

Memory : 8GB ,1600MHz /Hard Drive : 500GB 3.5inch

Complete with hardware such as mouse, key board etc

TFT Color monitor 18" or more/Resolution 1280 x 1024 Pixel

DICOM Compliant DICOM 3.0

Acquisition software:

Operation software for generator and digital panel

Generator Synchronisation

Image processing

Image management (PACS, HIS/RIS etc...)

full DICOM 3.0 Compatibility

DICOM work list from HIS/RIS Store Images through PACS network system

DICOM image print

DICOM MPPS

DICOM CD/DVD

Image quality control tools with pixel fixing tools

AEC and APR

Image cropping, Image mirror, rotate etc

Complete with Printer and 5KVA UPS of well reputed brands such as ABB, GE, Eaton etc.

ITEM NO. 27-B

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	PACS SYSTEM FOR COMPLETE 150 BEDDED HOSPITAL	Qty	02
Specification			
PACS for four to five modalities Upgradeable to other modalities Viewing station: 30 numbers inside the different department of hospital such as OPD, Consultant Clinic, Operation Theatre, ICU/CCU, Emergency etc.. Easy to configure Scalable and upgradable High operation speed Advance DICOM print for different lay out and sub layouts. Paper print , e-mail, CD burn Capable to export DICOM images in different format Capable to store patient history Reporting Complete with hard ware and software with networking cabling, installation and commissioning			

## ITEM NO. 28

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	COLOR DOPPLER (ULTRASOUND)	Qty	01
<b>Specification</b>			
<ol style="list-style-type: none"> <li>1- Fully digital beam former based system</li> <li>2- Having 128 physical channels or more</li> <li>3- Processing channels: 150,000 or more</li> <li>4- Color Doppler capability: 12-bit A/D conversion</li> <li>5- 2D/M-mode</li> <li>6- Doppler facilities(pw, HPRF, &amp; color flow imaging)</li> <li>7- High resolution imaging doppler signal quality.</li> <li>8- Having dicom compatibility</li> <li>9- Upgradeable to strain ELASTOGRAPHY, and 4d imaging on convex and ENDOCAVITY probe.</li> </ol> <p><b><u>B-MODE SPECIFICATION :</u></b></p> <ol style="list-style-type: none"> <li>a. Sector scan angle variable in four steps.</li> <li>b. Viewing depth: 40cm or more (both in B&amp;W and color).</li> <li>c. Built in cine loop with ability to vary reverse and slow motion of display; internal memory 300mb.</li> <li>d. Real time and freeze image magnification at least 25x or more with panning for real, freeze.</li> <li>e. Frame rate: 500 frames minimum</li> </ol> <p><b><u>M-MODE SPECIFICATION :</u></b></p> <ul style="list-style-type: none"> <li>• Sweep speed: slow, medium, fast.</li> <li>• Color display of m-mode.</li> </ul> <p><b><u>D-MODE SPECIFICATION :</u></b></p> <ul style="list-style-type: none"> <li>• Pulse-wave doppler measurable velocity range.</li> <li>• Hprf doppler.</li> <li>• Colorized spectrum display.</li> <li>• Automatic baseline and velocity range control.</li> <li>• Live measurements for doppler spectrum.</li> <li>• Sample gate size: 1 – 20.</li> <li>• Doppler prf range:               <ul style="list-style-type: none"> <li>○ Pwd: 0.3khz to 52.0 khz</li> <li>○ Cwd (option): 1.4khz to 52.0 khz</li> </ul> </li> <li>• Maximum detectable velocity range:               <ul style="list-style-type: none"> <li>○ Pwd: 1850cm/s</li> <li>○ Cwd (option) : 2200cm/s</li> </ul> </li> <li>• MINIMUM DETECTABLE VELOCITY RANGE:               <ul style="list-style-type: none"> <li>○ Pwd: 0.03cm/s</li> <li>○ Cwd (option): 3.2cm/s</li> </ul> </li> </ul> <p><b><u>COLOR DOPPLER MODE SPECIFICATIONS :</u></b></p> <ul style="list-style-type: none"> <li>• Pw doppler must be continuous steerable in the color blood flow image mode in real time.</li> <li>• 2d image with color, cw (option) wand pw doppler.</li> <li>• Windows based system for easy usage with programmable control panel keys.</li> <li>• Tissue harmonic imaging with 4<sup>th</sup> i frequencies.</li> <li>• Power doppler.</li> <li>• Triplex mode for simultaneous display of color b/m and d-mode displays.</li> <li>• 260 db system dynamic range or more.</li> <li>• Independent steering of b and color 30<sup>0</sup> separately.</li> </ul> <p><b><u>MEASUREMENT PACKAGE :</u></b></p>			

- To provide comprehensive software package for measurement of distance, circumference, area, time depth, velocity, frequency, heart rate, volume.
- Auto-nuchal thickness measurement software to be provided as standard.

**SYSTEM COMPLETE WITH FOLLOWING FACILITIES AND ACCESSORIES:**

- Full 19-inches or more display area for diagnostic imaging lcd/tft color monitor.
- Monitor resolution 1280 x 1024 pixels minimum .
- Active transducer connector for transthoracic probes.
- Dvd/cd drive for image storage to be built-in to the system.
- At least 500gb hard disk drive to be built-in to the system.
- Dicom media storage.
- Touch command screen control at least 8-inches color lcd/tft.
- Or more different users presets.

**UPGRADEABILITY :**

- System software must be upgradeable.

**STANDARD PROBES :**

- 2-6MHz Multi-Frequency Convex Probe For B/M/Cdi/Pw.
- 5-11MHz Multi-Frequency Linear Probe For B/M/Cdi/Pw.
- 4-10MHz Multi-Frequency ENDOCAVITY Probe For B/M/Cdi/Pw.

**TISSUE DOPPLER IMAGING MODE.**

- Tissue harmonic imaging with 4 harmonic frequencies.
- Auto image optimization/quick scan imaging for automatic stc / gain and doppler spectrum adjustment with optimal image quality by using one touch operation.
- Trapezoid imaging / wide view imaging.
- Sono ct/compound/aplature imaging for both frequency compounding and spatial compounding in B/W and color mode.
- Adaptive Suppression Imaging /Precision Imaging To Enhance B-Mode Imaging, Detailed In Layers And Boundaries And Sharpened Outlines Of The Lesions And Reduce Cluttering

**ACCESSORIES :**

- A. B/W Thermal Printer.
- B. Compatible UPS (imported).

**OPTIONAL (MUST BE QUOTED SEPARATELY. IF IN CASE THESE ARE NOT QUOTED, OFFER WILL NOT BE ENTERTAINED):**

- A. 7-14 MHZ Multi-Frequency Linear Probe For B/M/Cdi/Pw For Breast Imaging With Strain ELASTOGRAPHY.
- B. Shear wave ELASTOGRAPHY with measurement for body organs specially for liver with convex probes to visualize tissue stiffness by generating images through shear wave propagation, speed and elasticity modes. Shear wave with propagation maps.
- C. B-flow with color and xdclear-2/micro cpa/ superb micro imaging/vascular enhancement/b flow with color/spectral to clearly show blood flow in tiny vessels.
- D. Smart 3d for the acquisition of volume data and display of 3d images in b/w as well as color without using a 4d transducer.
- E. Advance dynamic flow with color and spectrum / micro cpa color with Doppler spectrum/color b flow with doppler spectrum to visualize the flow in tiny vessels like gallbladder wall, liver capsula etc.
- F. 3-7 mhz multi-frequency 4d volume convex probe for 4d imaging with rendering modes including volume rendering, maximum intensity projection (mip), multiple plane rendering (mpr) and cavity also with multi view (.simultaneous coronal, sagittal and oblique view), and full volume view.
- G. Multi frequency 4d volume ENDOCAVITY probe for 4d imaging.
- H. Hd imaging / luminance imaging process technology to make 3d/4d images of fetuses and anatomical structures appears more realistic.
- I. 5-10MHz Multi frequency Biplane End rectal Probe

## ITEM NO. 29

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PORTABLE ULTRASOUND MACHINE DIGITAL GYNAE + GENERAL PURPOSE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Digital Ultrasound scanner with digital beam former System should be capable to handle multi frequency probes from 3.0 MHz to 12.0 MHz or above.</li> </ul> <p><b>Display MODES:</b> B, B/B, B/Z, B/M, M</p> <ul style="list-style-type: none"> <li>Multi frequency 2.8, 3.5 up to 5 MHz Convex Probe</li> <li>Modes: B.M and combination thereof.</li> <li>B/Z mode.</li> </ul> <p><b>Image adjustments :</b></p> <ul style="list-style-type: none"> <li>B-gain, M-gain 37 to 100db</li> <li>Dynamic Range 36db to <math>\geq</math> 90db</li> <li><math>\gamma</math> Correction 5 types (max 10.)</li> <li>d) sweep speed 5 steps</li> <li>Mode: indicate the intensity of echo signal by easy operation.</li> <li>Gray scale: 256</li> <li>Sensitivity time gain: 8-12 steps</li> <li>Depth: 24 cm or more</li> <li>Focusing system: 2 steps or more and dynamic</li> <li>Adjustable acoustic power (20% to 100%)</li> <li>Keyboard: Alpha numeric with track ball</li> <li>Tissue Harmonics: Tissue Harmonic imaging</li> <li>Cine memory of 64 frames minimum up to 255 frames</li> <li>Image storage with review facility. USB Port for data transfer</li> <li>Post processing: Image inversion, edge/echo enhancement correlation / persistence/Dynamic range/Gamma Curve.</li> <li>Image magnification 4x or more in real time.</li> <li>Monitor: 12" SVGA Color LCD /TFT</li> <li>Two probe connectors active or more</li> <li>Measurements package: Abdominal, Obs, Nt and AFI</li> <li><b>Accessories:</b></li> <li>Thermal Printer 256-Gray scale</li> <li>Compatible UPS</li> <li>100 High Density Rolls.</li> <li>Local made mobile fiber top trolley</li> <li><b>Optional quote separately:</b></li> <li>Multi-frequency 5.0, 7.5 up to 9 MHz Endo- cavity Probe</li> </ul>			

## ITEM NO. 30

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PORTABLE ECHOCARDIOGRAPHY MACHINE FOR CARDIOLOGY DEPT.</b>	<b>Qty</b>	<b>1</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Premium performance application of cardiovascular imaging in pediatrics and adult.</li> </ul>			



**DISPLAY:**

- High resolution non interlaced, flicker free 13" or more LCD/TFT display tilt able.

**OPERATING MODES:**

- B, 2D M-Mode,
- Power Doppler,
- HPRF, Spectral Doppler,
- Color Doppler,
- XFLOW ,
- Velocity Mode,
- Pw Doppler,
- Duplex And Triplex Doppler,
- CW Doppler Steerable and ECG Gating, TEE imaging , IMT, Stress Echo, Tissue Doppler Imaging, Tissue strain imaging, Contrast Imaging, Anatomical M Mode, Panoramic Imaging,

**CONTROL PANEL:**

- Alphanumeric keyboard with built-in trackball.
- Direct access to system functions through dedicated keys.
- Indicator lights identify activated keys.
- Audio volume control with bidirectional / stereo speakers
- User selectable image magnification control.
- Active Probe connectors + 1 for Doppler probe.
- Built in battery operation
- Built-in Hard Disk 250 GB
- 8.4" Touch Screen or more

**CALIPER / MEASUREMENTS :**

- 8 calipers for measurement per screen trace length measurements for:
- Distance, angle, distance depth from skin line, area, circumferences, compound / volume, slope, time, heart rate and acceleration, Auto Ejection Fraction Measurements.

**APPLICATION:**

- Cardiac, Peripheral, pediatric, adult cephalic and transesophageal with all required software for measurements.

**DISPLAY MODES:**

- Live and stored display format: full size and split screen. Review image format: for still and cine, simultaneous capability B+PW, B+ CFM +PW, CW, B+ or triplex mode, B+ color split screen display.
- 2D mode M-mode, color Doppler imaging, color Doppler imaging, color m-mode, PW / HPRF Doppler, CW Doppler, TEE imaging , IMT, Stress Echo, Tissue Doppler Imaging, Tissue strain imaging, Anatomical M Mode, Panoramic Imaging, Vascular imaging, vascular calculations, cardiac measurements and full cardiac imaging.

**CINE MEMORY**

- Min. Cine Memory for 1000 frames or 250mb min.

**IMAGE VIEWING DEPTH:**

- 30cm / 300 mm or more

**IMAGING MODES / TECHNIQUES:**

- Tissue harmonic Imaging, Power Doppler Imaging,
- Vascular imaging software for carotids

**STORAGE DEVICE**

- Built-in CD / DVD/ USB Drive

**SYSTEM DYNAMIC RANGE**

Dynamic range minimum 200 dB or more

**COMMUNICATION SOFTWARE**

- System should be upgradable for DICOM 3 communication software for:
- Image Storage, print, Query / Retrieve, Network Communication.

**PORTS:**

- Video Output, USB / RS 232, Networking

**POWER REQUIREMENT**

- 220-240VAC 50 Hz

**STANDARD TRANSDUCERS:**

- Multi frequency adult phased array sector probe to cover 1 - 4 MHz
- Multi frequency Phased array sector probe to cover 3 - 9 MHz for Pleads.

**ACCESSORIES:**

- Imported Trolley
- Thermal Printer 256-Gray scale
- 100 High Density / High Glossy thermal paper Rolls
- Gel: 20 liters

**AUDIOLOGY / ENT ITEMS****ITEM NO. 31**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	TYMPANOMETER	Qty	01
Specification			
<ul style="list-style-type: none"> <li>Middle Air Analyzer With Thermal Printer</li> <li>Diagnostic middle air analyzer capable of performing fast and reliable automatic sequences of Tympanometry and reflex threshold</li> <li>Tests, decay, EFT, and high frequency Tympanometry.</li> <li>Extremely light, small and sturdy probe, which can be rapidly disassembled and cleaned.</li> <li>Connected to a control box from which you can select the ear and start exams.</li> <li>Probe tone: 226Hz @ 85 dB SPL_ Stimulations: 250 ( C ) 500, 1k, 2 k, 4k Hz_ Acoustic Tympanometry</li> <li>Automatic test ISPI/CONTRA (up to 8 tests)</li> <li>Automatic sequences of tests</li> <li>Software for patient management and examinations result, included Compatible with NOAH software</li> </ul>			

**ITEM NO. 32**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	ENT UNIT WITH ALL STANDARD INSTRUMENTS/	Qty	01

	ACCESSORIES		
<b>Specification</b>			
<b>Basic Module</b>			
<ul style="list-style-type: none"> <li>• Strong, durable and corrosion resistant metal. Metal and PU work surfaces are smooth for easy cleaning and durable against disinfectant solutions.</li> <li>• Three holders for medicament bottles and two holders for ear irrigation bottles which could be used in conjunction with irrigation and compressed air option. Placement area for three clean and two used endoscope quivers and mirror quick heater.</li> <li>• Integrated supports for holders of suction hose and compressed air handles with automatic on / off activation when removed or returned to the support. Unit should have holder integrated support for light guide cable or light handle.</li> <li>• One large and two small drawers.</li> <li>• Option of mobility.</li> <li>• Power supply for LED connections to light source, headlight and light handle for connection to endoscopes with automatic switching for headlight and light handle.</li> <li>• <b>Integrated Powerful Suction system with auto-start function.</b></li> <li>• <b>Compressed Air Module</b> <ul style="list-style-type: none"> <li>○ Compressed air max. 2.2 bar overpressure,</li> <li>○ Pump performance: 18 l/min</li> <li>○ Handles for compressive air with straight connection.</li> </ul> </li> <li>• <b>Medication Sprayers</b> <ul style="list-style-type: none"> <li>○ Straight sprayer for fluid medications including changeable sprayer bottle</li> <li>○ Sprayer with directional nozzle for fluid and oily medications</li> <li>○ Sprayer for powdery medications including changeable sprayer bottle</li> </ul> </li> <li>• <b>Ear Irrigation Module Compressed Air</b> <ul style="list-style-type: none"> <li>○ Warm water irrigation device for connection to the compressed air system. The water canister is heated to body temperature and provides 250 ml of water for ear irrigation</li> <li>○ Splash protection after connection of the water container to the compressed air handle. Including 2x water canister of 250ml, lid and nozzle attachment 80mm, hose tip 30 pcs, splash protection and ear rinsing bowl</li> </ul> </li> <li>• <b>Integrated LED Cold Light Module</b> <ul style="list-style-type: none"> <li>○ 1-channel illumination module for light systems based on light conductors with warm white high-performance LED.</li> <li>○ 1-channel high-performance LED light source for light conductor</li> <li>○ Automatic light control</li> <li>○ Adapter for light conductor available with the following connections: Storz, Wolf, Pentax, Olympus, ACMI or equivalent</li> <li>○ Brightness light source: min. 80 klx (comparable to 150 W Halogen)</li> <li>○ Service life LED light source: 50,000 h, colour temperature: 5,600 K</li> <li>○ Including Illumination module, 1 x Adapter for the light conductor</li> </ul> </li> <li>• <b>Headlight Hook</b> <ul style="list-style-type: none"> <li>○ Hook for headlamp with automatic switching above the workstation for storage and easy access</li> </ul> </li> <li>• <b>LED Headlight</b> <ul style="list-style-type: none"> <li>○ LED headlight with long-life and high-performance white light LED Service life 50,000 h, Infinitely adjustable focusing optic Headlight, cable 2 m, cable fixation clamp</li> </ul> </li> <li>• <b>Light guide cable</b> <ul style="list-style-type: none"> <li>○ 2x High-performance fiberoptic cable Ø 4,8 mm, L = 1,8 m, Storz-adapter, straight</li> </ul> </li> <li>• <b>Endoscope Management</b> <ul style="list-style-type: none"> <li>○ 3x 1-channel endoscope management for rigid scopes for the safe and quick storage of</li> </ul> </li> </ul>			

scopes (max. L = 190 mm) including 1 x black spacer sleeve, 1 x plastic quiver (open) for storage of clean endoscopes, 1 x plastic quiver (Ø 35 mm) for storage of used endoscopes (suitable for filling with disinfectant solution)

- **Patient Chair**
  - Seat height 46-66cm
  - Seat Manual adjustment
  - Maximum lifting capacity 150kg
  - Backrest Manual adjustment
  - Inclination angle -7° to 45°
  - Backrest infinitely variable from 5° to 45°
  - Ergonomically formed armrests
  - Footrest fully synchronised with the armrest and backrest
- **Doctor Chair**
  - Mobile on 5 castors
  - Height adjustment with backrest
- **ENDOSCOPES**
  - **Laryngoscopes, autoclavable, without light guide**
  - Laryngoscope 70°, Ø 10 mm, working length 176 mm
  - Laryngoscope 90°, Ø 10 mm, working length 174 mm
  - Laryngoscope 70°, Ø 8 mm, working length 166 mm
- **Ear Endoscopes, autoclavable**
  - Wide-angle optic, 0°, Ø 4 mm, working length 50 mm
  - Wide-angle optic 30°, Ø 4 mm, working length 50 mm
  - Wide-angle optic 0°, 2,7 mm, working length 34 mm
- **Nose / pharynx endoscopes , autoclavable**
  - Wide-angle optic 0°, Ø 4 mm, working length 180 mm
  - Wide-angle optic 30°, Ø 4 mm, working length 180 mm
  - Wide-angle optic 45°, Ø 4 mm, working length 180 mm
  - Wide-angle optic 70°, Ø 4 mm, working length 180 mm

**E.N.T EXAMINATION SET QUOTE AS OPTIONAL**

- 1 PCS. 20.102.14 Probe Buttoned with eye 2mm, 14cm
- 1 PCS. 20.290.18 Cotton Applicator Threaded 18cm
- 1 PCS. 44.012.00 Tynbee Ear Speculam 4.5 to 7.5mm set/3
- 1 PCS. 44.170.12 Gross Ear Spoon and Hook 12cm
- 1 PCS. 44.162.18 Sexton Ear Knife 18cm
- 1 PCS. 46.112.01 Vienna Nasal Speculum Infant 14.5cm
- 1 PCS. 46.151.18 Troeltsch Nasal Fcps Angled 18cm
- 1 PCS. 44.267.20 Ear Fcps Cup Jaws 2mm 8.5cm
- 1 PCS. 48.119.14 Tobold Tongue Depressor 14.5cm
- PCS. 48.107.19 Bruenings Tongue Depressor 19cm
- 1 PCS. 52.272.16 Laryngeal Mirror w/handle 16mm,
- 1 PCS. 52.272.14 Laryngeal Mirror w/handle 14mm,
- 1 PCS. 52.272.18 Laryngeal Mirror w/handle 18mm,
- 1 PCS. 52.274.12 Handle for Laryngeal Mirror 12cm
- 1 PCS. 20.270.14 Farrel Cotton Applicator Threaded 14cm
- PCS. H02180-01 E.N.T Diagnostic Set,  
Consisting of otoscope, ophthalmoscope,
- nasal speculam, mirror, tongue dpressor holder,

ITEM NO. 33

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>ABR UNIT WITH ALL STANDARD ACCESSORIES</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Two independent channels, acoustic and visual alarms Should allow the facial nerve monitoring (ENOG and BLINK REFLEX).</li> <li>Should have facility to run tests: C-VEmps, O-VEmps; ABR; E-ABR for cochlear implants; ECochG invasive; MLR, LLR, 40Hz, R-C Alt, P300, MMN, ASSR ( Auditory Steady Steate Response)</li> <li>Pre Amplifier CableER-3A Insert Headphones ( 3 boxes of inserts , small, medium and big included)</li> <li>Audiometry: manual and automatic Vocal Audiometry</li> <li>Internal memory for saving the vocal material Test ABLB, SISI, DLI, Tone Decay, Stenger</li> <li>Patient management and examinations result.</li> <li>Software HIGH FREQUENCY KIT recommended for TESTs FROM 8.000 Hz TO 20.000 Hz</li> <li>+ ABILITATION TO TINNITUS TEST. It includes Head phones</li> </ul>			

DIAGNOSTICS ITEMITEM NO. 34

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>HEMOGLOBIN METER</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Measurement range: 6≤20g/dL</li> <li>Precision: 1g/dL (standard deviation)</li> <li>Resolution: 0.1</li> <li>Rate (PR): Range: 30 to ≥ 240 bpm</li> <li>Checking Data management</li> <li>Data logger with real time and date.</li> <li>The measured Hb value are automatically stored.</li> <li>Multilingual data interface.</li> <li>Sensor emitted light LED wavelength range: 600 ≤ 940 nm</li> <li>Result time &lt; 60 second</li> </ul>			

ITEM NO. 35

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>MICROPIPETTE FIX SINGLE CHANNEL</b>	<b>Qty</b>	<b>7</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Adjustable pipettes. Robust body construction. precisely calibrated.</li> <li>Corrosion free ceramic construction piston.</li> <li>Tip holder &amp; ejector fully autoclave able.</li> <li>Measuring capacity of the following sizes.</li> <li>Fix ranges</li> <li><b>UL, 20 UL, 50 UL, 100 UL, 200 UL, 500 UL, 1000 UL</b></li> <li>Autoclave able, Easily calibration, Disposable tip 5000 each.</li> </ul>			

ITEM NO. 36

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>IMMUNE ASSAY SYSTEM</b>	<b>Qty</b>	<b>2</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Timeless system Values</li> <li>• Single-dose, ready-to-use reagents</li> <li>• All inclusive reagent kits,</li> <li>• Multiparametric assay combination facility.</li> <li>• More than 30 test at a time and individual section working</li> <li>• System robustness ( &gt; 700 days)</li> <li>• Calibration &lt;30 days</li> <li>• Automated barcode identification</li> <li>• Just Load and Go Flexibility,</li> <li>• Test sections must be multi parametric system</li> <li>• Processing of different parameters simultaneously</li> <li>• Large routine menu <math>\geq 90</math></li> <li>• Parameters in Immunochemistry and Infectious Diseases</li> <li>• Test volumes (30 or more than 60 tests)</li> <li>• No cross-contamination</li> <li>• All calibrator and controls must be included in the kit.</li> </ul>			

**BLOOD BANK ITEM**ITEM NO. 37

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>CRYOFUGE AUTOMATED REFRIGERATED CENTRIFUGE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Menu driven more than 50 program memory with tamper proof facility</li> <li>• Option to centrifuge by setting either RPM or RCF (speed accuracy +10rpm)</li> <li>• Time setting up to 99 minutes</li> <li>• <math>\geq 8</math> Acceleration &amp; <math>\leq 9</math> Deceleration profiles</li> <li>• 0 0 Temperature range setting -20 C to 40 C</li> <li>• 0 0 Two Pre-cooling program (4 C / 22 C)</li> <li>• Dual LCD monitors displays set &amp; run parameters</li> <li>• Viewing window for RPM calibration</li> <li>• Safety Features : Electronic door interlock, Imbalance cut-off &amp; Over speed protection</li> <li>• Key lock for authorized access</li> <li>• Safety gas hinges prevents accidental door drop</li> </ul>			

ITEM NO. 38

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PLATELET INCUBATOR</b>	<b>Qty</b>	<b>01</b>

Specification	
<ul style="list-style-type: none"> <li>Single-Pane Tempered Glass Door Interior: Galvanized Material Steel with Bacteria-Resistant Powder Coating Interior</li> <li>Heavy duty motor</li> </ul>	

ITEM NO. 39

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	PLATELET AGITATOR	Qty	01
Specification			
<ul style="list-style-type: none"> <li>Galvanized Steel Bacteria – Resistant Powder Coating</li> <li>Max. Storage Capacity <math>\geq 40</math> Random Bags (<math>\geq 16</math> Aphaeresis Bags)</li> <li>Drawers : Texture Coated, Perforated, Non-Slip Drawers</li> <li>Motion Alarm</li> </ul>			

ITEM NO. 40

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	BLOOD COLLECTION MIXER WITH TUBE CLAMP	Qty	01
Specification			
<ul style="list-style-type: none"> <li>Rechargeable battery - dual battery system</li> <li>Up to 6 hours constant working without charging</li> <li>Shock resistant against fall, metallic construction</li> <li>Free configuration software – possibility of reading data separately (donor data, identification data-bag, lot number)</li> <li>Auto clamping should be available</li> <li>Measuring and shaking blood bag done simultaneously</li> <li>Clear display and command panel – <math>\leq 5</math> buttons</li> <li>Visual and audible alarm for too fast or too slow blood flow.</li> </ul>			

ITEM NO. 41

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	TUBE SEALER	Qty	01
Specification			
<ul style="list-style-type: none"> <li>Sealing PVC and EVA tubes</li> <li>Can be used as a standalone device or a segmented to perform multiple sealing's</li> <li>Multiple sealing of the tube can be done by a foot pedal</li> <li>Dimensions 6cm (W) x 20cm (H) x 37cm (L)</li> <li>Standard sealing time <math>\leq 0.99</math> seconds for one seal</li> <li>Temperature Working conditions 10°C to 40°C</li> <li>Temperature Storage conditions -20°C to 50°C</li> <li>Tube diameter from 2,5mm to 6,5mm can be sealed</li> <li>Adjustable segment length 65/70/75/80/85/90/95mm</li> </ul>			

ITEM NO. 42

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PLASMA EXTRACTOR WITH SENSOR</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Stable, functional and appealing housing.</li> <li>Bag holder with universal support for all types of bags on the market. Preventing damage to the edges of the bag during separation. Providing possibilities for easier valve breaking.</li> <li>User friendly system with acoustic and visual alarms.</li> <li>Intuitional and comfortable usage without any training procedures.</li> <li>Effective fast and leak free clamping.</li> <li>Ensures separation without red cell contamination.</li> <li>Both automatic and manual clamping modes. Highly sensitive sensor system ensures a precise separation. Tandem power supply. More than one device can be connected.</li> </ul>			

UROLOGY ITEMITEM NO. 43

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>CYSTOSCOPE SHEATH WITH BRIDGE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Cystoscope-Urethroscope-Sheath, 21Fr/ 22 Fr., with obturator with Lock adaptors.</li> <li>Telescope Bridge with 2 lockable instrument channels</li> <li>Catheter Deflecting Mechanism, with 2 instrument channels, with ratchet</li> <li>Grasping Forceps for removal of foreign bodies, 7/5 Fr. double action jaws, flexible.</li> <li>Biopsy Forceps, 7/5 Fr., double action jaws, flexible.</li> <li>Coagulating Electrode, 4/6 Fr.,</li> <li>High Frequency Cord.</li> </ul>			

ITEM NO. 44

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>ADULT RESECTOSCOPE SET WITH TELESCOPE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Working Element Motion by means of a finger grip(active resection). In rest position the electrode is outside the sheath.</li> <li>Resectoscope Sheath, including connecting tubes for in- and outflow (continuous irrigation), 26 Fr., oblique beak, rotatable working element with ceramic insulation.</li> <li>Standard-Obturator for use with sheaths 24/26 Fr.,</li> <li>ELLIK Evacuator</li> <li>Cutting Loops.</li> <li>High Frequency Cord, with 4 mm plug, length 300 cm, tray (same manufacturer)</li> </ul> <p><b>Telescoope 30deg 4mm</b></p> <ul style="list-style-type: none"> <li>Telescope 30°, enlarged view, diameter 4 mm, length 30 cm, autoclavable, fiber optic light transmission incorporated</li> </ul>			



## ITEM NO. 45

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>OPTICAL INTERNAL URETHRETOM SHEATH WITH COMPLETE SET</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Urethrotome Sheath, 19.5/ 21 Fr. 2 LUER-lock adaptors with guide wire placement port.</li> <li>Obturator, for urethrotome sheath,</li> <li>Supplementary Sheath, half-round, to insert a balloon catheter, to slip on urethrotome sheath</li> <li>Working Element (also for use with optical Urethrotome) Motion by means of a spring.</li> <li>Cold Knife straight, not to be used with HF current tray (same manufacturer)</li> </ul>			

## ITEM NO. 46

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF CCD HD CAMERA SYSTEM COMPLETE SET COMPATIBLE WITH UROLOGY PROCEDURES</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<p><b>Full HD camera system with latest sensor technology for brilliant image display</b></p> <ul style="list-style-type: none"> <li>Full HD image quality: (1920x1080p)</li> <li>Colour System : PAL/NTSC Aspect Ratio : 16:09</li> </ul> <p><b>SPECIAL FEATURES:</b></p> <ul style="list-style-type: none"> <li>Predefine display setting according to the surgical specialty and also Easy operation of camera functions via integrated control buttons in the camera head</li> <li><b>Video Output:</b> <ul style="list-style-type: none"> <li>DVI-D Signal</li> <li>S-Video signal to 4-pin Mini DIN socket (2x)</li> <li>RGB signal to D-sub socket</li> <li>HD-SDI signal to BNC socket</li> </ul> </li> <li><b>Certified to :</b> Protection class 1/CF</li> </ul> <p><b>Control:</b> Controllable button on camera head for light source and other valuable function.</p> <p><b>Full HD camera with zoom coupler</b></p> <ul style="list-style-type: none"> <li>HD camera head, HD Camera Head max. resolution</li> <li>1920 x 1080 pixel Progressive Scan, 50/60 Hz, with 2 freely programmable</li> <li>Camera Head buttons, with integrated Parfocal-Zoom focal</li> <li>length f = 13 - 32mm For use with color system PAL and NTSC</li> </ul> <p><b>LED light source, with integrated measurement system for light cable</b></p> <ul style="list-style-type: none"> <li>transmission measurement, push to stand by and rotation knob</li> </ul> <p><b>HD Fiber Optic Light Cable, size 4.8 mm, length 250 cm, heat-resistant</b></p> <p><b>26" FULL HD Flat Screen Monitor, Desktop</b></p> <ul style="list-style-type: none"> <li>Color System: PAL/NTSC</li> <li>Aspect ratio: 16:09</li> <li>Resolution max: 1920 x 1200, Progressive Scan</li> <li>Composite: S-Video RGB, DVI and VGA Input</li> <li>Brightness: 300cd/m<sup>2</sup></li> <li>Contrast: 700:01</li> <li>Max Viewing Angle: 178° Vertical</li> </ul>			

- Screen Size: 26" or more
- **Video input:** - Composite signal to BNC socket
  - S-video signal to 4-pin Mini DIN socket
  - RGB signal TO 5 x BNC sockets
  - SDI signal to BNC socket
  - HD-SDI signal to BNC socket
  - DVI signal to DVI-D socket
- **Consisting of:**
  - 26" HD TFT Flat Screen
  - Power Supply

**VIDEO CART,**

- Basic Video cart, rides on 4 antistatic dual wheels equipped with locking brakes, one fixed shelf with handles, main switch at vertical beam, integrated cable conduit in both vertical beams, Drawer unit with lock, 2 horizontal cable conduits, one with cable winding,

**Endoscopic Video Cart Imported Quality local made (FOC)**ITEM NO. 47

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	CYSTOLITHOLAPAXY SHEATH + PUNCH	Qty	01
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Punch-Working Element</li> <li>• Punch Sheath, including connecting tubes for in- and outflow, 25/26 Fr., straight beak, with obturator ( preferably visual obturator)</li> </ul>			

ITEM NO. 48

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	URS ADULT 8 FR & 6.5 FR	Qty	01
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• 1-Uretero-Renoscope, 8 Fr &amp; 6.5 FR at distal tip,. 6/12° angle view.</li> <li>• Autoclave-able, with angled eyepiece, fiber optic light transmission incorporated,</li> <li>• Lateral irrigation ports and 1 working channel max 5 Fr/6Fr., for use with inst up to 4/5 Fr.</li> <li>• Following accessories are included:</li> <li>• Insertion Aid</li> <li>• Instrument Port with Sealing System and Quick Release Lock</li> <li>• LUER-Lock Tube Connector</li> <li>• Flow Control Stopcock</li> <li>• Wire Tray</li> <li>• Grasping Forceps for stone fragments, double action jaws, 4 Fr/5Fr., rigid, length 60 cm</li> <li>• Biopsy Forceps, rigid, double action jaws, 4 Fr/5Fr., length 60 cm.</li> </ul>			

ITEM NO. 49

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	PNEUMATIC LITHOCLAST	Qty	01

Specification
<ul style="list-style-type: none"> <li>Pn3 Pneumatic Handpiece kit 1</li> <li>Electrical foot pedal 1</li> <li>Power supply cable 1</li> <li>Compressed air supply tube 1</li> <li>Set of connectors for exhaust 1</li> <li>Spare fuses 2</li> </ul>
<b>Swiss LithoClast® Probes</b>
<ul style="list-style-type: none"> <li>LithoClast® Probe Ø 2.0 x 425 mm 1</li> <li>LithoClast® Probe Ø 1.0 x 605 mm 1</li> <li>LithoClast® Probe Ø 0.8 x 605 mm 1</li> <li>LithoClast® Probe Ø 1.6 x 605 mm 1</li> </ul>

## ITEM NO. 50

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>NEPHROSCOPE 26 FR COMPLETE SET WITH INSTALLATION</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Telescope 6°, with parallel eyepiece,</li> <li>Autoclavable, with Lock connection for inflow,</li> <li>With instrument channel, fiber optic light transmission incorporated</li> <li>Operating Sheath, 26 Fr. for continuous irrigation</li> <li>suction, with Lock stopcock, rotatable</li> <li>Standard length of nephroscope</li> <li>Facial Dilator</li> <li>Elkens Dilation Set with hollow guide wire rod.</li> <li>Rigid grasping Forceps for stones.</li> <li>Amplatz Sheath 27 and 30Fr</li> <li>With all standard accessories &amp; tubes.</li> </ul>			

## ITEM NO. 51

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>HOLMIUM LASER 100 W</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Average power: 60 to 100 watts</li> <li>Compatible for Stone and Prostate</li> <li>Lithoclast with Ablasion</li> <li>Pulse energy 12 to 18 joules</li> <li><b>Pulse Regulation:</b> Master Plus and by Mood Selection</li> <li><b>Repetition rate:</b> ≥ 50Hz</li> <li>Fibers size 200,400 and 600 um</li> <li>Battery Backup more than 1 hour</li> </ul>			

ITEM NO. 52

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PEADS CYSTOSCOPE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Tele- scope 0° and 30 degree, autoclavable, fiber optic light transmission incorporated</li> <li>• Cystoscope - Urethroscope Sheath, 9.5 Fr., working length 14 cm, with 4 Fr. working channel, with Obturator .</li> <li>• Cystoscope - Urethroscope Sheath 11 Fr., working length 14 cm, with working channel 5 Fr., with Obturator .</li> <li>• Grasping Forceps double action jaws, flexible, 3 Fr., length 28 cm</li> <li>• Biopsy Forceps, 3 Fr., double action jaws, flexible, length 28 cm</li> <li>• Coagulating Electrode, 3 Fr., unipolar, length 53 cm</li> <li>• Needle Electrode, 3 Fr., unipolar, length 53 cm</li> <li>• With all standard accessories.</li> </ul>			

ITEM NO. 53

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PEDIATRIC RESECTOSCOPE COMPLETE SET</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Tele- scope 0°, autoclavable, fiber optic light transmission incorporated,</li> <li>• Resectoscope Sheath with Lock , including connecting tube for inflow, 11 Fr. and obturator</li> <li>• Working Element.</li> <li>• Cutting Loop angled</li> <li>• Telescope Bridge with 1 lockable instrument channel</li> <li>• With all standard accessories.</li> </ul>			

ITEM NO. 54

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PEDIATRIC NEPHROSCOPE</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Telescope 6°, with parallel eyepiece.</li> <li>• Autoclavable, with Lock connection for inflow, with instrument channel</li> <li>• fiber optic light transmission incorporated</li> <li>• Operating Sheath, 14 Fr/17Fr. for continuous irrigation and suction, with Lock stopcock, rotatable</li> <li>• Amplatz Sheath 17 Fr/20Fr</li> <li>• Fascial Dilator</li> <li>• Dilation Set with hollow guide wire rod.</li> <li>• Slandered length of nephroscope</li> <li>• Rigid grasping Forceps for stones.</li> <li>• With all standard accessories &amp; Tubes.</li> </ul>			

ITEM NO. 55

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF HAEMO DIALYSIS MACHINE</b>	<b>Qty</b>	<b>10</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Large Vertical Display 10" or more LCD Touch Screen</li> <li>• Automatic Power Back-up UPS System</li> <li>• Hot Water Disinfection System</li> <li>• <b>Profiling</b> <ul style="list-style-type: none"> <li>○ Ultra-Filtration ,</li> <li>○ Conductivity ,</li> <li>○ Blood Flow</li> <li>○ Heparin Infusion</li> <li>○ Bicarbonate</li> </ul> </li> <li>• Kt/V Monitor</li> <li>• Heat Exchanger</li> <li>• Digital Display of Parameters with Graph</li> <li>• Real Time Monitoring of Dialysate Flow on LCD Screen by Flow Diagram</li> <li>• Alarm Display with History</li> <li>• Selection of Three Types of Dialysis Solution</li> <li>• Arterial / Venous Chamber Level Adjustment</li> <li>• Maintenance Window to monitor the Operation of Each Function</li> <li>• Blood Pressure Monitoring System.</li> </ul>			

ITEM NO. 56

TECHNICAL SPECIFICATIONS																																																											
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS																																																											
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT																																																										
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF REVERSE OSMOSIS PLANT FOR DIALYSIS MACHINE (COMPATIBLE FOR 10 DIALYSIS MACHINES)</b>	<b>Qty</b>	<b>01</b>																																																								
<b>Specification</b>																																																											
<table border="0"> <tr> <td>System</td><td>:</td><td>Direct Feed / Loop Base</td><td></td></tr> <tr> <td>Permeate Capacity</td><td>:</td><td>500 Ltr/H</td><td></td></tr> <tr> <td>Concentrate Flow</td><td>:</td><td>400 Ltr/H</td><td></td></tr> <tr> <td>Salt Rejection</td><td>:</td><td>98%</td><td></td></tr> <tr> <td>Permeate Pressure</td><td>:</td><td>2 ~ 3 Bar</td><td></td></tr> <tr> <td>Frame</td><td>:</td><td>Stainless Steel</td><td></td></tr> <tr> <td>Tubing</td><td>:</td><td>Stainless Steel</td><td></td></tr> <tr> <td>Membrane Housing</td><td>:</td><td>Stainless Steel</td><td></td></tr> <tr> <td>Multistage Pump Three Phase</td><td></td><td><b>02</b></td><td></td></tr> <tr> <td>▪ Pump Throttling Valve</td><td></td><td></td><td></td></tr> <tr> <td>▪ R.O. Membrane</td><td></td><td><b>02</b></td><td></td></tr> <tr> <td>▪ SS Membrane Housing Dead space free</td><td></td><td><b>02</b></td><td></td></tr> <tr> <td>▪ SS Membrane End Caps Ferrule Butterfly Type</td><td></td><td></td><td></td></tr> <tr> <td>▪ 5-Micron Sediment Pre-Filter with SS Plate</td><td></td><td></td><td></td></tr> </table>				System	:	Direct Feed / Loop Base		Permeate Capacity	:	500 Ltr/H		Concentrate Flow	:	400 Ltr/H		Salt Rejection	:	98%		Permeate Pressure	:	2 ~ 3 Bar		Frame	:	Stainless Steel		Tubing	:	Stainless Steel		Membrane Housing	:	Stainless Steel		Multistage Pump Three Phase		<b>02</b>		▪ Pump Throttling Valve				▪ R.O. Membrane		<b>02</b>		▪ SS Membrane Housing Dead space free		<b>02</b>		▪ SS Membrane End Caps Ferrule Butterfly Type				▪ 5-Micron Sediment Pre-Filter with SS Plate			
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▪ SS Membrane End Caps Ferrule Butterfly Type																																																											
▪ 5-Micron Sediment Pre-Filter with SS Plate																																																											

	<ul style="list-style-type: none"> <li>Concentrate Pressure Gauge</li> <li>Loop to Pressure Gauge</li> <li>Loop from Pressure Gauge</li> <li>Low pressure cut-off switch</li> <li>Loop pressure cut-off switch</li> <li>Pump High Pressure cut off switch</li> <li>Permeate Flow Meter</li> <li>Concentrate Flow Meter</li> <li>Concentrate Recycle Flow Meter</li> <li>Loop Return Flow Meter</li> <li>Electric Console</li> <li>System controlling P.C.B.</li> <li>Four Color patrol lamp</li> <li>Loop / Product Water (T.D.S, Conductivity, Temperature) Meter</li> <li>Feed Water (T.D.S, Conductivity, Temperature) Meter</li> <li>Emergency Stop</li> <li>R.O internal fitting completely SS along with Frame</li> </ul>
a.	<b>Automatic Multimedia Sand Filter (13X54) 01</b>
b.	<b>Automatic Activated carbon Filter (13X54) 01</b>
c.	<b>Automatic Water Softener (16X65) 02</b>
d.	<b>Booster Pump with Pressure Kit 1Hp 220v 01</b>
e.	<b>Sediment Filter 20" Slim Opec 02</b>

## ITEM NO. 57

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF DIALYSIS RE-PROCESSOR</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
Consumption (max):	130 W		
Water Quality:	Must meet ANSI/AAMI RD-62 and RD-67		
Feed Flow:	2 to 4 liters/minute at 25 psig.		
Dialyzer Reprocessing Type:	All Types.		
Process:	Automatic Cleaning, Volume Measuring, Leak Testing and Chemical Filling.		
Reprocessing time:	Approximately 10 minutes/cycle		
Water consumption:	Approximately 25 liters/cycle		
Dialyzer reprocessing Program	Low Flux, Medium Flux, High Flux		
Other programs:	Disinfection, Force Rinse, Self Test System Cleaning		
Display Type:	Vacuum Fluorescent Display		

**ITEM NO. 58**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	CHINA, KOREA OR FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	CCU Monitors with Workstation Setup complete	<b>Qty</b>	<b>06</b>
<b>Specification</b>			
<b><u>MONITOR MULTIPARAMETER FOR USE OF ADULTS/PEDIATRICS, NEONATE</u> With ECG/NIBP/SPO2/ RESPIRATION and TEMP.</b>			
<ul style="list-style-type: none"> <li>• Display 10.4" High Resolution Touch Screen Display with Quick direct buttons and Rotary Knob for easy operation</li> <li>• Defibrillator protection</li> <li>• Freeze and cascade facility available</li> <li>• Electro-surgical interference in built suppression/ protection filter</li> </ul> <p><b><u>Monitor Specification:</u></b></p> <ul style="list-style-type: none"> <li>• 10.4 High Resolution Touch Screen/Rotary Knob.</li> <li>• Waveforms: 08 user configurable</li> <li>• Build-in rechargeable battery with &gt; 04 hours or more backup time.</li> <li>• Arrhythmia analysis pace-marker detection and S-T Segment analysis.</li> <li>• 72 hour or more storage and review of trend graphs.</li> <li>• Built-in recorder &amp; printer</li> <li>• All-round monitor of adult and pediatric</li> <li>• Electrosurgical unit and defibrillation protected.</li> <li>• Parameters: ECG, NIBP, SPO2, Respiration, 2xTemperature, EtCO2, IBP.</li> </ul> <p><b>ECG:</b></p> <ol style="list-style-type: none"> <li>Lead: 3/5/10 lead Selectable</li> <li>(I, II, III, aVR, aVL, aVF, Vx (Chest Lead)</li> <li>Heart rate Measurement range: 30 bpm to 300 bpm.</li> <li>HR range accuracy: <math>\pm 1</math>bpm or <math>\pm 1\%</math> whichever is greater.</li> <li>Sweep speed: 12.5mm/s, 25mm/s, 50 mm/s, 100mm/s.</li> <li>Gain: 5, 10, 20mm/mv ECG.</li> <li>Alarm range: 30-200bpm</li> <li>S-T detection, Arrhythmia analysis</li> <li>Alarm: Audible and visual alarm, alarm events recallable</li> </ol> <p><b>Temperature:</b></p> <ol style="list-style-type: none"> <li>Method Type: Thermistor.</li> <li>Channels: Dual channel</li> </ol> <p><b>Respiration:</b></p> <ol style="list-style-type: none"> <li>Method type: Trans-thoracic impedance</li> <li>Lead: RA to LA</li> <li>Range: 0 to 120 breaths/min</li> </ol> <p><b>NIBP:</b></p> <ol style="list-style-type: none"> <li>Measurement Technology Oscillometric method or better</li> <li>Pressure display range: 0mmHg to 300mmHg</li> </ol>			

- c. Over-pressure protection  
 . Measurement Range (Adult/Child):-  
 (1) Systolic: 50mmHg to 240mmHg  
 (2) Diastolic: 15mmHg to 180mmHg  
 Measurement Mode: Manual, Auto, STAT

**SpO<sup>2</sup> (Pulse Oximeter):**

- a. % Saturation range: 0% to 100%  
 b. Pulse rate range: 30 to 250 bpm  
 c. SpO<sub>2</sub> accuracy: 70 to 100% +2%  
 d. SpO<sub>2</sub> Probe (Finger, Ear or multisite for neonate)- user choice .

**(IBP Optional)**

- a. Channel: 2 - 4 Channels

**EtCO<sub>2</sub>: (Optional)**

- a. Measurement Mode: mainstream.

**CO: ( Optional)**

Thermodilution Method

**Anesthesia Gas Agent Monitoring: (Module Optional)****Complete setup with central workstation**ITEM NO. 59

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	CHINA, KOREA OR FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	ICU Monitors with Workstation complete Setup	<b>Qty</b>	<b>06</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Display 10.4" High Resolution Touch Screen Display with Quick direct buttons and Rotary Knob for easy operation</li> <li>Defibrillator protection</li> <li>Freeze and cascade facility available</li> <li>Electro-surgical interference in built suppression/ protection filter</li> </ul> <p><b><u>Monitor Specification:</u></b></p> <ul style="list-style-type: none"> <li>10.4 High Resolution Touch Screen/Rotary Knob.</li> <li>Waveforms: 08 user configurable</li> <li>Build-in rechargeable battery with &gt; 04 hours or more backup time.</li> <li>Arrhythmia analysis pace-marker detection and S-T Segment analysis.</li> <li>72 hour or more storage and review of trend graphs.</li> <li>Built-in recorder &amp; printer</li> <li>All-round monitor of adult and pediatric.</li> <li>Electrosurgical unit and defibrillation protected.</li> <li>Parameters: ECG, NIBP, SPO<sub>2</sub>, Respiration, 2xTemperature, EtCO<sub>2</sub>, IBP.</li> </ul> <p><b>ECG:</b></p> <ul style="list-style-type: none"> <li>j. Lead: 3/5/10 lead Selectable</li> <li>k. (I, II, III, aVR, aVL, aVF, Vx (Chest Lead)</li> <li>l. Heart rate Measurement range: 30 bpm to 300 bpm.</li> <li>m. HR range accuracy: <math>\pm 1</math>bpm or <math>\pm 1\%</math> whichever is greater.</li> </ul>			



- n. Sweep speed: 12.5mm/s, 25mm/s, 50 mm/s, 100mm/s.
- o. Gain: 5, 10, 20mm/mv ECG.
- p. Alarm range: 30-200bpm
- q. S-T detection, Arrhythmia analysis
- r. Alarm: Audible and visual alarm, alarm events recallable

**Temperature:**

- c. Method Type: Thermistor.
- d. Channels: Dual channel

**Respiration:**

- a. Method type: Trans-thoracic impedance
- b. Lead: RA to LA
- c. Range: 0 to 120 breaths/min

**NIBP:**

- a. Measurement Technology Oscillometric method or better
- b. Pressure display range: 0mmHg to 300mmHg
- c. Over-pressure protection
- . Measurement Range (Adult/Child):-
  - (1) Systolic: 50mmHg to 240mmHg
  - (2) Diastolic: 15mmHg to 180mmHg
- Measurement Mode: Manual, Auto, STAT

**SpO<sup>2</sup> (Pulse Oximeter):**

- a. % Saturation range: 0% to 100%
- b. Pulse rate range: 30 to 250 bpm
- c. SpO<sub>2</sub> accuracy: 70 to 100% +2%
- d. SpO<sub>2</sub> Probe (Finger, Ear or multisite for neonate)- user choice .

**(IBP Optional)**

- a. Channel: 2 - 4 Channels

**EtCO<sub>2</sub>: (Optional)**

- a. Measurement Mode: mainstream.

**CO: (Optional)**

Thermodilution Method

**Anesthesia Gas Agent Monitoring: (Module Optional)**

- **Complete setup with central workstation**

ITEM NO. 60

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	3 CHANNEL ECG MACHINE	Qty	02
Specification			
<ul style="list-style-type: none"> <li>• Touch Screen with Display of at least 5 "</li> <li>• Display of 12 / 3 Channels / 3 Channels + 1 rhythm leads</li> <li>• ECG recording Format : 1 Lead, 1 Lead + Rhythm, 3 Lead</li> <li>• Automatic / Manual operation.</li> <li>• Variable gain: 1/2 , 1 , 2 cm/mv</li> </ul>			

- Recording Trace Speed : 10, 25 and 50 mm/sec.
- Muscle artifacts and AC interference filters.
- Internal storing capacity of ECG
- Defibrillator protection
- Mains AC as well as battery operated
- Built in AC interference, noise filter and baseline drift control.
- Capability to interface with LAN for data transfer.
- USB for storage of ECG data
- Complete with standard accessories, including patient cable with pediatric reusable electrodes.
- Mobile Cart (Local Made)

## ITEM NO. 61

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	ETT MACHINE	Qty	01
Specification			
<ul style="list-style-type: none"> <li>• simultaneous registration and observation of ECG signal from all 12 leads on PC screen,</li> <li>• sensitivity : 2,5; 5; 10; 20; mm/mV,</li> <li>• speed : 25; 50; 100 mm/s,</li> <li>• registration and observation of average P-QRS-T complexes from all 12 leads, ST level and slope in "on-line" mode,</li> <li>• possibility of cooperation with treadmills operating TrackMaster protocol or better</li> <li>• possibility of cooperation with ergometers operating Ergoline protocol or better</li> <li>• automatic measurement of HR, ST level and slope,</li> <li>• registration and observation of kind and time duration of the following examinations: resting, exercise and post-exercise,</li> <li>• PMHR control,</li> <li>• observation of % PMHR,</li> <li>• registration and observation of MET,</li> <li>• registration and observation of RPP,</li> <li>• registration and observation of DPr,</li> <li>• monitoring of loading during the exercise examination,</li> <li>• pre-programmed protocols,</li> <li>• user-designed protocols,</li> <li>• manual control of treadmill or ergometer settings during examination,</li> <li>• RAMP protocol,</li> <li>• real-time printing of ECG curves,</li> <li>• automatic regulation of iso electric line position in the middle of registration channel,</li> <li>• automatic elimination of iso electric line migration,</li> <li>• Printing and archiving examination report which contains: patient's data, the full disclosure ECG of the whole recording, selected strips, average P-QRS-T complexes, table summary, load value, HR, ST level and slope, MET,</li> <li>• Digital filtration of mains disturbances,</li> <li>• Digital filtration of muscle origin disturbances,</li> <li>• Resting examination: 12, 6 or 3-channel in manual or automatic mode,</li> <li>• Unlimited number of user-defined profiles.</li> </ul>			
<b><u>Specification of Treadmill</u></b>			
<ul style="list-style-type: none"> <li>• Speed range - from 0 to 20 km/h or above</li> </ul>			

- Inclination range - from 0% to 25%
- Band operation: length - 1300 mm, width - 500 mm
- Protocol "TRACKMASTER" or better
- Control via RS 232 cable connected to Cardio TEST system
- Function "ZERO START"
- Max patient's weight: 180 kg
- Safety switch to stops the treadmill
- 12 lead ECG module

**MNCH / NICU ITEMS****ITEM NO. 62**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	Local, China, Korea or equivalent		
Item	BABY COT	Qty	10
Specification			
<ul style="list-style-type: none"> <li>• Trolley Constructed Of Tubular Steel Frame</li> <li>• Steel Sheet Shelf</li> <li>• Inclusive Of A 25mm Thick Vinyl PVC Mattress</li> <li>• Finishing : Epoxy Powder Coated</li> <li>• Castors : 4 x 75mm Grey Rubber</li> </ul>			

**ITEM NO. 63**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	CTG MACHINE	Qty	02
Specification			
<ul style="list-style-type: none"> <li>• Large high resolution color TFT foldable screen</li> <li>• Advanced SpO2 module with equivalent performance</li> <li>• Large storage capacity</li> <li>• Basic parameters: FHR, TOCO, AFM, MHR, NIBP, SPO2</li> <li>• Real time measurement and identification</li> <li>• Provide convenience and reliability during antepartum, intrapartum and postpartum monitoring</li> <li>• 12 hours CTG storage, fast review and print</li> <li>• Unique design for cable of transducers to avoid inter twisting</li> <li>• Alarm system: time-over alarm, non-paper alarm, out of range FHR alarm</li> <li>• Automatically adjustable many kinds of 110mm thermal paper with different specifications</li> <li>• Wire or wireless connect to central monitoring system</li> <li>• Low acoustic power, safer to the fetus</li> </ul> Options: <ul style="list-style-type: none"> <li>• Twins FHR measurement</li> </ul>			

## ITEM NO. 64

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	THERAPEUTIC HYSTEROSCOPY	Qty	01
Specification			
<b><u>Specs</u></b> Telescope 30o Size 4mm With working channel for semirigid 5 Fr. Operating instruments, With suction and irrigation valves for single or continuous-flow usage Long handle <b>OUTER SHEETH</b> 2 x suction and irrigation valve Monobloc adapter Sealing cap, "Endoscopic set" For working channel package of 10 2 x valve seat adaptor Assembly Aid  <b>TELEPACK Specs</b>  All in one unit allows performance of high quality output 15" screen monitor with LED backlit similar to XENON technology Six USB Ports 1 SD card slot Direct print output Color system PAL/NTSC Power supply 100-220VAC USB silicon keyboard with touchpad USB flash drive 32gb  <b>Additional Accessories quote separately</b>			

## ITEM NO. 65

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	CHINA, KOREA, TURKEY OR EQUIVALENT		
Item	BABY WARMER	Qty	2
Specification			
<ul style="list-style-type: none"> <li>Infrared wave length :5um -10um</li> <li>Adjusting of heating power :700W/1400W adjust two positions</li> <li>Rising speed temperature :≥ 0.3C/min</li> <li>Angle of Radiant box can be adjusted</li> <li>Adjusting height of radiant box : 1350mm-1750mm</li> <li>Power supply : AC 220V/50Hz</li> <li>Input power : 1000VA</li> <li>Environment Temperature :10 C – 20C</li> <li>Wind Speed of Environment : &lt;0.3m/s</li> </ul>			

## ITEM NO. 66

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	CHINA, KOREA, TURKEY OR EQUIVALENT		
<b>Item</b>	<b>INFANT INCUBATOR</b>	<b>Qty</b>	<b>6</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• Skin Mode</li> <li>• Air Mode</li> <li>• Target Temperature Surveillance System "TTSS"</li> <li>• Servo Humidity System</li> <li>• 7" LCD Touch Screen Color Display With monitoring for: Screen</li> <li>• Battery Backup (Optional)</li> <li>• By default, incubator parameters are displayed as numerical values.</li> <li>• Set point and measured values for air temperature or skin temperature</li> <li>• Set point and measured values for relative humidity</li> <li>• Set point and measured values for O2 concentration</li> <li>• Heater Level Indicator</li> <li>• Alarm and warning messages</li> <li>• The screen display can also include a trend graph.</li> <li>• Air temperature</li> <li>• Skin temperature</li> <li>• Relative humidity</li> <li>• Integrated X-Ray Tray</li> <li>• Additional Power Socket</li> <li>• Keypad Lock System</li> <li>• O2 concentration</li> <li>• With complete <b>Standard Accessories i.e.</b> IV Pole, Mattress, Tray for Monitor or Instruments etc.</li> </ul>			

## ITEM NO. 67

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>PHOTOTHERAPY</b>	<b>Qty</b>	<b>03</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>• <b>CONTINUOUS SKIN TEMPERATURE MONITORING.</b></li> <li>• Super Blue LED light</li> <li>• Microprocessor Control, 5 Inch LCD screen</li> <li>• 04 Examination Light.</li> <li>• Red Target Light for center of the patient</li> <li>• Lamp Life 20,000 hours</li> <li>• Continuous Temperature Monitoring</li> <li>• Therapy Time</li> <li>• Lamp Time Monitoring</li> <li>• 120μw/cm2/nm irradiance 35cm</li> <li>• Spectral Irradiance 420-480nm</li> <li>• Effective Irradiance Area 50cm X25cm</li> <li>• ≥ 4 different levels</li> </ul>			

**DERMATOLOGY ITEMS****ITEM NO. 68**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b>ELECTRIC CAUTRY WITH ALL STANDARD ACCESSORIES</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
Efficacious for; verruca, corns, tumors, hemangioma, popillomas, furunculus, epitheliomas, keratosis, chancroid.			
<ul style="list-style-type: none"> <li>Adjustable needles</li> <li>Foot switch</li> <li>Needle holder</li> <li>Depilation needle</li> <li>Fulguration needle</li> <li>Coagulation needle</li> <li>Output: Average 50W</li> <li>Discharging Mechanism: Spark-gap</li> <li>Frequency: High-frequency of 1.5~2.3 MC</li> </ul>			

**ITEM NO. 69**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
<b>Item</b>	<b><u>CRYOTHERAPY UNIT</u></b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			
<ul style="list-style-type: none"> <li>Slender, fingertip trigger for maximum control</li> <li>rotates easily for left-hand users.</li> <li>Patented Safety Auto vent maximizes safety internal pressure to gradually vent as the cap is unscrewed.</li> <li>Streamlined relief valve for consistent and accurate freezing.</li> <li>Polypropylene Cover and Collar insulates the user's hand.</li> <li>Stainless steel and brass construction</li> <li>Polypropylene base for extra stability</li> </ul>			
<b>including:</b>			
<ul style="list-style-type: none"> <li><b>Cryo Unit</b> with set of <b>06</b> spray tips.</li> <li><b>Dewar 20 liters</b></li> <li><b>Withdrawal Device</b> 01</li> <li><b>Cryoplate</b> 01</li> <li><b>All Standard Accessories</b></li> </ul>			

**GENERAL ITEMS****ITEM NO. 70**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
<b>Make</b>	LOCAL (IMPORTED QUALITY), CHINA, KOREA OR EQUIVALENT		
<b>Item</b>	<b>SUPPLY &amp; INSTALLATION OF ATS PANEL FOR 200 KVA GENERATOR WITH WIRE 120MM (210FT)</b>	<b>Qty</b>	<b>01</b>
<b>Specification</b>			

## Auto Transfer Switch (ATS) including:

- Simple design for quick installation and troubleshooting
- Electricity interlocked (Contactor type), MOR
- Auto start/stop with Engine requirements
- Engine safeties (Low Oil Pressure, High Engine Pressure, Overload, Low voltage, Fail to start, over speed)
- Panel Display (Main on Load, Genset on Load)
- Two contact sets for load shedding
- Molded-case breaker provided with 25 KA
- Available service entrance design
- Silver alloy main contacts; resistant to welding and sticking
- Terminal block termination; connections labeled to match generator connections
- Compatible with Deepsea module
- Compliant; meets industry standard
  - ABB Contactors (350A, 3P) 1 set
  - 12 V Trickle battery charger with boost charger
  - SP circuit breakers,
  - 14 SWG MS Sheet Box with built-in locking cover
  - Indication lights
- Optional: Manual Override (MOR) 1 set
- 3 Nos Terasaki or equivalent circuit breakers, 400 A, 3P each
- Power cable 120mm 99.99% Copper PVC/PVC 210ft
- manual Chang over

ITEM NO. 71

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	LOCAL (IMPORTED QUALITY), CHINA, KOREA OR EQUIVALENT		
Item	PATIENT BED (MANUAL) GOOD QUALITY	Qty	10
Specification			
<ul style="list-style-type: none"> <li>• Flexible bedstead with anti-bacteria double powder coating treatment</li> <li>• High durable retractable Built-in Crank with universal linking card structure, safe, quiet and smooth operation.</li> <li>• Four sections patient lying area</li> <li>• Frame MS tubular pipe <math>\geq 15\text{swg}</math></li> <li>• Knee and back rest adjustable</li> <li>• Crank handles foldable under foot</li> <li>• ABS head and foot board</li> <li>• Holders for mattress at four position</li> <li>• Hooks for urine bad and ng bag each side</li> <li>• Holder socket for IV Pole</li> <li>• Electrostatic epoxy powder coated</li> <li>• Mattress (A1/A) grade and Food board</li> </ul>			

## ITEM NO. 72

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	CHINA, KOREA, JAPAN, USA FDA/CE/JIS Approved OR EQUIVALENT		
Item	DRY/GEL RECHARGEABLE BATTERY FOR UPS	Qty	80
Specification			
Note: before quote vendor/renderer must visit and check the Batteries at JIMS X-ray Diagnostics. <ul style="list-style-type: none"> <li>Maintenance Free</li> <li>Low self discharge rate lower than 3%</li> <li>Absorbent Glass Mat technology for efficient Gas recombination</li> <li>The power density at 15 min ~ 1 hour or higher</li> <li>Nominal Voltage 12v</li> <li>Nominal Capacity 31Ah@10 hour rate F.V (1.75V/cell)</li> <li>Approx Weight <math>\leq</math> 11 kg</li> <li>Max discharge current 420 A (5 Sec)</li> <li>Max charge Current 9.30 A or higher</li> </ul>			

## ITEM NO. 73

TECHNICAL SPECIFICATIONS																																																																																															
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS																																																																																															
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT																																																																																														
Item	GENERAL SURGERY SET	Qty																																																																																													
Specification																																																																																															
	<table> <tr> <th colspan="2">MAJOR BASIC SET</th><th>1SET</th><th></th></tr> <tr><td>1</td><td>FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS</td><td></td><td>4</td></tr> <tr><td>2</td><td>BACKHAUS TOWEL HOLDING FORCEPS,110MM</td><td></td><td>12</td></tr> <tr><td>3</td><td>SCALPEL HDL.NO.3</td><td></td><td>2</td></tr> <tr><td>4</td><td>SCALPEL HDL.NO.4</td><td></td><td>2</td></tr> <tr><td>5</td><td>MAYO DISSECT.SCISSORS CVD.170MM</td><td></td><td>10</td></tr> <tr><td>6</td><td>METZENBAUM DISSECT.SCISSORS CVD.145MM</td><td></td><td>10</td></tr> <tr><td>7</td><td>METZENBAUM DISSECT.SCISSORS CVD.200MM</td><td></td><td>10</td></tr> <tr><td>8</td><td>OP.SCISSORS,STR.,BL/SH,145MM</td><td></td><td>10</td></tr> <tr><td>9</td><td>DISSECTING FORCEPS,STD.PATTERN,145MM</td><td></td><td>6</td></tr> <tr><td>10</td><td>DISSECT.FORCEPS W/O T.STD.PATT.200MM</td><td></td><td>6</td></tr> <tr><td>11</td><td>TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM</td><td></td><td>6</td></tr> <tr><td>12</td><td>DISSECT.FORCEPS STD.PATT.1X2T.200MM</td><td></td><td>6</td></tr> <tr><td>13</td><td>HALSTED MOSQUITO FORCEPS STR.125MM</td><td></td><td>12</td></tr> <tr><td>14</td><td>CRILE ARTERY FORCEPS CVD.140MM</td><td></td><td>12</td></tr> <tr><td>15</td><td>PEAN ARTERY FORCEPS STR.140MM</td><td></td><td>12</td></tr> <tr><td>16</td><td>KOCHER-OCHSN.ARTERY FORC.1X2T.STR.160MM</td><td></td><td>6</td></tr> <tr><td>17</td><td>KOCHER-OCHSN.ARTERY FORC.1X2T.STR.200MM</td><td></td><td>6</td></tr> <tr><td>18</td><td>OVERHOLT FORCEPS # 0 CVD215MM</td><td></td><td>6</td></tr> <tr><td>19</td><td>OVERHOLT FORCEPS # 1 CVD209MM</td><td></td><td>6</td></tr> <tr><td>20</td><td>ALLIS INTESTINAL FORCEPS 4X5 T.155MM</td><td></td><td>12</td></tr> <tr><td>21</td><td>HEGAR-MAYO NEEDLE HOLDER,150MM</td><td></td><td>12</td></tr> <tr><td>22</td><td>HEGAR-MAYO NEEDLE HOLDER 200MM</td><td></td><td>12</td></tr> </table>	MAJOR BASIC SET		1SET		1	FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS		4	2	BACKHAUS TOWEL HOLDING FORCEPS,110MM		12	3	SCALPEL HDL.NO.3		2	4	SCALPEL HDL.NO.4		2	5	MAYO DISSECT.SCISSORS CVD.170MM		10	6	METZENBAUM DISSECT.SCISSORS CVD.145MM		10	7	METZENBAUM DISSECT.SCISSORS CVD.200MM		10	8	OP.SCISSORS,STR.,BL/SH,145MM		10	9	DISSECTING FORCEPS,STD.PATTERN,145MM		6	10	DISSECT.FORCEPS W/O T.STD.PATT.200MM		6	11	TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM		6	12	DISSECT.FORCEPS STD.PATT.1X2T.200MM		6	13	HALSTED MOSQUITO FORCEPS STR.125MM		12	14	CRILE ARTERY FORCEPS CVD.140MM		12	15	PEAN ARTERY FORCEPS STR.140MM		12	16	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.160MM		6	17	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.200MM		6	18	OVERHOLT FORCEPS # 0 CVD215MM		6	19	OVERHOLT FORCEPS # 1 CVD209MM		6	20	ALLIS INTESTINAL FORCEPS 4X5 T.155MM		12	21	HEGAR-MAYO NEEDLE HOLDER,150MM		12	22	HEGAR-MAYO NEEDLE HOLDER 200MM		12		
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23	DIRECTOR W/TONGUE STR 145MM	6
24	DOUBLE-ENDED PROBE 1.5MM 145MM	4
25	CUSHING VEIN RETRACTOR 10X13MM 203MM	6
26	SENN-MILLER RECTOR. SH. 8X7/18X5.5MM	6
27	FARABEUF RTRCTRS23X16/28X16-20X16/24X16	6
28	VOLKMANN RETR4-PRGSEMI-S8.5X19222MM	6
29	KOCHER-LANGENBECK RETR 41X11MM216MM	6
30	KIDNEY TRAY STAINLESS STEEL 250MM	10
31	LABORATORY DISH 0.16 L	6
32	DEBAKEY DILATOR MALL 1.0MM 190MM	2
33	DEBAKEY DILATOR MALL 1.5MM 190MM	2
34	DEBAKEY DILATOR MALL 2.0MM 190MM	2
35	DEBAKEY DILATOR MALL 2.5MM 190MM	2
36	DEBAKEY DILATOR MALL 3.0MM 190MM	2
37	DEBAKEY DILATOR MALL 3.5MM 190MM	2
38	DEBAKEY DILATOR MALL 4.0MM 190MM	2
39	DEBAKEY DILATOR MALL 4.5MM 190MM	2
40	DEBAKEY DILATOR MALL 5.0MM 190MM	2
41	ENDARTERECTOMY STRIPPER 2.0MM	2
42	ENDARTERECTOMY STRIPPER 3.0MM	2
43	ENDARTERECTOMY STRIPPER 4.0MM	2
44	ENDARTERECTOMY STRIPPER 6.0MM	2
45	ENDARTERECTOMY STRIPPER 7.0MM	2
46	ENDARTERECTOMY STRIPPER 8.5MM	2
47	ENDARTERECTOMY STRIPPER 10.0MM	2
48	ENDARTERECTOMY STRIPPER 12.0MM	2
49	ENDARTERECTOMY STRIPPER 14.0MM	2
50	SCHMID IRRIGATING CANNULA MALLEAB.LL.	2
51	GUIDE ONLY 6.4MM F/FB651R	2
52	DEBAKEY BULDGX-ACT23MMJAWCVD78MM	2
53	DEBAKEY BULDGX-ACT35MM JAWSTR90MM	2
54	DEBAKEY BULDGX-ACT31MM JAWCVD86MM	2
55	DEBAKEY BULDGX-ACT42MMJAWCVD97MM	2
56	DEBAKEY ATRA MOSQUITO FCPS STR125MM	2
57	DEBAKEY ATRA MOSQUITO FCPS CVD 125MM	2
58	PEAN-DEBAKEY ATRAUMATIC FRCPS STR155MM	2
59	PEAN-DEBAKEY ATRAUMATIC FRCPCVD 155.MM	2
60	DEBAKEY ATRA COARCTAT. CLMPSTR65/225MM	2
61	DEBAKEY PERIPHERAL CLAMP 60DG180MM	2
62	DEBAKEY CLAMP 60DG 65/100MM 280MM	2
63	DEBAKEY CLAMP 90DG 45/93MM225MM	2
64	DEBAKEY COARCTAT FCPSANG15DEG50/165MM	2
65	DERRA PEDIATRIC FORCEPS 26MM175MM	2
66	COOLEY PEDIATRIC CLAMP 60DG 30/160MM	2
67	DEBAKEY AORTA ANEURYSM CLMPCVD270MM	2
HERNIA 1 SET		

68	FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS	2	
69	BACKHAUS TOWEL HOLDING FORCEPS,110MM	2	
70	SCALPEL HDL.NO.3	2	
71	MAYO DISSECT.SCISSORS CVD.140MM	2	
72	METZENBAUM DISSECT.SCISSORS CVD.145MM	2	
73	METZENBAUM SCISSORS,CURVED,180MM	2	
74	OP.SCISSORS,STR.,BL/SH,145MM	2	
75	DISSECTING FORCEPS,STD.PATTERN,145MM	2	
76	DISSECT.FORCEPS W/O T.STD.PATT.180MM	2	
77	TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM	2	
78	DISSECT.FORCEPS STD.PATT.1X2T.180MM	2	
79	HALSTED MOSQUITO FORCEPS STR.125MM	2	
80	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.160MM	2	
81	BABY-MIXTER FORCEPS HEAVY-CVD180MM	2	
82	MIKULICZ PERITONEUM FORCEPS CVD.205MM	2	
83	ALLIS INTESTINAL FORCEPS 4X5 T.155MM	2	
84	ALLIS INTESTINAL FORCEPS DELIC.PATT.	2	
85	HEGAR-MAYO NEEDLE HOLDER,150MM	2	
86	HEGAR-MAYO NEEDLE HOLDER 185MM	2	
87	DESCHAMPS NDLF/RT-HNDBLTLNG-HK215MM	2	
88	DIRECTOR W/TONGUE STR 145MM	2	
89	DOUBLE-ENDED PROBE 1.5MM 145MM	2	
90	BABY-SENN-MILLER RECTOR. SH. 8X7/22X7MM	2	
91	FARABEUF RTRCTRS25X10/32X12-22X10/28X12	2	
92	KOCHER-LANGENBECK RETR 41X11MM216MM	2	
93	KIDNEY TRAY STAINLESS STEEL 250MM	2	
94	LABORATORY DISH 0.16 L	2	

## ITEM NO. 74

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
Make	USA/EUROPE/JAPAN, FDA/CE/JIS APPROVED OR EQUIVALENT		
Item	UROLOGY SET	Qty	
Specification			
	<b>BLADDER SET</b>	<b>QTY</b>	
1	FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS	4	
2	BACKHAUS TOWEL HOLDING FORCEPS,110MM	8	
3	SCALPEL HANDLE NO.3L	1	
4	SCALPEL HDL.NO.4	1	
5	MAYO DISSECT.SCISSORS CVD.170MM	1	
6	METZENBAUM SCISSORS,CURVED,180MM	1	
7	METZENBAUM DISSECT.SCISSORS CVD.200MM	1	
8	OP.SCISSORS,STR.,BL/SH,145MM	1	
9	NELSON-METZENBAUM SCISSORS CVD 253MM	1	
10	POTTS-SMITH SCISSLAT-ANG55DGS/S180MM	1	
11	POTTS-DEMARTEL SCISSORS 60DG 220MM	1	

12	DISSECTING FORCEPS,STD.PATTERN,145MM	1
13	DISSECT.FORCEPS W/O T.STD.PATT.200MM	1
14	STANDARD FORCEPS SERR 250MM	1
15	TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM	1
16	DISSECT.FORCEPS STD.PATT.1X2T.200MM	1
17	DISSECT.FORCEPS STD.PATT.1X2T.250MM	1
18	WAUGH DISSECT.FORCEPS 1X2T.200MM	1
19	WAUGH DISSECT.FORCEPS 1X2T.250MM	1
20	ALLIS INTESTINAL FORCEPS DELIC.PATT.	2
21	HALSTED MOSQUITO FORCEPS STR.125MM	6
22	HALSTED MOSQUITO FORCEPS,CURVED,125MM	6
23	CRILE ARTERY FORCEPS STR.140MM	4
24	HALSTED MOSQ.ARTERY FORCEPS 1X2T.STR.200	2
25	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.160MM	2
26	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.200MM	2
27	KOCHER-OCHSNER FORCEPS CVD 1X2240.MM	2
28	MIKULICZ PERITONEUM FORCEPS CVD.205MM	4
29	MIXTER SUTURE FORCEPS RT-ANG 230MM	2
30	OVERHOLT-GEISS SUTURE FCPS#3CVD276MM	1
31	ATRAUMATIC OVUM FORCEPS STR SM250MM	1
32	ATRAUMATIC URETER FORCEPS240MM	1
33	CRILE-WOOD NEEDLE HOLDER 150MM	1
34	HEGAR-MAYO NEEDLE HOLDER 185MM	1
35	HEGAR-MAYO NEEDLE HOLDER 200MM	1
36	MASSON NEEDLE HOLDER 265MM	1
37	JAMESON NEEDLE HOLDER DEL SERR 230MM	1
38	WANGENSTEEN NEEDLE HOLDER 275MM	1
39	DESCHAMPS NDLF/RT-HNDBLTLNG-HK215MM	1
40	DIRECTOR W/TONGUE STR 145MM	1
41	DOUBLE-ENDED PROBE 1.5MM 200MM	1
42	EMMET FISTULA HOOK 1-PRONGSHARP222MM	2
43	CUSHING VEIN RETRACTOR 10X13MM 203MM	2
44	SENN-MILLER RECTOR. SH. 8X7/18X5.5MM	2
45	FARABEUF RTRCTRS23X16/28X16-20X16/24X16	1
46	VOLKMANN RETR4-PRGSEMI-S8.5X19222MM	1
47	KOCHER-LANGENBECK RETR 41X11MM216MM	2
48	RIBBON RETRACTOR MALL 330X30MM	1
49	DEAVER RETRACTOR FIG 1 25MM305MM	1
50	DEAVER RETRACTOR FIG 3 38MM305MM	1
51	KELLY RETRACTOR 150 X 39MM	1
52	MIKULICZ ABDOMINAL RETRACTOR 121X50MM	1
53	LEGUEU BLADDER SPATULA90X30MM 260MM	1
54	KRISTELLER, VAGINAL SPEC. SET, 110X30 MM	1
55	CATHETER GUIDE 490MM	1
56	KIDNEY TRAY STAINLESS STEEL 250MM	1
57	LABORATORY DISH 0.16 L	1

	<b>SUPPLEMENT, URETHRAL SET</b>	<b>QTY</b>
1	DITTEL BOUGIE 8FR 345MM	1
2	DITTEL BOUGIE 10FR 345MM	1
3	DITTEL BOUGIE 12FR 345MM	1
4	DITTEL BOUGIE 14FR 345MM	1
5	DITTEL BOUGIE 16FR 345MM	1
6	DITTEL BOUGIE 18FR 345MM	1
7	DITTEL BOUGIE 20FR 345MM	1
8	DITTEL BOUGIE 22FR 345MM	1
9	DITTEL BOUGIE 24FR 345MM	1
10	GUYON BOUGIE 12FR 255MM	1
11	GUYON BOUGIE 13FR 255MM	1
12	GUYON BOUGIE 14FR 255MM	1
13	GUYON BOUGIE 15FR 255MM	1
14	GUYON BOUGIE 16FR 255MM	1
15	GUYON BOUGIE 17FR 255MM	1
16	GUYON BOUGIE 18FR 255MM	1
17	GUYON BOUGIE 19FR 255MM	1
18	GUYON BOUGIE 20FR 255MM	1
19	GUYON BOUGIE 21FR 255MM	1
20	GUYON BOUGIE 22FR 255MM	1
21	GUYON BOUGIE 23FR 255MM	1
22	GUYON BOUGIE 24FR 255MM	1
23	MALE CATHETER METAL 12FR 292MM	1
24	MALE CATHETER METAL 16FR 292MM	1
25	MALE CATHETER METAL 20FR 292MM	1
26	FEMALE CATHETER METAL 10FR 159MM	1
27	FEMALE CATHETER METAL 16FR 159MM	1
28	GUYON CATHETER GUIDE CVD 365MM	1
29	STRAUSS PENIS CLAMP 130MM	1
30	PITHA FOREIGN BODY FORCEPS CVD 220MM	1
	<b>KIDNEY SET</b>	<b>QTY</b>
1	FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS	2
2	MAIER SPONGE FORCEPS W/RATCH.CVD.262MM	2
3	BACKHAUS TOWEL HOLDING FORCEPS,110MM	8
4	SCALPEL HDL.NO.3	1
5	SCALPEL HANDLE NO.3L	1
6	SCALPEL HDL.NO.4	1
7	OP.SCISSORS,STR.,BL/SH,145MM	1
8	MAYO DISSECT.SCISSORS CVD.170MM	1
9	MAYO HARRINGTON DISSECT.SCISSORS CVD.230	1
10	METZENBAUM DISSECT.SCISSORS CVD.145MM	1
11	METZENBAUM DISSECT.SCISSORS CVD.200MM	1
12	NELSON-METZENBAUM SCISSORS CVD 253MM	1
13	POTTS-DEMARTEL SCISSORS 60DG 220MM	1
14	JOSEPH SCISSORS CVD S/S 150MM	1

15	CUSHING DISSECT.FORCEPS STR.200MM	2
16	DISSECT.FORCEPS W/O T.STD.PATT.200MM	2
17	TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM	2
18	WAUGH DISSECT.FORCEPS 1X2T.200MM	2
19	WAUGH DISSECT.FORCEPS 1X2T.250MM	2
20	ALLIS INTESTINAL FORCEPS DELIC.PATT.	2
21	ALLIS ATRAUMATIC FORCEPS 8,4MM 255MM	1
22	ATRAUMATIC OVUM FORCEPS STR SM250MM	1
23	HALSTED MOSQUITO FORCEPS,CURVED,125MM	6
24	CRILE ARTERY FORCEPS STR.140MM	8
25	ROCHESTER-PEAN ARTERY FORCEPS CVD.185MM	6
26	HALSTEAD MOSQ.ARTERY FORCEPS CVD.200MM	4
27	CRAFOORD ARTERY FORCEPS CVD.245MM	4
28	KOCHER-OCHSNER FORCEPS CVD 1X2240.MM	2
29	MIKULICZ PERITONEUM FORCEPS CVD.205MM	4
30	BABY-MIXTER FORCEPS HEAVY-CVD180MM	1
31	OVERHOLT-GEISS SUTURE FCPS#3CVD276MM	2
32	MIXTER SUTURE FORCEPS RT-ANG 230MM	2
33	CRILE-WOOD NEEDLE HOLDER 150MM	2
34	HEGAR-MAYO NEEDLE HOLDER 200MM	2
35	JAMESON NEEDLE HOLDER DEL SERR 230MM	1
36	MASSON NEEDLE HOLDER 265MM	1
37	WANGENSTEEN NEEDLE HOLDER 275MM	1
38	DESCHAMPS NDLF/RT-HNDBLTLNG-HK215MM	1
39	DIRECTOR W/TONGUE STR 145MM	1
40	DOUBLE-ENDED PROBE 1.5MM 200MM	1
41	VOLKMANN RETR4-PRGSEMI-S8.5X19222MM	2
42	KOCHER RETRACTOR 60X25MM	2
43	RICHARDSON RETRACTOR OPEN37X37MM242MM	2
44	KELLY RETRACTOR 150 X 39MM	1
45	DOYEN RETRACTOR 90X45MM 242MM	1
46	DOYEN RETRACTOR 60X60MM242MM	1
47	DOYEN RETRACTOR 90X60MM 242MM	1
48	DOYEN RETRACTOR 120X60MM 242MM	1
49	FRITSCH RETRACTOR #4OPEN46X75MM242MM	2
50	DEAVER RETRACTOR FIG 2 25MM 318MM	1
51	HARNGTN LNG SPATULAFLX123X64MM299MM	1
52	CUSHING VESS. HOOK BLNT 90DG 6MM/279MM	1
53	CUSHING VEIN RETRACTOR 10X13MM 203MM	1
54	GLOVER ATRAUMATIC CLAMP CVD 215MM	1
55	GLOVER ATRAUMATIC CLAMP CVD 220MM	1
56	DBAKY TNGENTIAL CLMP 4.58MM-WIDE270MM	1
57	DEBAKEY TANGENTIAL CLMP 5 75MM-W280MM	1
58	GLOVER MINI-BULLDOG22/52MM	2
59	DEBAKEY ATRAUMATA AORTA CRSS-CLMP240MM	1
60	DEBAKEY CLAMP 90DG 55/85MM 210MM	1

61	DEBAKEY CLAMP 60DG 40/93MM 240MM	1
62	GUYON ATR.KIDNEY PED.CLAMP 230MM	1
63	GUYON ATRAUMATIC KIDNEY CLAMP230MM	1
64	SCHMIDT DISSECTOR BLUNT 235MM	1
65	VASCULAR SPATULA230MM	1
66	KIDNEY TRAY STAINLESS STEEL 250MM	1
67	LABORATORY DISH 0.16 L	1
68	AV Fistula Set	1
69	Atraumatic vascular clamps	2

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