

# BID DOCUMENT

(e - Procurement)

Supply of Surgical and Medical Equipment in Trauma Centre, IMS



Issued On:

04-06-2014

OFFICE OF DIRECTOR  
INSTITUTE OF MEDICAL SCIENCES  
BANARAS HINDU UNIVERSITY  
VARANASI-221005, INDIA

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## **Checklist for Bid/Tender Submission**

(The following check-list must be filled in and submitted with the bid documents)

### **Pre- Qualification Bid**

Sr. No.	Particulars	Yes/No
1.	Have you attached the techno commercial unpriced bid form duly filled in appropriately?	
2.	Have you attached a copy of the last audited balance sheet of your firm	
3.	Have you attached the details of the income tax clearance certificate, proof of manufacturing unit/ dealership letter/ general order suppliers and copy of Central / State sales tax registration certificate?	
4.	Have you attached the copies of relevant work orders from Govt. Depts. / PSUs and Central Autonomous Bodies?	
5.	EMD: Have you submitted EMD asked for (as specified in BDS).	
6.	Have you submitted samples of all items indicated in the respective schedule of requirements at the address of tender inviting authority within due date.	
7.	Have you enclosed the schedule of requirement indicating the make offered without indicating the pricing components along with the techno commercial unpriced bid?	
8.	Have you submitted the bids both techno commercial unpriced and priced bid separately for each tender?	
9.	Have you enclosed the statement of deviations from financial terms and conditions, if any?	

**Price Bid:**

1.	Have you signed and attached the priced bid form?	
2	Have you attached the schedule of requirements duly priced?	

## Table of Contents

<b>PART 1 – Bidding Procedures.....</b>	<b>6</b>
Section I. Instructions for Online Bid Submission .....	7
Section II. Instructions to Bidders .....	11
Section III. Bid Data Sheet (BDS).....	30
Section IV. Prequalification.....	34
Section V. Policy of University for Corrupt and Fraudulent Practices .....	35
<b>PART 2 – Supply Requirements.....</b>	<b>37</b>
Section VI. Schedule of Requirements .....	38
(1) List of goods and Delivery Schedule.....	39
(2) List of Related Services and Completion Schedule.....	40
(3) Technical Specification .....	41
<b>PART 3 - Contract.....</b>	<b>281</b>
Section VII. General Conditions of Contract.....	282
Section VIII. Special Conditions of Contract .....	298
<b>PART 4 Bidding and Contract Forms .....</b>	<b>302</b>
Section IX : Bidding Form.....	303
Section X : Contract Forms.....	311
<b>NIT .....</b>	<b>321</b>

# **PART 1 – BIDDING PROCEDURES**

## **Section I: Instructions for Online Bid Submission**

Instructions to the Bidders to submit the bids online through the Central Public Procurement Portal for e Procurement at <https://eprocure.gov.in/eprocure/app>

- 1) Possession of valid Digital Signature Certificate (DSC) and enrollment/registration of the contractors/bidders on the e-Procurement/e-tender portal are prerequisite for e-tendering.
- 2) Bidder should register for the enrollment in the e-Procurement site using the “[Online Bidder Enrollment](#)” option available on the home page. Portal enrollment is generally free of charge. During enrollment/registration, the bidders should provide only valid and true information including valid email id. All the correspondence shall be made directly with the contractors/bidders through email id as registered.
- 3) Bidder need to login to the site through their user ID/ password chosen during enrollment/registration.
- 4) Then the Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by SIFY/TCS/nCode/eMudra or any other Certifying Authority recognized by Controller of Certifying Authorities (CCA) India on eToken/SmartCard, should be registered.
- 5) The registered DSC only should be used by the bidder in the transactions and should ensure safety of the same.
- 6) Contractor/Bidder may go through the tenders published on the site and download the tender documents/schedules for the tenders.
- 7) After downloading / getting the tender document/schedules, the Bidder should go through them carefully and then submit the documents as required, otherwise bid will be rejected.
- 8) Any clarifications may be sought online through the tender site, through the contact details or during pre-bid meeting if any. Bidder should take into account the corrigendum if any published before submitting the bids online.
- 9) Bidder may log in to the site through the secured login by the user id/ password chosen during enrolment/registration and then by submitting the password of the e-Token/Smartcard to access DSC.
- 10) Bidder may select the tender in which he/she is interested in by using the search option and then move it to the ‘my tenders’ folder.

- 11) From my tender folder, he may select the tender to view all the details uploaded there.
- 12) It shall be deemed that the bidder has read and understood all the terms and conditions before submitting the offer. Bidder should go through the tender schedules carefully and upload the documents as asked; otherwise, the incomplete bid shall stand rejected.
- 13) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and ordinarily it shall be in PDF/xls/rar/jpg/dwf formats. If there is more than one document, all may be clubbed together and provided in the requested format. Bidders Bid documents may be scanned with 100 dpi with black and white option. It is advisable that each document to be uploaded through online for the tenders should be less than 2 MB. If any document is more than 2MB, it can be reduced through zip/rar and the same if permitted may be uploaded. The file size being less than 1 MB the transaction uploading time will be very fast.
- 14) The Bidders can update well in advance, the documents such as certificates, annual report details etc., under “My Space option” and these can be selected as per tender requirements and then send along with bid documents during bid submission. This will facilitate the bid submission process faster by reducing upload time of bids.
- 15) Bidder should submit the Tender Fee/ EMD as specified in the tender. The hard copy should be posted/couriered/given in person to the Tender Inviting Authority, within bid submission due date and time as indicated in the tender. Scanned copy of the instrument should be uploaded as part of the offer.
- 16) While submitting the bids online, the bidder shall read the terms and conditions and may accept the same to proceed further to submit the bid packets.
- 17) The bidder has to select the payment option as offline to pay the Tender FEE/ EMD as applicable and enter details of the instruments.
- 18) The details of the DD/any other accepted instrument, physically delivered, should tally with the details available in the scanned copy and the data entered during bid submission time, otherwise submitted bid shall not be acceptable or liable for rejection.
- 19) The bidder has to digitally sign and upload the required bid documents one by one as indicated. Very act of using DSC for downloading the bids and uploading their offers shall be



deemed to be a confirmation that they have read, understood and agreed with all clauses of the bid document including General conditions of contract without any exception.

- 20) The bidder has to upload the relevant files required as indicated in the cover content. In case of any irrelevant files, the bid may be rejected.
- 21) If the price bid format is provided in a spread sheet file like BoQ\_XXXX.xls, the rates offered should be entered in the allotted space only and uploaded after filling the relevant columns. The Priced-bid/BOQ template shall not be modified / replaced by the bidder; else the bid submitted is liable to be rejected for the tender.
- 22) The bidders are advised to submit the bids through online e-tendering system to the Tender Inviting Authority (TIA) well before the bid submission due date and time (as per Server System Clock). The TIA shall not be held responsible for any delay or the difficulties faced during the submission of bids online by the bidders.
- 23) After the bid submission (i.e. after Clicking “Freeze Bid Submission” in the portal), the acknowledgement number indicated by the system should be printed by the bidder and kept as a record of evidence for online submission of bid for the particular tender and also be used as entry pass to participate in the bid opening.
- 24) The time settings fixed in the server side and displayed at the top of the tender site, shall remain valid for all actions of requesting, bid submission, bid opening etc., in the e-Tender system. The bidders should follow such time during bid submission.
- 25) All the data being entered by the bidders would be encrypted using Public Key Infrastructure (PKI) encryption techniques to ensure the secrecy of the data. The data entered is not retrievable by unauthorized persons during the bid submission and until the time of bid opening by any person.
- 26) Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers’ public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 27) The confidentiality of the bids is maintained with the use of Secured Socket Layer (SSL) 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- 28) The bidder should logout of the tendering system using the normal logout option available at the top right hand corner and not by selecting the (X) exit option in the browser.

29) For any queries regarding e-Tendering process, the bidders may contact at address as provided in the tender document. Parallely for any further queries, the bidders are advised to contact over phone: 1-800-233-7315 or send a mail to – [cphp-nic@nic.in](mailto:cphp-nic@nic.in).

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## Section II. Instructions to Bidders

### Table of Clauses

<b>A. General.....</b>	<b>13</b>
1. Scope of Bid.....	13
2. Corrupt and Fraudulent Practices .....	13
3. Eligible Bidders .....	13
<b>B. Contents of Bidding Document .....</b>	<b>15</b>
4. Sections of Bidding Document.....	15
5. Clarification of Bidding Documents, Site Visit, Pre-Bid Meeting.....	16
6. Amendment of Bidding Document.....	17
<b>C. Preparation of Bids .....</b>	<b>17</b>
7. Cost of Bidding.....	17
8. Language of Bid.....	17
9. Documents Comprising the Bid.....	18
10.Tender Forms and Price Schedules(BOQ) .....	19
11.Alternative Bids .....	19
12.Bid Prices and Discounts .....	19
13.Currencies of Bid and Payment .....	21
14.Documents Establishing the Eligibility and Qualifications of the Bidder ..	21
15.Period of Validity of Bids .....	22
16.Bid Security .....	22
<b>D. Submission and Opening of Bids .....</b>	<b>23</b>
17.Sealing and Marking of Bids .....	23
18.Deadline for Submission of Bids .....	24
19.Late Bids .....	24
20.Withdrawal, Substitution, and Modification of Bids.....	24
21.Bid Opening .....	24
<b>E. Evaluation and Comparison of Bids.....</b>	<b>25</b>
22.Confidentiality .....	25

23. Clarification of Bids.....	25
24. Determination of Responsiveness.....	25
25. Conversion to Single Currency.....	26
26. Margin of Preference .....	26
27. Evaluation of Bids .....	26
28. Comparison of Bids .....	27
29. Qualification of the Bidder .....	27
30. Purchaser’s Right to Accept Any Bid, and to Reject Any or All Bids.....	28
<b>F. Award of Contract.....</b>	<b>28</b>
31. Award Criteria .....	28
32. Purchaser’s Right to Vary Quantities at Time of Award .....	28
33. Notification of Award.....	28
34. Signing of Contract.....	29
35. Performance Security.....	29

## Section II. Instructions to Bidders

### A. General

1. **Scope of Bid**
  - 1.1 **Scope of Work :**

Supply of Surgical & Medical Equipment as per Specifications, Conditions applicable in term of Warranty, Service after sales etc. on concerned equipments & Instruments as per Common general condition mentioned prior to Technical Specification of Equipments, further in special case with Technical specification of Equipments.
  - 1.2 Throughout these Bidding Documents unless the context otherwise requires:
    - (a) “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
    - (b) “singular” means “plural” and vice versa; and
    - (c) “day” means calendar day.
2. **Corrupt and Fraudulent Practices**
  - 2.1 The Purchaser requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section V.
  - 2.2 Further in pursuance of this policy, Bidder shall permit and cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers to provide access to purchaser to all the accounts, records and other documents relating to submission of the applicant, bid submission (in case prequalified), and contract performance (in case of award), to inspect and to have them audited by auditors appointed by the purchaser.
3. **Eligible Bidders**
  - 3.1 A Bidder may be a firm, a company, a limited liability partnership (LLP), a government-owned entity or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent.
  - 3.2 In the case of a joint venture, all members shall be jointly and severally liable for the execution of the contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and during the contract execution in the event the JV is awarded the contract.

- 3.3 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
  - (b) receives or has received any direct or indirect subsidy from another Bidder; or
  - (c) has the same legal representative as another Bidder; or
  - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
  - (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid shall result in the disqualification of all Bids in which such Bidder is involved. This, however does not limit the inclusion of the same subcontractor in more than one bid; or
  - (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
  - (g) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser for the contract implementation; or
  - (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project that it provided or was provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
  - (i) has a close business or family relationship with a professional staff of the Purchaser (or of the project implementing agency, or of a recipient of a part of the loan) who:
    - (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or
    - (ii) would be involved in the implementation or supervision of such contract.

- 3.4 A foreign firm and individual may be ineligible if as a matter of law or regulations, India prohibits commercial relations with the country of bidder.
- 3.5 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

## **B. Contents of Bidding Document**

### **4. Sections of Bidding Document**

- 4.1 The Bidding Documents consist of Parts 1, 2 ,3 and 4, which include all the Sections indicated below, and should be read in conjunction with any Addenda if any, issued.

#### **PART 1 Bidding Procedures**

- Section I. Instructions for Online Bid Submission
- Section II. Instructions to Bidders
- Section III. Bid Data Sheet (BDS)
- Section IV. Prequalification
- Section V. Policy of University against the Corrupt and fraudulent Practices.

#### **PART 2 Supply Requirements**

- Section VI. Schedule of Requirements

#### **PART 3 Contract**

- Section VII General Conditions of Contract
- Section VIII. Special Conditions of Contract

#### **PART 4 Bidding and Contract Forms**

- Section VIII. Bidding Forms
- Section VIII. Contract Forms

- 4.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

- 4.3 Unless obtained directly from the Purchaser, the Purchaser is not

responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

4.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as required by the Bidding Documents.

**5. Clarification of Bidding Documents, Site Visit, Pre-Bid Meeting**

5.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address specified in the BDS or raise its enquiries during the pre-bid meeting if provided. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period specified in the BDS. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents, including a description of the inquiry but without identifying its source. If so specified in the BDS, the Purchaser shall also promptly publish its response at the web page identified in the BDS. Should the clarification results in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the due procedure.

5.2 If so specified in the BDS, the Bidder is advised to visit and examine the project site and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for procurement of Goods. The costs of visiting shall be at the Bidder's own expense.

5.3 The Bidder and any of its personnel or agents shall be granted permission by the Purchaser to enter upon its premises and lands upon the express condition that the Bidder, its personnel, and agents shall indemnify the Purchaser against all liability in respect thereof.

5.4 If so specified in the BDS, the Bidder's designated representative is invited to attend a pre-bid meeting. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

5.5 The Bidder is advised to submit any questions in writing to reach the Purchaser not beyond one week preceding the meeting.



5.6 Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by Bidders, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Documents. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Purchaser exclusively through the issue of an addendum and not through the minutes of the pre-bid meeting. Absence in the pre-bid meeting shall not be a cause for disqualification of a Bidder.

**6. Amendment of Bidding Document**

6.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by corrigendum. In case of e-procurement, corrigendum / amendment shall be published on <http://eprocure.gov.in/eprocure/app>.

6.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser. The Purchaser shall also promptly publish the addendum on the Purchaser's web page.

6.3 The Purchaser may, at its discretion to give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, extend the deadline for the submission of bids.

## **C. Preparation of Bids**

**7. Cost of Bidding**

7.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

**8. Language of Bid**

8.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.

## **9. Documents Comprising the Bid**

9.1 The tender/Bid shall be submitted online in two part, viz., Technical Bid and Commercial Bid.

### **9.1.1 TECHNICAL BID**

The following documents are to be scanned and uploaded as part of the Technical Bid as per the tender document:

- (a) Scanned copy of Tender Forms (Techno Commercial Un-Priced Bid) and Tender Acceptance Letter);
- (b) Scanned copy of the completed schedules,
- (c) Scanned copy of Bid Security or copy of proof for submission of Tender Document Fee/ Earnest Money Deposit etc ;
- (d) Scanned copy of written confirmation authorizing the signatory of the Bid to commit the Bidder;
- (e) Scanned copy of documentary evidence (i) establishing the Bidder's qualifications to perform the contract if its bid is accepted and (ii) the Bidder's eligibility to bid;
- (f) Scanned copy of (i) documentary evidence, that the Goods and Related Services to be supplied by the Bidder are of eligible origin and (ii) conform to the Bidding Documents, and (iii) any other document required in the BDS;
- (g) Scanned copy of Pre-qualification Details as per Section-IV like PAN/TIN/Sales Tax / Service Tax etc.
- (h) Technical Bid.

All the original documents as well as the original payment instrument like Demand Draft/Pay order or banker cheque of any scheduled bank against Tender Fee/EMD, samples as specified in this tender document have to be sent to the address of the Purchaser mentioned in Bid Data Sheet (BDS) by post/speed post/courier/by hand on or before bid Submission closing date & time. Beyond that the tender shall be summarily rejected without assigning any reason.

### **9.1.2 COMMERCIAL BID**

The commercial bid comprises of :

- 
- (i) Scanned copy of Tender Form (Price Bid)
  - (ii) Price bid in the form of BoQ\_XXXX.xls.
  - (iii) Scanned copy of Item-wise breakup of price bid.

The Price bid format is provided as BoQ\_XXXX.xls along with this Tender Document at <https://eprocure.gov.in/eprocure/app>. Bidders are advised to download this BoQ\_XXXX.xls and quote their offer/rates in the prescribed column. Bidders can quote Basic Price in INR or CURRENCY (for other than INR) but it is mandatory to quote taxes/levies in INR only, in the prescribed column and upload the same in the commercial bid.

9.2 In addition to the above requirements, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement, there to.

9.3 The Bidder shall furnish in the Tender Forms information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**10. Tender Forms(Technical and Price) and Price Schedule(BOQ)**

10.1 Tender Forms and Price Schedules (Bill of Quantity-BOQ) shall be prepared using the relevant forms furnished in Section IX, Bidding Forms and BOQ provided. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

**11. Alternative Bids**

11.1 Unless otherwise specified in the BDS, alternative bids shall not be considered.

**12. Bid Prices and Discounts**

12.1 The prices and discounts quoted by the Bidder in the Tender Forms and in the Price Schedules(BOQ) shall conform to the requirements specified as under.

- (a) All lots (contracts) and items must be listed and priced separately in the Price Schedules(BOQ).
- (b) The price to be quoted in the Tender Forms shall be the total price of the bid, excluding any discounts offered.
- (c) The Bidder shall quote any discount and indicate the methodology for their application in the Tender Forms.
- (d) Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, unless otherwise specified in the BDS A bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected. However, if in accordance with the BDS, prices quoted by

the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

12.2 If so bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise specified in the BDS, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted provided the bids for all lots (contracts) are opened at the same time.

12.3 Prices shall be quoted as specified in each Price Schedule(BOQ) as provided. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country. Similarly, the Bidder may obtain insurance services from any eligible country. Prices shall be entered in the following manner:

(a) For Goods manufactured in India:

- (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
- (ii) any sales tax/VAT and other taxes payable on the Goods, if the contract is awarded to the Bidder; and
- (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) as specified in the BDS.

(b) For Goods manufactured outside India, to be imported:

- (i) the price of the Goods quoted under Carriage and Insurance Paid (CIP) Model upto named place of destination in India as specified in the BDS;
- (ii) the price for inland transportation, insurance, and

other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS;

- (c) For Goods manufactured outside India, already imported:
  - (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
  - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
  - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
  - (iv) any sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
  - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS.
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
  - (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

**13. Currencies of Bid and Payment**

13.1 The currency(ies) of the bid and the currency(ies) of payments shall be as specified in the BDS. The Bidder shall quote in Indian Rupees the portion of the bid price that corresponds to expenditures incurred in Indian Rupees, unless otherwise specified in the BDS.

**14. Documents Establishing the Eligibility and Qualifications of the Bidder**

14.1 To establish Bidder's their eligibility, Bidders shall complete the Tender Form (Techno Commercial Un-Priced Bid & Priced Bid), included in Section-IX, Bidding Forms.

14.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the

Purchaser's satisfaction:

- (a) that, if required in the BDS, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IX, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in India;
- (b) that, if required in the BDS, in case of a Bidder not doing business within India, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (c) that the Bidder meets each of the qualification criterion .

**15. Period of  
Validity of Bids**

- 15.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non – responsive.
- 15.2 In exceptional circumstances, the Purchaser 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. A Bidder may refuse the request without forfeiting its Earnest Money Deposit (EMD). A Bidder acceding to the request will neither be required nor permitted to modify the bid.
- 15.3 Bid evaluation will be based on the bid prices without taking into consideration the above modifications.

**16. Bid Security**

- 16.1 The Bidder shall furnish as part of its bid, a bid security, as specified in the BDS, in original form the amount and currency as specified in the BDS.
- 16.2 If a bid security is specified , the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :
  - (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
  - (b) an irrevocable letter of credit;
  - (c) a banker's cheque or Demand Draft; or
  - (d) any other security as specified in the BDS,

of a reputed source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside India, the issuing financial institution shall have a correspondent financial institution located in India to make it enforceable. The bid security shall be valid for forty five (45) days beyond the original validity period of the bid, or beyond the extended period.

16.3 If a Bid Security is specified, any bid not accompanied by a substantially responsive Bid Security, shall be rejected by the Purchaser as non-responsive.

16.4 If a Bid Security is specified, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security.

16.5 The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.

16.6 The Bid Security of the bidder may be forfeited or the Bid Securing Declaration executed:

(a) if he withdraws from the bid during the period of bid validity specified by the Bidder on the Tender Forms, or any extension thereto provided by the Bidder ; or

(b) if he being successful Bidder fails to:

(i) sign the Contract; or

(ii) furnish a performance security.

16.7 The bid security of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable entity at the time of bidding, the bid security shall be in the names of all members as named in the letter of intent.

## **D. Submission and Opening of Bids**

### **17. Sealing and Marking of Bids**

17.1 The Bidder shall submit the bids electronically, through the e-procurement system (<https://eprocure.gov.in/eprocure/app> ). Any document submitted through any other means will not be considered as part of the Bid except for the Originals as asked for in this tender.

- 18. Deadline for Submission of Bids**
- 18.1 The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 19. Late Bids**
- 19.1 The e-Procurement system would not allow any late submission of bids after due date and time as per server system. After electronic online proposal submission, the system generates a unique identification number which is time stamped. This shall be treated as acknowledgement of the proposal submission
- 20. Withdrawal, Substitution, and Modification of Bids**
- 20.1 A Bidder may withdraw, substitute, or modify its bid on the e-procurement system before the date and time specified but not beyond.
- 20.2 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Tender Forms or any extension thereof Modification/Withdrawal of the Bid sent through any other means shall not be considered by the Purchaser.
- 21. Bid Opening**
- 21.1 The Purchaser shall open the bids as per electronic bid opening procedures specified in Central Public Procurement Portal (CPPP) at the date and time specified. Bidders can also view the bid opening by logging on to the e-procurement system. Specific bid opening procedures are laid down at <https://eprocure.gov.in/eprocure/app> under the head “Bidders Manual Kit”. The tenderer/bidder will be at liberty to be present either in person or through an authorized representative at the time of opening of the Bid or they can view the bid opening event online at their remote end. Price Bids of only those tenderers shall be opened whose technical bids qualify.
- 21.2 The withdrawn bid will be available in the system therefore will be considered, If bidder once withdraws the bid then he will not be able to participate in the respective tender again. Modification to the bid shall be opened and read out with the corresponding bid. Only bids that are opened and read out at bid opening shall be considered further.
- 21.3 The Purchaser shall prepare a record of the bid opening that shall include,; the name of the Bidder; whether there is a withdrawal,



substitution, or modification; the Bid Price including any discounts and alternative bids; and the presence or absence of a bid security, if one was required. The Bidders' representatives who are present in the office of the Purchaser to witness the bid opening shall be requested to sign the record. The omission/refusal of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be made available on the e-procurement system.

## **E. Evaluation and Comparison of Bids**

- 22. Confidentiality**
- 22.1 Information relating to the evaluation of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communication to all Bidders.
  - 22.2 No Bidder shall contact the purchaser on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Purchaser it should be done in writing.
  - 22.3 Any effort by a Bidder to influence the purchaser in its decisions on bid evaluation, bid comparison or contract award decisions may result in rejection of the Bidder's bid.
- 23. Clarification of Bids**
- 23.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids.
  - 23.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.
- 24. Determination of Responsiveness**
- 24.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.
  - 24.2 A substantially responsive Bid is one that meets the requirements

of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:

- (a) if accepted, would
  - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
  - (ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

24.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with instructions specified in tender document, in particular, to confirm that all requirements enumerated in the 'Schedule of Requirements' Section-VI have been complied with, without any material deviation or reservation or omission.

24.4 If a bid is not responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation or omission.

**25. Conversion to Single Currency**

25.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as specified in the BDS.

**26. Margin of Preference**

26.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.

**27. Evaluation of Bids**

27.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.

27.2 To evaluate a Bid, the Purchaser shall consider the following:

- (a) evaluation will be done for Items or Lots (contracts), as specified in the BDS; and the Bid Price
- (b) price adjustment due to discounts offered;
- (c) converting the amount resulting from above, if relevant, to

a single currency;

(d) price adjustment due to quantifiable nonmaterial nonconformities in;

27.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

27.4 The Purchaser's evaluation of a bid shall exclude and not take into account:

(a) in the case of Goods manufactured in the India, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;

(b) in the case of Goods manufactured outside India, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;

(c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

27.5 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids.

**28. Comparison of Bids**

28.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established to determine the lowest evaluated bid. The comparison shall be on the basis of CIP-Carriage and Insurance Paid to (place of destination) prices for imported goods and EXW – Ex Works (named place of delivery) prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within India, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.

**29. Qualification of the Bidder**

29.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria.

29.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder.

29.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.

**30. Purchaser's  
Right to Accept  
Any Bid, and to  
Reject Any or  
All Bids**

30.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

## **F. Award of Contract**

**31. Award Criteria**

31.1 The Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided the Bidder is determined to be qualified to perform the Contract satisfactorily.

**32. Purchaser's  
Right to Vary  
Quantities at  
Time of Award**

32.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VI, Schedule of Requirements, provided this does not exceed the percentages specified in the BDS, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

**33. Notification of  
Award**

33.1 Prior to the expiration of the period of bid validity, the Purchaser shall, notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding.

33.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

33.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award, requests in

writing the grounds on which its bid was not selected.

### **34. Signing of Contract**

- 34.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.
- 34.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.
- 34.3 Notwithstanding anything contained in clause 34.2, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

### **35. Performance Security**

- 35.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the General Conditions of Contract (GCC), using for that purpose the Performance Security Form included in Section-X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in India.
- 35.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.



### **C. Preparation of Bids**

<b>8.</b>	The language of the bid is: <b>English or Hindi</b> . All correspondence exchange shall be in <b>English or Hindi</b> language. Language for translation of supporting documents and printed literature is <b>English or Hindi</b> .
<b>9.</b>	The Bidder shall submit the following additional documents in its bid: <b>NA</b>
<b>10.</b>	Alternative Bids <b>shall not</b> be considered.
<b>11.</b>	The prices quoted by the Bidder <b>shall not</b> be subject to adjustment during the performance of the Contract.
<b>12.</b>	Place of Destination: <b>Office of Director, IMS, BHU, Varanasi</b>
<b>13.</b>	Final destination: <b>Office of Director, IMS, BHU, Varanasi</b>
<b>14.</b>	The prices shall be quoted by the bidder in : <b>Indian Rupees / Foreign Currency</b>
<b>15.</b>	Manufacturer's authorization <b>is</b> required.
<b>16.</b>	After sales service <b>is</b> Required.
<b>17.</b>	The bid validity period shall be <b>120 days</b> .
<b>18.</b>	EMD/Bid security shall be paid @ <b>2.5%</b> of the estimated value(s) of quoted items or <b>Rs. 2,50,000/-</b> whichever is higher by the way of Demand Draft (DD)/Bank Guarantee (BG) in favor of the Registrar, Banaras Hindu University, Varanasi - 221005 and should be valid for a period of 45 days beyond the BID validity period. All tenders received without EMD/Bank Security shall be rejected.  TENDER FEE : <b>NIL</b>
<b>19.</b>	Other types of acceptable securities: <b>NA</b>

## D. Submission and Opening of Bids

<b>20.</b>	<p>For bid submission purposes only, the Purchaser's address is <b>The Director, IMS, BHU, Varanasi – 221005.</b></p> <p>Attention : <b>Prof. R.G. Singh</b></p> <p>Street Address : <b>Office of Director, IMS, BHU, Varanasi.</b></p> <p>Floor/ Room number: <b>IMS Ground Floor</b></p> <p>City : <b>Varanasi</b></p> <p>ZIP/Postal Code : <b>221005</b></p> <p>Country : <b>India</b></p> <p>The deadline for bid submission is:</p> <p>Date : <b>25 June, 2014</b></p> <p>Time : <b>4:00 PM</b></p> <p>The electronic bidding opening procedures shall be as given in Section I-Instructions for Online Bid Submission.</p>
<b>21.</b>	<p>The bid opening shall take place at : <b>Committee Room, Office of Director, IMS, BHU, Varanasi</b></p> <p>Street Address : <b>Banaras Hindu University, Varanasi</b></p> <p>Floor/ Room number :</p> <p>City : <b>Varanasi</b></p> <p>Country : <b>India</b></p> <p>Date : <b>27 June, 2014</b></p> <p>Time : <b>11:00 AM</b></p> <p>The electronic bidding opening procedures shall be as given in Section I-Instructions for Online Bid Submission.</p>
<h2 style="margin: 0;">E. Evaluation and Comparison of Bids</h2>	
<b>22.</b>	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: <b>Indian Rupees</b></p> <p>The source of exchange rate shall be: <b>Reserve Bank of India.</b></p> <p>The date for the exchange rate shall be: <b>Last day for submission of Bids.</b></p>



23.	A margin of domestic preference shall apply.
24.	<p>Evaluation will be done for concern equipment.</p> <p>Note:</p> <p><i>Bids will be evaluated for each item and the Contract will comprise the item(s) awarded to the successful Bidder.</i></p>
<b>F. Award of Contract</b>	
25.	<p>The maximum percentage by which quantities may be increased is: <b>Any extent</b></p> <p>The maximum percentage by which quantities may be decreased is: <b>30%</b></p>

## **Section IV. Prequalification**

1. A notarized affidavit by the firm that it has never been black-listed must be attached along with the Bid, failing which the Bid shall be rejected.
2. Profile of each Bidder and past experience in supply of the material (certificates to be enclosed), proof of manufacturing Unit/Dealership letter and general order supplier. Manufacturer's authorization certificate as prescribed in Section IX in case bidder is not manufacturer.
3. List of other Govt. Departments, Public Sector units and Central Autonomous Bodies for which the bidder is supplying material or having the similar type of contracts and a certificate regarding the satisfactory performance of the contract.
4. Copy of the audited balance sheet of the bidder for the previous three financial years indicating the turnover in supply of the material.
5. True copy of Permanent Account Number.
6. Details of Sales Tax / VAT along with a copy of certificate to be attached.
7. Service Tax No. along with copy of certificate.
8. TIN along with copy of certificate.
9. Submission of samples if required, for all items indicated in the schedule of requirements. The make of items proposed to be supplied should be indicated in the format of the schedule of requirements and submitted along with the techno commercial un priced bid without indicating the pricing components.
10. Willingness to execute all orders which are placed to meet emergency requirement on priority basis. The Bidder shall note that standards for workmanship, material and equipment, and references to brand names designated by the Purchaser in the schedule of requirements are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalogue numbers in his bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

## Section V. Policy of University against the Corrupt and Fraudulent Practices

University strictly adheres to its policy against corruption and requires that bidders and their agents, subagents, sub-contractors, suppliers etc. shall not indulge in any kind of corrupt practices, fraudulent practices, collusive practices, coercive practices, obstructive practices or other kinds of corruption declared as crimes under Indian law.

- a) If bidder or their agents, subagents, sub-contractors, suppliers etc. are found, directly or indirectly, involved in such practices, bid or agreement and execution thereof at any stage may be rejected or cancelled as the case may be by the University and besides it , University may initiate legal actions including civil and criminal proceeding.

For the purpose of this provision the terms are defined as follows:

- (i) “Corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>1</sup>;
- (ii) “Fraudulent Practices” is any act or omission including a misrepresentation which knowingly or recklessly made to mislead another party to obtain financial or other benefit or to avoid an obligation;<sup>2</sup>
- (iii) “Collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>3</sup>
- (iii) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>4</sup>
  
- (v) "obstructive practice" is:

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<sup>1</sup> For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes university staff and employees of other organizations taking or reviewing procurement decisions.

<sup>2</sup> For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

<sup>3</sup> For the purpose of this sub-paragraph, “party” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

<sup>4</sup> For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/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.

- b) Besides actions under clause (a) University may also take action to blacklist such bidder either indefinitely or for a specified period.

## **PART 2 – Supply Requirements**

# **Section VI. Schedule of Requirements**

## **Contents**

1. List of Goods and Delivery Schedule .....	39
2. List of Related Services and Completion Schedule .....	40
3. Technical Specifications .....	41

# 1. List of Goods and Delivery Schedule

Line Item N°	Description of Goods	Quantity	Physical unit	Final Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
<i>[insert item No]</i>	<i>[insert description of Goods]</i>	<i>[insert quantity of item to be supplied]</i>	<i>[insert physical unit for the quantity]</i>	<i>[insert place of Delivery]</i>	<i>[insert the number of days following the date of effectiveness the Contract]</i>	<i>[insert the number of days following the date of effectiveness the Contract]</i>	<i>[insert the number of days following the date of effectiveness the Contract]</i>
As per attached Technical Specification				Trauma Centre, IMS	21 DAYS	30 DAYS	

## 2. List of Related Services and Completion Schedule

<b>Service</b>	<b>Description of Service</b>	<b>Quantity<sup>1</sup></b>	<b>Physical Unit</b>	<b>Place where Services shall be performed</b>	<b>Final Completion Date(s) of Services</b>
<i>[insert Service No]</i>	<i>[insert description of Related Services]</i>	<i>[insert quantity of items to be supplied]</i>	<i>[insert physical unit for the items]</i>	<i>[insert name of the Place]</i>	<i>[insert required Completion Date(s)]</i>
As per attached Technical Specification				Trauma Centre, IMS	21 days

1. If applicable



### 3. Technical Specifications

“Summary of Technical Specifications”

## MEDICAL EQUIPMENT

Item No	Name of Equipment	Units
<b>Department of Neurosurgery</b>		
1.	Cranial Surgery Set (2 each for 4 theatres)	8
2.	Shunt Surgery Set	2
3.	Radiolucent Wilson Spinal Surgery Frame	1
4.	Three Pin Mayfield Skull Clamp with Table attachments	1
5.	Electric Craniotome and Drill Set	2
6.	Trans-Oral Surgery Set for Odontoidectomy	1
7.	Miniplate Fixation Set	1
8.	Trans-Sphenoidal Surgery Set	1
9.	ICP Monitor Set	2
10.	Micro-Neurosurgery Instrument Set	1
11.	Operating Microscope for Neurosurgery	1
12.	Ultrasonic Surgical Aspirator	1
13.	High Definition Neuro Endoscopic Set	1
14.	Microdisectomy Set	1
15.	Intra Operative Ultrasound with Colour Doppler	1
16.	Transpedicular Fixation Set	1
<b>Department of Plastic Surgery</b>		
17.	Total performance system with console and hand piece	4
	Ø saqittal saw	
	Ø Precision saw	
	Ø Reciprocating saw	
	Ø K-wire driver	
	Ø Drill attachment	
	Ø Burr attachment	
18.	Electronic Tourniquet with Accessories and five cuffs for Bilateral Surgery	4
19.	Magnifying loupes on head band with cold light illumination system up to 3.5 – 4X magnification	4
20.	Microsurgery set containing micro instruments and vascular clamps	3
21.	Nerve Stimulator-mapper-locator with separate output for stimulator/Mapper and locator	3
22.	Surgical cautery (Cutting, coagulation, fulguratron and spray)	4
23.	Micromotor set with accessories	2
	Ø Drill bits	
	Ø Diamond burrs	
	Ø Cutting burrs	

Item No	Name of Equipment	Units
	Ø Hair transplant punches	
24.	Maxillofacial miniplating set	3
25.	Hand held Vascular doppler	4
26.	LASER	
	Ø Ndyag	1
	Ø CO2	1
27.	Skin grafting Handle	4
28.	Liposuction set with 2HP Motor and silicon tubing (6 Metres)	1
29.	Hair transplant set with Microscope and hair counter	1
30.	Mesh dermatome (4x)	2
31.	Dormabrasion Set	2
32.	Burn Bath Tub	1
33.	Operating Microscope with camera and recording device	1
34.	Basic bone planting instruments with screw driver, drills, elevators, pliers	2
35.	Ultra lock bone planting instruments	2
36.	Bone holding process (All varieties)	2
37.	Skin and soft tissue and nasal retractors	2
38.	Elevators (All varieties)	2
39.	Bone awls and hooks	2
40.	Bone cutters and nibblers	2
41.	Osteotomes Chisels and gouges	2
42.	Cullettes and mouth gouges	2
43.	Cleft lip and Palate instruments	2
44.	Boxes and container	1
	Ø For skin grafting handle	3
	Ø For general instruments	3
45.	High Definition LCD Monitor (52 inches)	3
46.	Pneumatic Compression Pump for Lymphoedema patients (Model SC-3008-T Sequential Circulator)	4
47.	Lighted retractor with console and light source	2
48.	Fibre optic camera with recording device to be fitted with OT light	3
49.	Mini C- arm for hand surgery	1
50.	Plastic Surgery surgical instruments as per List Attached	1
	<b>Department of General Surgery</b>	
51.	Laparoscopic Hand Instrument as per attached List	1
52.	High Definition Camera , Monitoring and Recording Systems as per attached List	1
53.	Nd Yag Laser	2
54.	Diathermy	4
55.	General Surgery Instrument Set as per attached List	1
56.	Surgical Instrument Set for General Surgery as per attached List	4
	<b>Department of Orthopedic</b>	
57.	Combined Generator for Ultrasonic Cutting, Coagulation, RF Energy Compact with Articulation Device & Probes	02set
58.	Electrical Suction Pump	4

<b>Item No</b>	<b>Name of Equipment</b>	<b>Units</b>
59.	Orthopedic Surgical Instrument set for 4 OT, as per attached list	4 set
60.	Nailing Set As per attached list	1set
61.	Skeletal Traction apparatus Set As per attached list	4 set
62.	Power drill system	2
63.	Pneumatic tourniquet	4
64.	Eschmarch tourniquet	4
65.	Pulse lavage system	2
66.	Vacuumed Assisted Closure Device (VAC)	3
67.	Portable ultrasound with three Probes including TEE	2
68.	C Arm	2
69.	Portable X-ray machines	2
70.	Computerised Radiography System(CR)	2
71.	Arthroscopic Set	1
	<b>Department of Anesthesia, O.T. &amp; ICU</b>	
72.	ABG Machine	2
73.	Advanced Cardiac skill Trainer	1
74.	Airbeds	50
75.	AMBU bag (Adult)	20
76.	Ambulatory Blood Pressure Monitor	4
77.	Bed site monitor	40
78.	Bi-pap ventilator	10
79.	Biphasic Defibrillator with AED	6
80.	Blood warming system	10
81.	Cardiac-compression(Auto-Pulse)with CPR Ready	3
82.	32 Modular Monitors with 2 Central Monitoring Station	1
83.	Chest vibration system	5
84.	Crash Cart	32
85.	Crash Carts (Resuscitation Trolley )	4
86.	CRRT machine	1
87.	Drip infusion pump	20
88.	ECG Machine	3
89.	Electric suction machines	10
90.	Electrically operated thermal blankets	50
91.	Entropy monitor	3
92.	External cooling system	1
93.	Extra-Corporeal Membrane oxygenation system	1
94.	Hyperbaric oxygen therapy	1
95.	Intermittent leg compression machine	20
96.	Intra-aortic balloon pump	1
97.	IV fluid warmer system	20
98.	Syringe Infusion Pump	100
99.	Low Temperature H <sub>2</sub> O <sub>2</sub> Plasma Sterilizer	1
100.	Minimally invasive cardiac monitor	3
101.	Nerve Mapper/Locator/Stimulator	3
102.	Pasteurization system	1
103.	Patient positioning system	6

<b>Item No</b>	<b>Name of Equipment</b>	<b>Units</b>
104.	Patient warming system	20
105.	Patient Shifting Trolley	12
106.	Plasmapheresis	1
107.	Patient Transfer System	12
108.	Portable X-ray machines with DICOM system	2
109.	Radio frequency generator	1
110.	Recovery Room Trolley	6
111.	Ripple mattresses (to prevent pressure sores)	30
112.	Scoop Stretchers	10
113.	Sterile Store Cabinet	10
114.	Temporary pacemaker set	2
115.	Thrombo-elastograph	1
116.	Transoesophageal ECHO	1
117.	Transtracheal jet ventilation system	2
118.	Video bronchoscope	2
119.	Video laryngoscope (Adult & Pediatric)	2
120.	X-Ray Machine with Diacom system	2
121.	I.T. Streaming	3
122.	ICU Ventilator	10
	<b>Physiotherapy</b>	
123.	1 MHZ Ultrasound therapy	1
124.	Advanced compact computerised 4-Channel TENS	1
125.	Advanced Scanning LASER Therapy Machine with 650 nm visible red scanner -24mW. <u>Double Probe</u> 655 nm visible red probe – 20 mW 808 nm Infrared Probe - 200 mW	1
126.	Advanced scanning LASER therapy machine with 655 nm Visible red Scanner – 40 mW. <u>Single Probe</u> 808 nm Infrared Probe – 200 mW	1
127.	Computerised Compact Muscle stimulator with TENS	1
128.	Computerised Interferential Therapy	1
129.	Computerised Interferential Therapy with MST and TENS ( 3 in 1)	1
130.	Continuous Passive Motion	1
131.	Dual Head - 1 MHZ and 3 MHZ Ultrasound therapy	1
132.	High Power Shortwave Diathermy	1
133.	Intermittent Cervical and Lumbar traction	1
134.	Vacuum Therapy machine – Used in combination with IFT/MST/TENS for better results	1
	<b>Department of Vascular Surgery</b>	
135.	Heart lung machine	1
136.	ACT machine	2
137.	IABP machine	2
138.	Warm air blower - blanket system	2
139.	ABG machine	1

<b>Item No</b>	<b>Name of Equipment</b>	<b>Units</b>
140.	Auto-transfusion system (cell saver)	1
141.	Temporary pacemakers (2 single chamber and 2 dual chamber)	4
142.	Electric cautery system [with dual control, all type of probes]	1
143.	Head lamp [Xenon /Halogen type compatible with loupes]	1
144.	Surgical magnifying loupes 4.5x (Adjustable)	1
145.	Electric saw system <ul style="list-style-type: none"> <li>• One driving unit of 90 watt motor with stand, tool kit and foot control.</li> <li>• Two auto-clavable well fitting connecting cables.</li> <li>• Two auto-clavable sternal saw with reloadable cutting blades.</li> <li>• One auto-clavable re-sternotomy saw with depth support disc.</li> </ul>	1
146.	De-fibrillators [with adult and pediatric internal pedals]	2
147.	Fibrillator [with internal pediatric and adult pedals]	1
148.	Emergency trolley [Crash Carts]	2
149.	Portable x-ray machine	1
150.	Operating room instruments trolley system <ul style="list-style-type: none"> <li>a) Height adjustable Mayo table</li> <li>b) Surgical instrument trolley</li> <li>c) Long BASIN Stand</li> <li>d) IV Stand</li> <li>e) Infusion Pump Stands with mono input and multi output electricity Ports</li> </ul>	2 4 2 2 7
151.	Cardiac coronary instruments Set	1
152.	General Cardiac Instrument Set	1
153.	Coronary Surgery Cansum Item Set	1
154.	Small Vascular Clamp Set	2
155.	Thoracotomy Set	2
156.	Large Vascular Clamp Set	2
157.	Carotid Fine Set	2
158.	Endarterectomy Set	1

## **General Conditions applicable in term of Supply, Warranty, Service after sales etc. on concerned equipment & Instruments**

1. Excise Duty Exemption Certificate or Custom Duty Exemption Certificate will be provided by Banaras Hindu University, Varanasi, so such type of duty may not be included in price.
2. All papers related to import of equipment as Custom Clearance, Airway Bill etc. should be after the date of Purchase Order.
3. Submit Equipment/ Instrument Users list in India.
4. General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive if applicable on Equipment / Instrument.
5. The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6. Power input to be 220-240VAC, 50Hz fitted with Indian plug if equipment is operated on Electrical power supply.
7. Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms .(or equivalent BIS Standard)
8. User Manual as well as service manual in English to be provide by Company at the time of Installation.
9. List of important spare parts and accessories with their part number and costing
10. Certificate of calibration and inspection.
11. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
12. The job description of the hospital technician and company service engineer should be clearly spelt out
13. List of Equipment's available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
14. Specify Life of Equipment in standard operating condition from the date of Installation
15. Comprehensive warranty for five years (free repair and replacement of all parts including Battery if being used in system)
16. AMC/CMC rate term, for after expiry of Warranty period, for next 5 years.
17. During warranty /AMC period - Unit has to be repaired within 48 hour or to be replaced by other unit till it is being repaired.
18. During Warranty / AMC Period three preventive Maintenance at the time interval of four months to be carried out by company and duly signed service report to be submitted to Trauma Centre and. In case of failure in providing preventive service, Warranty/ AMC will be extended automatically for further four months for each failure in preventive maintenance, any number of breakdown calls to be attended by company.
19. In case of equipment is not under Warranty/ AMC then also it is liability of supplier company to provide service and spare parts for said Life period of equipment at on call basis within 72 working hrs. On Call service charge for particular equipment to be mentioned at the time of filling Tender.
20. Certificate for insuring availability of Spare Parts/consumable if any and services, by Principle Company for Ten year, from the date of Installation, even after discontinuation of model, Company will provide spare part and services up to that period, otherwise Company will provide good working standby set for remaining period.
21. Company item should be as per Technical specification.
22. Country of origin Certificate, Shipment details and Original Bill to be provided by Principle Company at the time of Delivery/ Installation.(In case of Equipment is Imported from other Country.)A certificate to be issued by Principal Company showing that equipment is brand new and brought for Trauma Centre, IMS, BHU.
23. Manufacturer bidding directly will get priority.
24. In the event that sole agent/company is changed to different company. Manufacturer shall ensure that the warranty and post warranty maintenance and provisions of spare parts etc. shall be fulfilled by New agent/company. Confirm letter from manufacturer should be provided with the offer.

# **1- DEPARTMENT OF NEUROSURGERY**

## **Technical Specifications for Neurosurgery Equipment's**

### **Item No. 1 - Cranial Surgery Set**

#### **Description**

Instruments are for delicate surgery of brain so they should be of high quality steel with smooth mobility and fine cutting/holding nature. They should be already in use in prime institutions of India or abroad. Each item should be both US-FDA and European CE approved. Company should have own unit to repair the damaged instruments.

<b>Sl. No.</b>	<b>Name of Items</b>	<b>Quantity</b>
1	TC BABY-METZ SCISSORSDEL CVDB/B 145 MM	1
2	TC TOENNIS-ADSON SCISS DEL CVD 175 MM	1
3	SCHMIEDEN-TAYLOR DURA SCISSORS 155 MM	1
4	NOIR METZENBAUM SCISSORS CVD 180 MM	1
5	ADSON DISSECT FORCEPS W/O T. 180 MM	1
6	JEFFERSON FORCEPS 180 MM	1
7	GERALD FORCEPS DEL STR 175 MM	1
8	GILLIES DISSECT. FORCEPS W/O T. 150 MM	1
9	TISSUE FORCEPS SERR 145 MM	1
10	CUSHING DEL STR FORCEPS 180 MM	1
11	DISSECT. FORCEPS MED. WIDE 1X2 T. 200 MM	1
12	JANSEN FORCEPS BAYO SERR 160 MM	1
13	GRUENWALD FORCEPS BAYO SERR 200 MM	1
14	DANDY DELICATE FORCEPS CVD 140 MM	40
15	TC BABY-CRILE-WOOD NDL HLDR SERR 150MM	1
16	TC DE'BAKEY NDL HOLDER DEL SERR 180MM	1
17	TC MAYO-HEGAR NDL HOLDERHVYSERR 185MM	1
18	ADSON-BABY RETRACTOR 3X4 BLUNT 140 MM	1
19	MOLLISON RETRACTOR SHARP 155 MM	1
20	GILLIES SKIN HOOK SHARP SM 180 MM	1
21	ADSON NERVE HOOK SHARP	2
22	DAVIS VASCULAR SPATULA 245 MM	1
23	FREER ELEVATOR S/B 185 MM	1
24	YAS. MICRO SCISS BAYOUP-CVDS/S 225 MM	1
25	YASARGIL TUMOR FCPS SERR 3 MM 220 MM	1
26	YASARGIL TUMOR FORCEPS 3 MM 220 MM	1
27	YASARGIL TUMOR FORCEPS 5MM 220MM	1
28	FERG-FRAZIER SUCT 7FR 110MM WRK-LGT	1
29	FERG-FRAZIER SUCT 9FR 3/110MM WRK-LGTH	1
30	FERG-FRAZIER SUCT 12FR 110MM WRK-LGT	1
31	HOOK HANDLE F/WIRE SAWS	4
32	DEMARTEL CONDF/WIRE SAWSFLEX X 350MM	6
33	OLIVECRONA UNBREAKABLE WIRE SAW 500 MM	5 Pack

Sl. No.	Name of Items	Quantity
34	RANEY SCALP HEMOST. CLIP PACK OF 25PCS	2 Pack
35	RANEY APPLY/REMOVING FCPS F/FF002 FF015P	1
36	LUER BONE RONGEUR ANG 150 MM	1
37	LUER BONE RONGEUR CVD 155MM	1
38	VENTRICULAR CANNULA CUSHING	2
39	HUDSON DRILL BRACE F/FF055R	1
40	HUDSON CEREBELLAR ATTACHMENT F/FF 055R	1
41	JANSEN SELF RETAINING RETRACTOR 100 MM X 4 INCHS	1
42	HUDSON BURR 9MM DIA	1
43	HUDSON BURR 14 MM DIA	1
44	HUDSON SPHERICAL BURR 16MM DIA	1
45	HUDSON SPHERICAL BURR 22 MM DIA	1
46	ADSON PERFORATING BURR 15 MM DIA	1
47	ADSON PERFORATING BURR 8 MM DIA	1
48	ADSON PERFORATING BURR 13 MM DIA	1
49	CUSHING FLAT DRILL 14MM DIA	1
50	TWIST DRILL 2 MM DIA	1
51	DAHLGREN SKULL PUNCH W/2 X-HOOKS 210MM	1
52	SAFETY FORCEPS F. BORE HOLES	1
53	WILLIGER BONE RASPATORY 6.0MM 160MM	1
54	JOSEPH RASPATORY 4MM WIDTH 180MM	1
55	VOLKMANN BONE CURETTE #0 5.2MM 172MM	1
56	REILL CUTTER F/WIRE CLOSE BONE 2/1.6MM	1
57	NO.1 PENFIELD DISSECTOR 178 MM	1
58	NO.2 PENFIELD DISSECTOR 197 MM	1
59	NO. 3 PENFIELD DISSECTOR 197 MM	1
60	NO.4 PENFIELD DISSECTOR 203 MM	1
61	NO.5 PENFIELD DISSECTOR 292 MM	1
62	KERRISON PUNCH 90 <sup>0</sup> 2MM 85 MM upward	1
63	KERRISON PUNCH 90 <sup>0</sup> 3MM 85 MM upward	1
64	KERRISON PUNCH 90 <sup>0</sup> 4MM 85 MM upward	1
65	FREER ELEVATOR SHARP 190MM	1
66	PENNYBACKER PROBE DISSECTOR 229MM	1
67	YASARGIL SPRING-HOOK F/GALEA FIXATIONSM	2
68	YASARGIL SPRING-HK F/GALEA FIXATION LRG	2
69	WEITLANER RETRACTOR 3X4T. SH. 130MM	1
70	WEITLANER RETRACTOR 3X4T.BL.130MM	1
71	MOLLISON RETRACTOR SHARP 155MM	1
72	WULLSTEIN RETRACTOR 3X3 SHARP 130MM	1
73	YASARGIL MICRO SCISS BAYO ST/B225MM	1
74	YAS.MICRO SCISSDELBAYOSTS/S225MM	1
75	YASARGIL MICRO SCISSORS BAYOSTR 165MM	1
76	YASARGIL MICRO SCISS BAYOUP-CVD 165MM	1
77	YASARGIL MICRO SCISS BAYO STR 200MM	1
78	YASARGIL MICRO SCISS. BAYOUP-CVD 200MM	1
79	YASARGIL TUMOR/VESEL FCPS BAYO 3X200MM	1



Sl. No.	Name of Items	Quantity
80	YASARGIL TUMOR FORCEPS 3MM 220MM	1
81	MIRCO-FORCEPS BAYO FINE 184MM	1
82	YASARGIL MICROFORM BAYO FCPS. 6MM 180MM	1
83	YASARGIL MICROFORM BAYO FCPS.9MM 220MM	1
84	JEWELERS FORCEPS ANG-TIP 110MM	1
85	LUCAE FORCEPS BAYO SERR 140MM	1
86	FORCEPS BAYO 1X2 200MM	1
87	YASARGIL NEEDLE HOLDER BAYO STR 200MM	1
88	CASPAR EXPLOR.HOOK MED-TIP90DG 245MM	1
89	KRAYENBUEHL NERV HKSHRTBALL-TIP 184MM	1
90	ADSON NERVE HOOKBLUNT	1
91	DURA HOOK CAIRNS SHARP 127MM	2
92	VASCULAR SPATULA 3MM BLUNT 185MM	1
93	VASCULAR SPATULA 3MM BLUNT 215MM	1
94	CASPAR MICRO-DISSDWN-CVD 2.0MM 229MM	1
95	CASPAR DISSECTOR UPWARD CVD 1/210MM BAYONET	1
96	CASPAR DISSECTOR DWN-CVD 1/210MM BAYONET	1
97	YASARGIL RASPARTORY DWN-CVD BAYO 185MM	1
98	SAMI KNIFE F/TUMOR TISSUE 1.5MM 230MM	1
99	SAMI KNIFE F/TUMOR TISSUE 2.0MM 230MM	1
100	SAMI KNIFE F/TUMOR TISSRND 1.5MM 230MM	1
101	MICRO HOOK BLUNT 230MM	1
102	YASARGIL ARACHNOID KNIFE BAYONET SHAPE	1
103	SHARP HOOK 90DG-TIP 185MM	1
104	FERG-FRAZIER SUCT 6FR 2/110MM WRK-LGTH	1
105	NOIR METZENBAUM SCISSORS CVD 180MM	1
106	NOIR METZENBAUM SCISSORS DEL CVD 180MM	1
107	TC CRILE-WOOD NDL HLDRSTD SERR 185MM	1
108	TC DE'BAKEY NDL HOLDER DEL SERR 180MM	2
109	LEK SELL RONGEUR 5 MM X 36 CM	1
110	ECHLIN 3 MM X 23 CM RONGEUR	1
111	CONE SKULL PUNCH 23 CM FOR 12 MM THICK SKULL	1
112	MISKIMON SELF RETAINING RETRACTOR APP. 20 CM	1
113	ADSON – ANDERSON SELF RETAINING RETRACTOR APP. 7 CM	1
114	Container for storage and sterilization of same company	1

- Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
- All Instruments Should be highly heat resistance.
- Lot number and name of Company should be mentioned on each & every instrument.**
- It Should also have mentioned country of origin manufacture on each instrument.**
- The surface of the instruments should be non reflective.
- Item should have Barcode embedded on the Instrument.
- Should produce certificate of origin from chamber of commerce to ascertain the genuinely of the instrument.
- The principal should have own office in India.

**Abbreviation Detail :**

Diss = Dissector, DWN = Down, CVD = Curved, Sciss = Scissor, SERR = Serrated, TC=Titanium coated, NDL = Needle, HLDR= Holder, DEL = Delicate, S/B = Sharp/Blunt, S/S= Sharp /Sharp, HK=Hook, Suct = Suction, FCPS= Forcep, WRK=Working, LGT=Length, ANG=Angular, TR=Strangth, Explor=Explorer, Med=Medium, Bayo=Bayonet, Ang=Angular.

## Item No. 2- Shunt Surgery Set

**Description:** It is meant for placement of ventriculo-peritoneal clamp in patients with hydrocephalus, Company Item should be both US - FDA and European CE approved.

S. No.	Name of Items	Quantity
1	Surgical knife handle for 23 No. Blade	1
2	Surgical knife handle for 14 No. Blade	1
3	3 Jansen self retaining mastoid retractor small	2
4	Hudson Drill Brace	1
5	Hudson Burr 14 MM Diameter	1
6	Perforator 13mm Diameter	1
7	Dandy Delicate forceps Curved 140 mm	10
8	Penfield dissector set (No. 1,2,3,4,5)	1
9	Periosteal elevator	1
10	Cushing Ventricular Cannula	2
11	Subcutaneous tunneller adult	1
12	Subcutaneous tunneller pediatric	1
13	Abdominal Trocar	1
14	Fine tooth forcep 4"	1
15	Medium tooth forcep	1
16	Langhen's tissue retractor	2
17	Fine needle holder 4" Crile Wood	1
18	Medium size needle holder DE-Bakey	1
19	Noir Metzenbaum scissors Delicate curved 180mm	1
20	Storage and sterilization box for above instruments	1

1. **Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
2. All Instruments Should be highly heat resistance.
3. **Lot number and name of Company should be mentioned on each & every instrument.**
4. **It Should also have mentioned country of origin manufacture on each instrument.**
5. The surface of the instruments should be non reflective.

### **Item No. 3- Radiolucent Wilson spinal frame**

**Description:** It is in used for spinal surgery in prone position Features:

It should be true radiolucent so that x-ray can be taken without artifact during surgery

It should be original from parent company

It should be strong enough to bear heavy weight patient

**Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**

## **Item No. 4– Three Pin May Field skull clamp set**

**Description:** It is for rigid fixation of skull during surgery so that there should not be any movement during using microscope. Company Item should be both US - FDA and European CE approved and product should be original. It would have supplied it in prime institutions of India.

1. It should be original.
2. Adult and paediatric pins to be provided.
3. The clamp should be provided with table attachment.
4. It should also be provided with sitting arrangement.

**5.Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**

## Item No. 5- High Speed Electrical Craniotome and Drill set

**Description:** High speed electrical drill system with attachment for craniotomy, skull base surgery, spine surgery, tans oral, transphenoidal and metal cutting.

1. Electrical drill system with power and high Speed 75,000 rpm and above.
2. Console to allow visible display and setting of maximum high speed
3. Foot control for varying the speed and foot button for reverse rotation.
4. System should give audible beeps/alerts while in reverse action.
5. The motor should be able to run for long duration without heating.
6. Cables should be lightweight, flexible and autoclavable.
7. Should have quick release and lock system for tools and attachment.
8. Specialized attachment and tool for cutting metal implants.
9. Attachments should have tapered design for better visibility under microscope.
10. System should have footed attachment for craniotomies along with tools.
11. Straight attachment should be small
12. Angled attachment should be medium & large.
13. Pediatric and adult duraguard should be supplied with craniotomy attachment.
14. Cranial perforator should be supplied with reusable perforator.
15. System should have facility of automatic temperature control.
16. Should have simplified mechanism for locking and unlocking burrs.

### Burrs for attachment

- |  |   |        |
|--|---|--------|
| 1. Reusable craniotomy burr (Adult & Pediatric)  | - | 4      |
| 2. Neuro Cutter  | - | 6      |
| 3. Diamond Burr 2 mm and 3 mm  | - | 2 each |
| 4. Acorn burr  | - | 2      |
| 5. Rosen burr/ball burr  | - | 4      |
| 6. Oil spray for high motor and hand pieces  | - | 4      |
| 7. Cleaning Brushes  |   |        |
| 8. Equipment should be both US – FDA and CE approved.                                    |   |        |
| 9. 5 years comprehensive guarantee/warrantee from the date of satisfactory installation. |   |        |
| 10. CMC/AMC terms for next five years after the expiry of guarantee/warrantee period.    |   |        |
| 11. Principal certificate mentioning that this product is for BHU only                   |   |        |
| 12. All import papers to be provided with invoice.                                       |   |        |
| 13. Manufacture Office Should be in India.   |   |        |

## Item No. 6- Transoral Surgery Set for Odontoidectomy

The set is for removal of odontoid through transoral route. It should be in use in prime institution of India.

S.No.	Description	Quantity
1.	Crockard Retractor Body	1
2.	Crockard small tongue blade	1
3.	Crockard Large Tongue Blade	1
4.	Crockard 90 degree blade	2
5.	Crockard curved retractor blade	2
6.	Crockard Blade connector	2
7.	Crockard suction holder small	1
8.	Crockard suction holder large	1
9.	Crockard hard palate retractor	1
10.	Crockard pharyngeal retractor small	1
11.	Crockard pharyngeal retractor large	1
12.	Crockard odontoid grasping forcep	1
13.	Crockard ligament forcep	1
14.	Penfield dissector no.4, 8" long	1
15.	Caspar bone curette approx..3.5 mm, 8" long	1
16.	Yasargil micro scissor bayonet with straight tip 9" long	1
17.	Muller 1.2 mm approx.. 6" long tooth micro forcep	1
18.	Diamond dust coated micro needle holder approx.. 8" long	1
19.	Caspar bayonet micro dissector 1mm upward curved bayonet, approx.. 8" long	1
20.	Caspar bayonet micro dissector 1mm downward curved bayonet, approx.. 8" long	1
21.	Bayonet scalpel handle bayonet approx..8" long for no. 11 blade	1
22.	Noir Metzenbaum curved scissor 8" long	1
23.	Baby- Crile-Wood needle holder 6" long	1
24.	Fergusson suction cannulae bayonet type 2mm, approx..6"long	1
25.	Fergusson suction cannulae bayonet type 2mm, approx..8"long	1
26.	Fergusson suction cannulae bayonet type 3 mm, approx..6"long	1
26.	Fergusson suction cannulae bayonet type 3mm, approx..8"long	1
27.	Fergusson suction cannulae bayonet type 4mm, approx..6"long	1
28.	Fergusson suction cannulae bayonet type 4mm, approx..8"long	1
29.	High quality Kerrison punch 40 degree 1mm 8" long forward cutting	1
30.	High quality Kerrison punch 40 degree 2mm 8" long forward cutting	1
31.	Container for storage and sterilization of same company	1

### Terms & Condition:

1. Each item should be both US FDA and CE approved.
2. Each instrument should have company name, code

3. Guarantee of 5 years
5. Rest other conditions as per tender documents
6. It is be supplied at Trauma centre, BHU hospital, Varanasi
7. Should be in use in prime institution of India, submit the user list



## Item No. 7– Miniplate Fixation Set

**Description:** Miniplate fixation set is for cranial repair of craniotomy site and closure for burr hole site or craniectomy site by MRI compatible Titanium plate/screw/mesh for rigid fixation and protection. It should have US FDA and CE approved. The desired document should clearly indicate the name of instrument in FDA and CE certificate. All instruments should have name of company and code no. The Company should have office in India. It should contain the following minimum components

S.No.	Name of component	Number
1.	Screw driver with blade for cross & square, twist drills with handle for screw with thread	4
2.	Plate bending forcep	2
3.	Plate holding forcep	2
4.	Plate cutting forcep	2
5.	Self drilling screw 1-1.5 mm dia & 3mm long	1000
6.	Self drilling screw 1-1.5 mm dia & 4 mm	1000
7.	Self drilling screw 1-1.5 mm & 5 mm	1000
8.	2 holes titanium plate approx.. 15 mm	400
9.	4 holes titanium plate	400
10.	Long multihole titanium plate about 6 cm	100
11.	Titanium mesh approx... 6x9 cm	50
12.	Burr hole titanium cover 20 mm	400
13.	Double Y titanium plate approx...15-20 mm	50
14.	Container for storage and sterilization of same company	2

### **Terms and Conditions:**

- 1. Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
2. All Instruments Should be highly heat resistance.
- 3. Lot number and name of Company should be mentioned on each & every instrument.**
- 4. It Should also have mentioned country of origin manufacture on each instrument.**
5. The surface of the instruments should be non reflective.

## Item No. 8 - Trans-Sphenoidal Surgery Set

It comprised of all instruments required in pituitary surgery. All instruments should be of high quality, nonreflective and must be in use in prime institution of India. Each Item should be both US FDA & European CE approved with own office in India.

S.No.	Description	Quantity
1.	Papavero-Caspar slim light weighted specula small	1
2.	Papavero-Caspar slim light weighted specula medium	1
3.	Papavero-Caspar slim light weighted specula large	1
4.	Noir Transsphenoidal specula medium	1
5.	Spreader for above specula	1
6.	Artrum punch	1
7.	Self retaining nasal speculum as introducer for above specula small	1
8.	Self retaining nasal speculum as introducer for above specula large	1
9.	Papavero bayonet chisel 4 mm wide & about 8" long for perpendicular plate of the ethmoid bone	1
10.	Cottle chisel with depth marking 4mm & 7" LONG	1
11.	Cottle chisel with depth marking 7mm & 7" LONG	1
12.	Cottle Mallet 7" long	1
13.	Landolt enucleator bayonet about 10" long blunt right	1
14.	Landolt enucleator bayonet about 10" long blunt left	1
15.	Hardy Enucleator bayonet about 9" long blunt right	1
16.	Hardy Enucleator bayonet about 9" long blunt left	1
17.	Hardy-Fahlbusch Enucleator bayonet about 9" long sharp right	1
18.	Hardy-Fahlbusch Enucleator bayonet about 9" long sharp right	1
19.	Hardy Implant fork	1
20.	Hardy bayonet curette 4 mm dia.,45 degree left horizontal angled short neck with total length about 250-280 mm	1
21.	Hardy bayonet curette 4 mm dia.,45 degree right horizontal angled short neck with total length about 250-280 mm	1
22.	Hardy bayonet curette 6 mm dia.,45 degree left horizontal angled short neck with total length about 250-280 mm	1
23.	Hardy bayonet curette 6 mm dia.,45 degree right horizontal angled short neck with total length about 250-280 mm	1
24.	Hardy curette 45 degree left horizontal angled short neck total length about 260 mm	1
25.	Hardy Enucleator left cutting long 4mm dia	1
26.	Hardy Enucleator right cutting long 4 mm dia	1
27.	Hardy curette 90 degree left long neck 4 mm dia	1
28.	Landolt-Reulen raspatory about 2 mm dia.rigid about 250 mm	1
29.	Landolt-Reulen curette about 2.5 mm dia.rigid about 250 mm	1
30.	Landolt-Reulen dissector 2mm dia.rigid about 250 mm	1
31.	Pituitary Micro Scissor straight 7" long	1
32.	Pituitary Micro Scissor angular 7" long	1

33.	Pituitary Micro Scissor right curved 7" long	1
34.	Pituitary Micro Scissor left curved 7" long	1
35.	Yasargil bayonet micro knife about 7" long upward curved	1
36.	Yasargil bayonet micro knife about 7" long downward curved	1
37.	Yasargil bayonet serrated forcep for gasping tumor 8" long with 3mm dia	1
38.	Yasargil bayonet serrated forcep for gasping tumor 8" long with 5mm dia	1
39.	Yasargil bayonet micro forcep for gasping tumor 8" long with 0.6mm dia	1
40.	Yasargil micro moveable mirror for inspection of retrospective inspection 6 mmXabout 9" long	1
41.	Frazier suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 3 mm, 7" long	2
42.	Frazier suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 5 mm, 7" long	2
43.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 2 mm, about 9" long	2
44.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 2.5 mm, about 9" long	2
45.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 3 mm, about 9" long	2
46.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 4 mm, about 9" long	2
47.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 2 mm, about 8" long	1
48.	Fergusson suction cannulae with finger cut-off and stylet, thumb piece 90 degree to curve with leur bulb 3 mm, about 11" long	1
49.	Scalpal handle bayonet type long (about 8") for 11 no.blade	1
50.	Scalpal handle straight type long (about 5") for 14 no.blade	1
51.	Noir Metzenbaum (black line)dissecting scirrors 6" curved	1
52.	Baby-Crile-Wood HM needle holder with Tungustan carbide coated fine 6" long	1
53.	Debakey HM needle holder with Tungustan carbide coated fine 6" long	1
54.	High quality Kerrison punch 1mm 90 degree 8"long up biting	2
55.	High quality Kerrison punch 1mm 90 degree 8"long down biting	2
56.	High quality Kerrison punch 2mm 90 degree 8"long up biting	1
57.	High quality Kerrison punch 1mm 90 degree 8"long down biting	1
58.	Yasargil biopsy forcep (Rongeur) 2.2 mmX 7" long	1
59.	Penfield dissector No.4 8" long	1
60.	Container for storage and autoclaving for above instrument of same company	1

1. Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.
2. All Instruments Should be highly heat resistance.

3. **Lot number and name of Company should be mentioned on each & every instrument.**
4. **It Should also have mentioned country of origin manufacture on each instrument.**
5. The surface of the instruments should be non reflective.

## Item No. 9 - ICP Monitor Set

1. **Description:** Equipment is meant to monitor intracranial pressure in various compartment of brain digitally and in wave form on Multipara monitor.
2. **Technical Specification:**
  - 2.1 Monitor should display mean systolic and diastolic intracranial pressure as digital display.
  - 2.2 Micro sensor transducer having a strain gauge pressure sensor mounted in a titanium case should monitor ICP directly at the source—subdural, intra parenchymal and intra ventricular.
  - 2.3 The ICP should get relayed electronically and get displayed at digital data rather than through hydrostatic column or fiber optics.
  - 2.4 One touches zero function of transducers.
  - 2.5 Facility to drain out CSF while monitoring.
  - 2.6 User friendly setting for alarm functions.
  - 2.7 Battery back-up facility for 2-3 hours.
  - 2.8 Facility to be used for both adult and children.
  - 2.9 Desired cable to be provided for wave presentation of ICP on multipara monitor. Also provide mobile stand for mounting ICP base Unit.
3. **Accessories:** (1) 20 Subdural/Intraparenchymal transducer (2) 20 Inrventricular transducer.
4. **Environmental Factors:** The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg. C and relative humidity of 15 – 90%
5. **Power Supply:** Power input to be 180-270 VAC, 50 Hz Fitted with Indian plug.
6. **Warrantee:** 5 years comprehensive warrantee.
7. Company should be both US FDA & European CE approved.

## Item No. 10      Micro Neurosurgery Instrument Set

S.No.	Name of Instrument	Number
1.	Yasargil bayonet with straight tip Micro dissecting scissors 9"	2
2.	Yasargil bayonet with upward tip curved micro dissecting scissors 9"	2
3.	Yasargil bayonet with straight tip Micro dissecting scissors Approx.6"	1
4.	Yasargil bayonet with straight tip Micro dissecting scissors Approx.8"	1
5.	Yasargil bayonet with downward tip Micro dissecting scissors Approx.6"	1
6.	Sensation bayonet with straight tip micro scissor sharp/sharp approx...8"	1
7.	Sensation bayonet with straight tip micro scissor sharp/blunt approx...8"	1
8.	Sensation bayonet with straight tip micro scissor blunt/blunt approx...8"	1
9.	Sensation bayonet with curved tip micro scissor sharp/sharp approx...8"	1
10.	Sensation bayonet with curved tip micro scissor sharp/blunt approx...8"	1
11.	Sensation bayonet with curved tip micro scissor blunt/blunt approx...8"	1
12.	Muller straight micro scissor sharp/sharp approx...4-5"	1
13.	Muller straight with curved tip sharp/blunt approx... 4-5"	1
14.	Muller straight micro scissor sharp/sharp approx...6-7"	1
15.	Yasargil straight scissors with flat handle and cross serration approx...7"	1
16.	Yasargil bayonet Micro forcep for grasping forcep 3mm prong type approx...8-9"	1
17.	Yasargil bayonet Micro forcep for grasping forcep 3mm serrated ring type approx...8"	1
18.	Yasargil bayonet Micro forcep for grasping forcep 3mm jaw spoon shaped type approx...8"	1
19.	Sensation bayonet Micro forcep with 0.5 tip and 9"	1
20.	Yasargil bayonet 0.6mm tip straight micro forcep approx...8-9	1
21.	Micro forcep with round handle and counter balance approx...6"	1
22.	Diadust micro dissecting straight forceps with platform tip 7" long	1
23.	Diadust micro dissecting straight forceps with 1x2 teeth 7" long	1
24.	Muller Micro straight forcep 0.5 tip 1x2 teeth & approx...6" long	1
25.	Muller Micro straight forcep 0.5 tip 1x2 teeth & approx...4" long	1
26.	Yasargil bayonet with straight tip micro needle holder 8" long	1
27.	Yasargil bayonet with straight tip micro needle holder 4-5" long	1
28.	Castroviejo Micro Needle Holder with ratchet with straight tip 0.4 mm with carbide insert, approx...5" long	1
29.	Muller needle holder with ratchet 7" long with curved tip	1
30.	Caspar Micro dissector bayonet 1mm tip & approx... 8" long	1
31.	Yasargil Micro raspatory straight curved about 7"	1
32.	Yasargil bayonet micro scoop approx... 7"	1
33.	Samii Micro Knife 9" long with 1 mm tip	1
34.	Diamond knife with wedge blade 8" long	1
35.	Raabe micro suction 4 Fr, approx..15 cm	2
36.	Raabe micro suction 6 Fr, approx...18 cm	2
37.	Raabe micro suction 8 Fr, approx...16 cm	2
38.	Container for storage and sterilization of same company	1

**Terms and Condition:**

**Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**

1. All Instruments Should be highly heat resistance.
2. Lot number and name of Company should be mentioned on each & every instrument.
3. It Should also have mentioned country of origin manufacture on each instrument.
4. The surface of the instruments should be non reflective.

## Item No. 11      Operating Microscope for Neurosurgery

Description: It should be of high resolution and fully ready for image guided surgery and intraoperative fluorescence. It should be US FDA and CE approved. It should have following features

1. Motorized zoom system with 1:6 ratio
2. Maximum magnification upto 18.5 x or more
3. Objective multi focal lens 200-500mm variable focal length with auto focus through microscope
4. Variable working distance range of 300mm (from 200-500mm), motorized, manual and via laser autofocus integrated within the stand.
5. Pair of wide-field eyepieces for spectacle wearers 12.5x dioptic setting +5D to -8D
6. Adjustable Ergonomic handgrip with buttons for motorized control of focus, zoom, axis movement, with programmable keys.
7. Microscope should be compatible with DICOM and Neuronavigation system integrated within the microscope stand.
8. Microscope should be equipped with dual light for shadow less view while operating in deeper cavities.
9. Facility for adjusting speed of the focusing motor to adapt for different magnifications.
10. built in co-axial illumination from high performance with 300w xenon with back up 300W xenon in same illumination module through the fiber optic cable with integrated semiautomatic lamp changeover facility .
11. Inclinable binocular tube, inclinable over range of minimum 0-180°.
12. should have tiltable eyepieces, should have face to face attachment
13. Facility for dual beam laser auto focus system-
14. Vacuum auto drape system for complete microscope head .
15. Photography recording of still/video/digital image+ other teaching aids integrated inside the unit.
16. Floor stand with contraves technology and graphical screen for all functions of the system zoom, illumination, focus video etc.
17. Complete auto balance of whole system by single push of a button for microscope body and microscope stand even intra-operatively.
18. Stereoscopic co observation attachment for second observer with tilt able eyepieces, minimum 0-180° should remain fixed when tilting of main microscope.
19. Integrated HD camera, full HD camera should be integrated in the microscope body without any external cables & attachments.
  
20. Integrated digital HD video recording facility with appropriate video editing software.
21. Should have additional integrated illumination beam path to brighten shadows.
  
22. Should have adjustable, ergonomic handgrips, symmetrical and attached clearly above the bottom edge of microscope, multifunctional key and a joystick for motorized XY fine adjustment/operation of navigation functions.
23. One touch auto balance system by push of button for entire microscope body and microscope head even intraoperatively.
24. should have integrated neuronavigation facility
25. should have inbuilt ready to use intraoperative fluorescence facility with compatible filter to visualize tumour dissection . System should have option which can be used to visualize Fluorescent area with excitation in the wavelength range from 460-500nm and observation in the wavelength range from 540-690nm.



- 26.should be supplied with a foot switch
- 27.2 spare 300 W xenon bulbs should be supplied with the equipment
- 28.high overhead clearance for flexible positioning of the stand – even behind the surgeon
- 29.Should be supplied with one 32” High Definition LCD Monitor for display of operation distally in seminar for demonstration to gathering.
30. Equipment should be both US FDA and CE approved.
- 31.Company should have their office in India.
- 32.Minimum of 5 years comprehensive Warranty at the site which includes all including wire, monitor, CPU, Battery, hard disc, Xenon bulb etc.

## Item No. 12 - Ultrasonic Surgical Aspirator

Ultrasonic surgical aspirator should have fragmentation, irrigation and aspiration facilities even for fibrous and calcified lesions.

1. Console should be lightweight and portable on trolley with single foot switch.
2. Main voltage should be as per Indian standard with perfect class of protection.
3. Console and hand piece should be capable of working continuous without any cooling system.
4. Should have in build suction system with high vacuum
5. Irrigation rate should be up to 50ml/min.
6. Hand piece should be lightweight sterilizable by steam autoclave or plasma.
7. Hand piece micro and Macro offered should have choice of outside and inside irrigation; **Tip of hand piece must be reusable**; can be used for long time continuously without cooling and getting heated. Central activation should be through foot switch.
- (a). Macro hand piece, short angled with connecting cable frequency: 25 kHz and 35 kHz app.200g, length approx.4 cmm, tip diameter outer 3mm while inner 2 mm.central activation foot switch (one each of both frequency)
- (b). Micro pen hand piece, long angled with connecting cable; frequency: 25 kHz and 35 kHz weight approx.100g, length about 10 cm, diameter outer 2-2.5 and inner 1.5-2.0(one each of both frequencies)
- (c). Micro-pen-hand piece of 35 kHz for bony lesion removal of adequate size and weight
8. Consumable should not be expensive and should be freely available.
9. Should be Magneto restrictive or piezoelectric technology based system.
10. Resonance frequency of tip should be in range of 20-45 kHz.
11. Should have original container for hand piece for storage and autoclaving.
12. Essential accessories are to be provided free of cost
- 9. Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
10. All Instruments Should be highly heat resistance.
11. **Lot number and name of Company should be mentioned on each instrument.**
12. **It should also have mentioned country of origin manufacture on each instrument.**
13. The surface of the instruments should be non reflective.

## Item No. 13 - High Definition Neuro Endoscopic set

Unit  
1

### (A) Full High Definition Digital Camera

Full HD Endoscopy Camera system to be used for all Endoscopic Neuro and Spine and Endoscopic assisted Micro Neuro Surgery. The camera system should come with adapter to be attached with already existing Carl Zeiss Pentero micro scope. And out put should be seen on HD monitor in High definition quality.

The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 format for Input & Output to guarantee genuine HDTV.

#### The system should have Special Features:

- **Visibly Improved Imaging:** CCD sensing chip should optimizes image quality & Digital Source Sampling thus maximizing hi-fidelity image transmission.
- **Optimizes to Any Size: The system should have** Optical Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used.
- **Plug and Go:** The system should automatically optimize all settings. The system should be ready- to-use as soon as it is connected to the camera control unit.
- **Any Head- Any Time:** The system should have the facility to use a single camera control unit for all camera heads ( either single chip or three chip) thus minimizing preparation & maximizes interspeciality standardization.
- **The system should have USB port to capture still images in Full HD resolution as well as Video Sequences in SD to a USB mass storage device**

Camera system should be compatible with Communication Bus system for remote controlled operation of the various features of the camera along with other equipment.

#### **Technical Specifications:**

- Image sensor : 3X1/3'' CCD-Chip.
- Pixels : 1920 x 1080
- AGC : Microprocessor controlled
- Lens : Integrated Zoom Lens
- Video output : Composite signal to BNC socket.  
Y/C signal to S-VHS socket (2 x).  
RGB signal to D-sub socket  
HDTV signal to DVI-D socket
- Input : Keyboard input for character generator. 5- pole DIN socket.

#### **Control Output/Input**

- 3.5mm Stereo Jack Plug ( ACC1, ACC2)
- Serial Port at RJ-11
- USB Port with ICM (2x).
- Mains Cord
- BNC/BNC Video Cable Length 180 cm
- S-Video (Y/C) Connecting Cable Length 180 cm
- Special RGB Connecting Cable Length 180 cm

- Connecting Cable for controlling peripheral units length 180 cm (2)
- DVI-D Connecting Cable Length 300 cm
- Keyboard with US English Character
- Power Supply:- 100-240 VAC 50/60 Hz

**Same camera head should be attached to already existing Carl Zeiss Pentero Microscope by Special C – Mount adaptor having following specifications**

**High performance TV Adaptor for Surgical Microscopes**

1

**Technical Specifications:**

- Compatibility: Surgical Microscopes from Carl Zeiss Pentero
- Focal Length: 45- 70mm
- Camera Interface- C Mount
- Microscope Interface – Connector to co-observation tube
- Dimensions (W\*H\*L): About 45 \*50\* 90 mm
- Weight: 250 - 300 g

**Features:**

- The C –Mount Interface has a rotatable clutch that permits immediate correction of the camera orientation during mounting.
- Allows easy adjustment of the camera focus for razor sharp images at both the microscope and the monitor (parfocality).
- Provides a comfortable way to enhance the depth of field of the camera image.
- Gives full control over the horizontal position of the camera image.

Allows setting of the vertical position of the camera image. With Pan and Tilt, the camera view can be adapted to the preference of the surgeon.

**XENON LIGHT SOURCE**

1

**Xenon 300**

- Light Sources 300 watts Xenon
- type:- Xenon 15V, 300 Watt Lamp
- Temperatures 6000K Color
- Outlets – 1 Light
- Intensity Adjustment :- Continuously adjustable either manually or automatically by cameras video output signal. Light

**Fibre Optic Light Cable.**

1

Thickness 4 – 5 mm Length 300 cms

**Digital Monitor : FOR HD CAMERA**

1

**Special Features.**

- HDTV Display in original 16: 10 HDTV format
- 1080p/50 and 1080p/80 display possible
- On Screen menu for monitor setting (English)
- Liquid crystal display
- Max Resolution 1920/1200 Pixles

- Anti reflection coated front glass
- Easy to access control buttons on the housing front.
- Dripwater protected, dustproof housing
- Low voltage protection via external 24VDC Mains power supply.
- Picture in Picture display (PIP)
- Mirror Imaging Possible
- Upto 5 different users profiles can be stored
- Medical grade FDA, UL and CE Approved.

**Specifications**

- Flat Screen Monitor with stand size 26" HD TFT
- Ratio 16:10 HD format Aspect
- s : High Brightnes
- Resolution 1920/1200 Pixels Max
- viewing angle : Approximate 180° vertical Maximum
- ratio: 800 : 1 Contrast
- power : Around 110 watts Rated
- Supply 100-240 VAC Power
- Dimensions : Approximate 625 x 425 x 100 mm Screen
- Inputs : S- Video signal to 4 pol. Mini DIN socket Video
  - signal to 5 x BNC socket RGB
  - e to BNC socket Composit
  - signal to BNC socket HD-SDI
  - signal to DVI-D socket DVI
  - signal to BNC socket SDI

Accessories External 24VDC Power Supply, Mains Cord, Pedstal.

**FULL HD IMAGE/VIDEO RECORDING SYSTEM - QTY 1**

Documentation system should have following specifications,

- User friendly work flow in built in Medical grade unit
- Sleek and compact design
- Captures still images, video sequences
- Record still images and video in FULL HD at Resolution of 1920x1080P
- Controllable via membrane buttons on front panel, camera head buttons, footswitch mouse and keyboard
- Enters patient data in combination of keyboard
- Can be installed on Cart with single screen (no additional screen required)
- Supports network storage on file servers
- Network Protocol: TCP IP/ SMB
- USB support for storage on USB drives
- Customizable print-outs for the documented information
- Quick print function for fast print of images

- HIPAA compliant
- Medical grade unit CE certified, ICE 60601-1
- Microprocessor: RIMM (AMD) Processor at 500 Mhz.
- USB Silicon Keyboard with Touchpad
- Video signal inputs: DVI-I Dual Link, HD-SDI, Composite, S-Video, RGB, YPbPr
- Video Out: DVI-I Dual link
- Video output resolution: 1920x1080, 1280x1024, 1280x720, 1024x768, 800x600, 640x480
- Internal hard drive: 320 GB
- USB ports: USB 2.0 (1 front panel, 2 rear panel)
- Network: RJ45 / connection as network drive (SMB)
- Recording formats: Videos: H.264mp4  
Images: JPG, TIFF, BMP
- Patient data: Saved as .txt file and / or in EXIF format
- Power supply: 100/240 VAC, 50/60 Hz

**Signal Management Device (Unit- 01)**

A compact solution enables the easy and efficient distribution and individual routing of several high-resolution video signals, even without an integrated OR.

The HD Video Router shall be a Medical-Grade video routing system that accepts up to 4 DVI-D inputs and 4 DVI-D outputs. This shall be utilized to connect various imaging devices such as the Endoscopic Camera, Surgical Camera, Room Camera, Surgical Displays, etc...

Routing the desired input to the desired output shall be possible via 4 membrane buttons on front panel,

In addition, this system shall be able to also operate as a distributor in that any of the selected inputs is simultaneously broadcasted over the 4 outputs at the push of a button.

System should have following features,

- Two operating modes – switcher or router.
- Convenient use via four membrane keys. LEDs on the front panel display the operating mode in use
- Easy switching or routing of DVI-D sources in the OR or during live transmission. The simultaneous connection of a documentation system enables the recording of up to four sources
- Convenient distribution of DVI-D sources in the OR to various monitors or documentation systems

Management system can be controlled via a front-button operation, it should have,

- Video inputs: 4 x DVI-D
- Video outputs: 4 x DVI-D
- Operation: 4 membrane keys with LED display
- Max. video resolution: 1920 × 1080p; 50/60 Hz
- External dimensions (w × h × d): 305 × 83.7 × 249 mm
- Weight: 2.2 kg
- Power supply: 100-240 VAC; 50/60 Hz
- Protection class: IP 20 (DIN 60529)

**(B) Adult - Neuro Endoscope**

Neuro Endoscopy Set for the Treatment of Obstructive Hydrocephalus, Marsupilization of thr Archanoid cysts,

**B-1 Colloid Cyst , Ventricular Biopsy**

**Specification**

**Telescopes**

Ventriculoscope with Wide Angle Straight Forward Telescope 6°, angled eyepiece, outer diameter about 6 mm, length 18 cm, working channel diameter about 3 mm, irrigation/ suction channel diameter about 1.5, autoclavable, fiber optic light transmission incorporated.

1

Forward Oblique- Telescope 0°, enlarged view, diameter 2 mm, length about 25 cm, autoclavable, fiber optic light transmission incorporated.	1
Telescope 45°, enlarged view, about 3 – 3.5 mm, length 25 cm, autoclavable, fiber optic light transmission incorporated.	1
Ovi hand pro for free hand endoscopic ventriculotomy	1
<b>Hand Instruments</b>	
Operating Sheath, graduated, rotating, outer diameter about 6 - 7 mm, working length 13 cm for use with Ventriculoscope	1
Obturator for use with Operating Sheath	1
Obturator for use with optic .	1
Scissors, pointed, rotating, dismantling, with LUER-Lock irrigation connector for cleaning, single action jaws, diameter 2 mm, working length 30 cm consisting of: Metal Handle, without ratchet , Outer Sheath, with scissors insert	2
Grasping Forceps, rotating, dismantling, with LUER-Lock irrigation connector for cleaning, double action jaws, diameter 2 mm, working length 30 cm consisting of: Metal Handle, without ratchet , Outer Sheath, with grasping forceps insert	2
Biopsy Forceps rotating, dismantling, with LUER-Lock irrigation connector for cleaning, single action jaws, diameter about 2 - 3 mm, working length 30 cm consisting of: Metal Handle, without ratchet, Outer Sheath, with forceps insert	2
Ventriculostomy Forceps, diameter about 1.5 - 2 mm, working length 30 cm	2
Forceps, for ventriculostomy, flexible, double action jaws, diameter 1 mm, working length 30 cm	2
Biopsy Forceps, double action jaws, flexible, diameter 1 mm, working length 30 cm	2
Scissors, pointed, lightly curved jaws, double action jaws, diameter about 1.5 - 2 mm, length 30 cm	2
Injection Needle, flexible, diameter 2.5 mm, working length 45 cm, disposable	2
Puncture Needle	2
3 Fr. Fogarty Catheter	10
<b>Bipolar</b>	
Bipolar Coagulation Electrode, diameter about 1.5 - 2 mm, working length 30 cm	4
Bipolar Forceps, long, flat jaws, outer diameter about 2.5 - 3 mm, consisting of: Bipolar Ring Handle , Outer Sheath ,Bipolar Insert, for single use, package of 5.	2
Mono & Bipolar surgical Diathermy unit	1
<b>Accessories to Perform Cranial Endoscopy</b>	
Articulated Stand, reinforced version, only, L-shaped, with one mechanical central clamp for all five joint functions, height about 45 - 50 cm, operating range about 50 - 55 cm, with fastener.	1
Socket to clamp on the operating table, for use with European and United States standard rails, also suited for rails from 25x10 up to approximate 35x10 mm, with lateral clamping element for height adjustment of the articulated stand	1
Clamping Jaw, metal, for use with instrument and telescope sheaths, clamping range 5 up to 12 - 13 mm, with fastener.	1
Adaptor autoclavable, permits telescope changing under sterile conditions	1
Unipolar High Frequency Cord, with 4 mm plug, length 300 cm, For use with HF units .	2
Bipolar High Frequency Cord with 2 x 4 mm banana-plug to Coagulator , length 300 cm	2

Bipolar High Frequency Cord, Length 300 cm.	2
Plastic Container for Sterilizing and Storage, perforated, with transparent lid, with inserts for two angled rigid telescopes, external dimensions (w x d x h): around 500 x 250 x 100 mm	1
Plastic Container for Sterilizing and Storage, perforated, with lid, for two-level storage, for use with 35 cm and 35 cm Click Line- instruments, external dimensions (w x d x h): approximate 600 mm x 150 mm x 250 mm	1

**Paediatric - Neuro Endoscope**

**B-2 Neuro Endoscopy Set for the Treatment of Obstructive Hydrocephalus, Marsupialization of the Arachnoid Cysts, Colloid Cyst, Ventricular Biopsy**

<b>Specification</b>	<b>Unit</b>
<b>Telescope</b>	
Ventriculoscope, small, Wide Angle Straight Forward Telescope 6°, with angled eyepiece, outer diameter about 3.5 mm, length 18, working channel diameter about 1.5 mm, with suction and irrigation channel diameter 1 mm, autoclavable, with irrigation adapter, fiber optic light transmission incorporated, for use with: small operating sheath.	1
<b>Hand Instruments</b>	1
Obturator, for use with operating sheath.	1
Obturator, for use with operating sheath and optic.	1
Operating Sheath, small, outer diameter 4.5 mm, working length about 13.5 cm.	1
Biopsy Forceps, double action jaws, diameter about 1.5 mm, working length 30 cm	2
Scissors, single-action jaws, semi-rigid, diameter about 1.5 mm, working length 30 cm	2
Grasping Forceps, double-action jaws, semi-rigid, diameter about 1.5 mm, working length 30 cm	2
Forceps, for ventriculostomy, flexible, double action jaws, diameter 1 mm, working length 30 cm	2
<b>Monopolar, Bipolar &amp; Connecting Leads</b>	
Unipolar Coagulating Electrode, semi-rigid, diameter about 1.5 mm, working length 30 cm	1
Bipolar Coagulation Electrode, diameter about 1.5 mm, working length 30 cm	1
Bipolar Coagulation Electrode, semi-rigid, O.D. about 1.5 mm.	1
Spatula Electrode, unipolar, flexible, diameter 1 mm, working length 45 cm	1
Unipolar High Frequency Cord, with 4 mm plug, length 300 cm.	1
Bipolar High Frequency Cord with 2 x 4 mm banana-plug, length 300 cm	1
Bipolar High Frequency Cord, Length 300 cm.	1

**Pituitary Set**

**C Endoscopic Management of CSF rhinorea, Optic Nerve decompression, Pituitary macro and micro adenomas, transclival cordomas and for extended approaches for all lesions from Cisterna gliae to CVJ junction using transclival, transplanum, transcribriform & transsphenoidal approach**

**Telescope & Corresponding Sheaths**

Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Fiber optic light transmission incorporated.	<b>Unit 1</b>
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Suction and Irrigation Sheath 0° for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, vertical oval, diameter about 5 mm x 6 mm, with separate channel for suction and irrigation, for use with Irrigation and Suction Handles.	1
Telescope 70°, enlarged view, diameter 4 mm, length 18 cm, autoclavable. Connection for fiber optic light cable upward. Fiber optic light transmission incorporated.	1
Foward-Oblique Telescope 45°, enlarged view, diameter 4 mm, length 18 cm, autoclavable, Fiber optic light transmission incorporated.	1
Suction and Irrigation Sheath 45°, for endoscopic diagnosis and surgery of the paranasal sinuses and skull base, oval, O.D. about 5 mm x 6 mm, with separate channel for suction and irrigation, for use with handels .	1
Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 30 cm, autoclavable, Fiber optic light transmission incorporated.	1
Suction and Irrigation Sheath 0°, for endoscopic diagnosis and surgery of the paranasal sinuses and anterior skull base, vertical oval, diameter about 5 mm x 6 mm, with separate channel for suction and irrigation, for use with Irrigation and Suction Handles	1
Simultaneous suction & irrigation unit compatible to above	1
<b>Hand Instruments</b>	
Cleaning Adaptor for irrigation channel of suction and irrigation sheath, length 3.5 cm	1
Cleaning Tube for suction/telescope channel of suction and irrigation sheath , length 23 cm	1
Irrigation and Suction Handle, with push button valve consisting of: Handle, with ergonomic ring handle and finger grip plate, for use with Irrigation and Suction Sheaths	1
Nucleus Cutting Forceps single action jaws, movable jaw opening upwards, diameter 3.5 mm, working length 20 cm	1
WILDE Nasal Forceps 45° upturned, size 1, working length about 10 cm	1
Nasal Forceps, straight, size 1, working length about 10 cm	1
Round Knife 0°, width 1 mm, working length about 15 cm, total length about 25 cm	1
Round Knife 45°, width 1 mm, working length about 15 cm, total length about 25 cm	1
Round Knife 90°, width 1 mm, working length about 15 cm, total length about 25 cm	1
Round Knife 0°, width 2 mm, working length about 15 cm, total length about 25 cm	1
Round Knife 45°, width 2 mm, working length about 15 cm, total length about 25 cm	1
Round Knife 90°, width 2 mm, working length about 15 cm, total length about 25 cm	1
Dissector, tip 45°, width 0.5 mm, working length about 15 cm, total length about 25 cm	1
Dissector, tip 90°, width 0.5 mm, working length about 15 cm, total length about 25 cm	1
Dissector, tip 15°, width 1 mm, working length about 15 cm, total length about 25 cm	1

Dissector, tip 45°, width 1 mm, working length about 15 cm, total length about 25 cm	1
Dissector, tip 15°, width 0.5 mm, working length about 15 cm, total length about 25 cm	1
Dissector, sharp, round spatula, tip angled 45°, size 2 mm, with round handle, length 25 cm	1
Dissector, semi sharp, slightly curved spatula, tip angled 15°, size 1 mm, with round handle, length 25 cm	1
Dissector, sharp, tip angled 15°, with round handle, size 2 mm, length 25 cm	1
Seeker, angled 45°, with ball end, diameter 1 mm, length 25 cm	1
Micro Raspatory, 2 mm wide, curved, left, length about 25 cm	1
Micro Raspatory, 2 mm wide, curved, right, length about 25 cm	1
Scissors, straight, with small handle, with cleaning connector, working length about 20 cm	1
Scissors, curved to right, with small handle, with cleaning connector, working length about 20 cm	1
Scissors, curved to left, with small handle, with cleaning connector, working length about 20 cm	1
Scissors, curved upwards, with small handle, with cleaning connector, working length about 20 cm	1
Scissors, upturned 45°, delicate, sheath 360° rotatable, with cleaning connector, working length about 20 cm	1
Forceps, round cupped jaws, diameter about 0.5 mm, extra delicate, straight, working length about 20 cm	1
Forceps, very delicate, oval cupped jaws about 1 mm, curved upwards, working length about 20 cm	1
Miniature Grasping Forceps, serrated, straight, working length about 20 cm	1
Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, straight jaws, with cleaning connector, working length about 20 cm	1
Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, jaws angled upwards 45°, with cleaning connector, working length about 20 cm	1
Nasal Forceps, with extra fine flat jaws, through-cutting, tissue sparing, width of cut 1.5 mm, straight sheath, jaws angled downwards 45°, with cleaning connector, working length about 20 cm	1
Nasal Forceps, with extra fine flat jaws, through-cutting tissue-sparing, bite 1.5 mm, working length about 20 cm, sheath curved 25°, jaws 45° upturned	1
Curette, round spoon, tip slightly angled, size 2 mm, with round handle, length 25 cm	1
Curette, round spoon, tip angled, size 2 mm with round handle, length 25 cm	1
Curette, round wire, ID 3 mm, tip angled 45°, with round handle, length 25 cm	1
Ring-Curette, round wire, ductile, ID 3 mm, tip angled 45°, with round handle, length 25 cm	1
Ring- Curette, round wire, ID 3 mm, tip angled 90°, with round handle, length 25 cm	1
Curette, round wire, ID 3 mm, distally curved shaft, with round handle, length 25 cm	1

Ring- Curette, round wire, ID 3 mm, tip laterally angled 90°, with round handle, length 25 cm	1
Curette, stirrup-shape, blunt, with round handle, length 25 cm	1
Suction, Curette, basket-shape, round wire, size 5 mm, rotating tubing- connector, LUER, length 25 cm,	1
Suction- Curette, with round wire, ID 5 mm, tip angled 45°, LUER, length 25 cm	1

**Monopolar & Bipolar**

Coagulation Ball Electrode, diameter 2 mm, laterally curved, working length 13 cm	1
Take-apart Bipolar Forceps, width 1 mm delicate jaws, distally angled 45°, horizontal closing, outer diameter 3,4 mm, working length 20 cm, consisting of: Handle,Outer Tube,Inner Tube, Bipolar Insert.	1
Take-apart Bipolar Forceps, width 2 mm distally angled 45°, horizontal closing, outer diameter 3,4 mm, working length 20 cm, consisting of: Handle,Outer Tube,Inner Tube, Bipolar Insert.	1
Bipolar Forceps Insert, 4 mm, distally angled 45°, horizontal closing, length 20 cm, for use with: Handle , Outer Tube , Inner Tube.	1
Bipolar Forceps Insert, delicate, 1 mm, distally angled 45°, axial closing, axial closing, size 3 mm, length 20 cm	1
Bipolar Forceps Insert, 2 mm, distally angled 45°, axial closing, size 3 mm, length 20 cm	1

**Suctions**

Suction Tube, malleable, with elongated cut-off hole and stylet, LUER,working length about 20 cm,4 Fr.	1
Suction Tube, malleable, with conical tip, with elongated cut-off hole and stylet, LUER,working length about 20 cm, 6 Fr.	1
Suction Tube, malleable, with conical tip, with elongated cut-off hole and stylet, LUER,working length about 20 cm, 10 Fr.	1
Suction Tube, with cut-off hole, drop-shaped, with distance markings, LUER, conical distal end, tip curved upwards, ball end, about 2.5 mm, working length 15 cm	1
Suction Tube, with cut-off hole, drop-shaped, with distance markings, LUER, conical distal end, malleable, 8 Fr., working length 15 cm	1
Insulated Cannula for suction and coagulation, O.D.: 3 mm, 90° curved, working length about 15 cm	1
Insulated Cannula for suction and coagulation, O.D.: about 35 mm, 90° curved, working length about 15 – 20 cm	1
Bone Punch, detachable, rigid, upbiting 60° forward, size 1 mm, working length 15 - 20 cm	1
Bone Punch, detachable, rigid, upbiting 60° forward, size 2 mm, working length 15 - 20 cm	1
Bone Punch, detachable, rigid, downbiting 60° forward, size 1 mm, working length 15 - 20 cm	1
Bone Punch, detachable, rigid, downbiting 60° forward, size 4 mm, working length 15 - 20 cm	1

1. **Each item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
2. All Instruments Should be highly heat resistance.
3. **Lot number and name of Company should be mentioned on each instrument.**
4. **It should also have mentioned country of origin manufacture on each instrument.**

5. The surface of the instruments should be non-reflective.
6. All Items should be of single Company for better compatibility.
7. All items should be Autoclable.
8. Desired separate Containers for storage and sterilization Tray of same company to be provided by company for all instruments.
9. Trolley of same company for Endoscopy set must be provided.
10. Training of Doctors at desired Endoscopy Centre.

## Item No. 14 - Microdisectomy set

It should be nonreflective, high quality autoclavable for minimally invasive cervical and lumbar discectomy surgeries.

S.No.	Description	Quantity
1.	Micro discectomy spinal spreading retractor X-ray transparent, autoclavable nonclip fenestrated specula of 40mm, 45mm, 50mm, 55mm, 60mm, 65mm, 75mm, 85mm	One each of all mentioned sizes
2.	Counter retractor for lateral blade 40mm, 45mm, 50mm, 55mm, 60mm, 65mm, 75mm, and lateral retractor of 40mm, 45mm, 50mm, 55mm, 60mm, 65mm, 75mm, 85mm	One each of all mentioned sizes
3.	Kerrison rongeur dismantable with silicone handle bayonet 8" long 1mm 40 Degree up	2
4.	Kerrison rongeur dismantable with silicone handle bayonet 8" long 2mm 40 Degree up	2
5.	Kerrison rongeur dismantable with silicone handle bayonet 8" long 1mm 90 Degree up	2
6.	Kerrison rongeur dismantable with silicone handle bayonet 8" long 2mm 90 Degree up	2
7.	Debakey high quality needle holder 6"	1
8.	Scoville hemilaminectomy set with one blade and hook	1
9.	Caspar cervical retractor set with 5 medial and 5 lateral blades and forceps for changing the blades	1
10.	Cushing raspatory 15mm about 7" long	1
11.	Daubenspeck sharp curette 20 cm #00	1
12.	Daubenspeck sharp curette 20 cm #0	1
13.	Penfield dissector set with no.1,2,3,4,5	1 each
14.	Cushing disc forcep straight 2mmx 6" long	2
15.	Cushing disc forcep 30 degree 2mmx 6" long	2
16.	Caspar disc forcep straight 2 mm X 6 " long	2
17.	Caspar disc forcep straight 3 mm X 6 " long	2
18.	Frazier/Fergusson suction cannula with luer and stylet no.Fr. 6,8,10,12 18 cm long	One each of all 4 dia
19.	Frazier/Fergusson suction cannula with luer and stylet no.Fr. 6,8,10,12 Of 12 cm long	One each of all 4 dia
20.	Baby -Crile-Wood needle holder 6"	1
21.	Metzenbaum scissor black curved about 6"	1
22.	Metzenbaum scissor black straight 6" long	1
23.	Artery forcep straight 6"	6
24.	Scalpel handle for 23 no. blade	1
25.	Scalpel long handle for 14/11 no. blade	1
26.	Standard skin holding tooth forcep	1
27.	Container for storage and sterilization of same company	1

1. **Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
2. All Instruments Should be highly heat resistance.
3. **Lot number and name of Company should be mentioned on each instrument.**
4. **It Should also have mentioned country of origin manufacture on each instrument.**
5. The surface of the instruments should be non reflective.

## **Item No. 15 - Intra-operative Ultrasound with Colour Doppler**

### **Ergonomic Design**

Portable design, be ready at anytime and anywhere

- At least 15-inch high resolution LCD monitor with wide-view angle
- Standard PC keyboard, easy input
- Two probe sockets with probe holder, better protection for probes
- Rechargeable lithium battery, at least 1 hour scanning without power supply
- Abundant peripherals: DICOM3.0, VGA, video out, USB, S-Video, Footswitch etc.

Mounted on trolley or easy portability

### **Comprehensive Functions**

Complete working modes, outstanding 2D performance, sensitive blood flow imaging,

### **Complete working modes:**

- B Mode, Dual B, 4B
- M Mode, Steer M,
- Color Mode, DPI Mode
- PW Mode, CW Mode (optional)
- Premium B/W trolley system with color option
- 15 inch antiglare high resolution LCD monitor
- Imaging mode: 2D, M, 2B, 4B, B/M, PW, and HPRF
- Advanced imaging technologies: u-scan(speckle reduction imaging), THI, Trapezoid imaging,

### **Multiple Transducers Intraoperative for brain spine, burr hole probe transducer**

Neuro Burr Hole Transducers

Multi Frequency Burr-Hole Transducer

Multi frequency (3-7.5 MHz) burr-hole transducer that is ideal for shunt placements and taking biopsy samples.

### **Main Specifications**

Array Type: Phased Array

Insertion diameter: 12mm

Scan angle/width: 90°

Frequency range: 3-7.5 MHz

Puncture adapter: Included as standard

Sterilization: Plasma, 2% Gluteraldehyde, Cidex

## **Neuro Microsurgery Transducers**

### Multi Frequency Micro Surgery Transducer

Multi frequency (5-13 MHz) micro-surgery transducer that is ideal for tight situations and is the choice transducer for cervical spine scanning

### **Main Specifications**

Array Type: Linear Array

Insertion diameter: 10mm

Scan angle/width: 10mm

Frequency range: 5-13 MHz

Handling tool: MP-2749 (T-type) & MP-2750 (I-type)

Sterilization: Sterrad, Plasma Gluteraldehyde, Cidex

### Linear Transsphenoidal Transducer

Super High Density, multi frequency, linear transsphenoidal transducer for scanning the pituitary gland, cervical spine, and use during other neurosurgical procedures.

### **Main Specifications**

Array Type: Linear Array

Insertion diameter: 10mm

Scan angle/width: 5mm

Frequency range: 5-13 MHz

Sterilization: Plasma, 2% Gluteraldehyde, Cidex

## **Craniotomy Transducers**

### 20mm Multi Frequency Neuro Convex Transducer

Multi frequency (3-7.5 MHz) transducer with a smaller footprint (20mm) that is ideal for scanning during craniotomies. Stronger penetration is ideal for scanning deep cavernous tumors and other neuron lesions. Super high density which provides superb near field resolution and detail for needle guidance.

### **Main Specifications**

Array Type: Convex Array

Scan angle/width: 65°/20mm

Frequency range: 3-7.5 MHz

Puncture adapter: MP-2458

Sterilization: Plasma, 2% Gluteraldehyde, Cidex

### 20mm Multi Frequency Neuro Convex Transducer

Multi frequency (3.75-10 MHz) transducer with a smaller footprint (20mm) that is ideal for scanning during craniotomies. Incorporates Hitachi Aloka's exclusive hemispheric sound technology which provides exceptional near field resolution and detail for needle guidance.



## **Main Specifications**

Array Type: Convex Array

Scan angle/width: 20mm / 70°

Frequency range: 3.75-10 MHz

Puncture adapter: MP-2458

Sterilization: Sterrad Plasma Gluteraldehyde, Cidex

20mm Multi Frequency Convex Transducer

Multi frequency (5-10 MHz) transducer with a smaller footprint (20mm) that is ideal for scanning during craniotomies with hemispheric sound thchnology which provides exceptional near field resolution and detail for needle guidance.

## **Main Specifications**

Array Type: Convex Array

Scan angle/width: 20mm / 65°

Frequency range: 5-10 MHz

Puncture adapter: MP-2458

Sterilization: Plasma, 2% Gluteraldehyde, Cidex

Specify Life of Equipment in standard operating condition from the date of Installation.

- **Each Item should be both US- FDA and European CE approved and Enclosed the Desired Documents mentioning the name of Item.**
- **Lot number and name of Company should be mentioned on each instrument.**
- **It Should also have mentioned country of origin manufacture on each instrument.**

## Item No. 16 - Trans- Pedicular Fixation Set

It is for placement of pedicular screw and rod in lumbar spine. The instrument should be of high quality and in use in prime institutes of India & abroad.

Sl. No.	Description	Quantity
1.	Square awl	1
2.	Pedicule Probe	1
3.	Pedicular sounder straight flexible	1
4.	Tap Ø4.5 mm	1
5.	Tap Ø5.5 mm	1
6.	Tap Ø6.5 mm	1
7.	Tap Ø7.5 mm	1
8.	Polyaxial 3.5 Screwdriver	2
9.	Monoaxial Screwdriver	1
10.	Straight ratchet handle	2
11.	Trial rod 100 mm	1
12.	Trial rod 200 mm	1
13.	Rod holder	1
15.	Blocker holder	1
16.	Rod fork	1
17.	Alligator Persuader sleeve	2
18.	Alligator Persuader handle	1
19.	Final Screwdriver Shaft	2
20.	Torque limiting T-Handle	1
21.	Countertorque wrench	1
23.	Rod pusher	1
24.	Rod bender	1
25.	Left rod bender	1
26.	Right rod bender	1
27.	Distraction forceps	1
28.	Contraction forceps	1
29.	Derotation forceps	1
31.	Instrument container with separators and Sterlization case	1
32.	Full set of Implant for one adult patient of bilateral 3 level fixation by polyaxial screws	1
33.	Full set of Implant for one adult patient of bilateral 3 level fixation by monoaxial screws	1
34.	Container for storage and sterilization of same company	1

### **Terms and Condition:**

1. Each instrument must be both US FDA and European CE approved.
2. Each instrument should have name of company, code and country's name on it.
3. Manufacturer must have its office in Indi
6. Company's representative should be present at own expenses at the time of surgery whenever called
7. It should be in use in prime Institution of India. Submit the users list.
8. Rest all terms as per tender document.

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## **2- Department of Plastic Surgery**

### **Technical Specifications for Plastic Surgery Equipment's**

#### **Item No. 17 - Total performance system power tool**

1. Set Total performance system power tool (modular)
2. Battery Hand piece, modular
3. Power Module (2 per set)
4. Sterile Cover, for Power drill system
5. Lid for Battery Hand piece
6. AO/ASIF Quick Coupling
7. Drill Chuck (Drilling Speed), with Key
8. Attachment for Acetabular and Medullary Reaming,
9. Quick Coupling for Kirschner Wires \_ 1.0 to 4.0 mm,
10. Quick Coupling for DHS/DCS® Triple Reamers
11. Screw Attachment, with AO/ASIF Quick Coupling
12. Sagittal Saw Attachment
13. Vario Case, size 1/1, Battery Hand piece, with Insert, without Lid, without Contents
14. Lid (Stainless Steel), size 1/1, for Vario Case
15. Oil Dispenser with 50 ml

#### **Power Tool**

16. Battery Handpiece, modular
17. Lid for Battery Handpiece

#### **Charger, battery and accessories for battery**

18. Universal Battery Charger II
19. Power Module
20. Sterile Cover

#### **Attachments**

21. AO/ASIF Quick Coupling
22. Drill Chuck (drilling speed), with key
23. Drill Chuck (reaming speed), with key
24. Drill Chuck, keyless
25. Attachment for Acetabular and Medullary Reaming
26. Quick Coupling for Kirschner Wires \_ 1.0 to 4.0 mm
27. Quick Coupling for DHS/DCS® Triple Reamers
28. Screw Attachment, with AO/ASIF Quick Coupling
  - Torque Limiter, 1.5 Nm
  - Torque Limiter, 4.0 Nm
29. Hudson Quick Coupling (drilling speed),
30. Hudson Quick Coupling (reaming speed)
31. Trinkle Quick Coupling (drilling speed),
32. Trinkle Quick Coupling (reaming speed),
33. Trinkle Quick Coupling (drilling speed), modified,
34. Trinkle Quick Coupling (reaming speed), modified,

35. Sagittal Saw Attachment,
36. Reciprocating Saw Attachment,
37. Adapter for Radiolucent Drive,
38. Top for Sternum for Reciprocating Saw Attachment
39. Radiolucent Drive
40. Angular Drive Unit for Medullary Reaming
41. Kuentscher Adapter
42. Harris Adapter

**Accessories**

43. Spare Key for Drill Chuck, clamping range up to \_ 6.5 mm
44. Cleaning brush
45. Oil dispenser with oil

**Vario Case**

46. Vario Case, size 1/1, Battery Handpiece,with Insert, without Lid, without Contents
47. Insert, size 2/3, for Vario Case
48. Vario Case, size 1/2, for Trauma Recon System Battery Handpiece,without Lid, without Contents
49. Lid (Stainless Steel), size 1/1, for Vario Case
50. Lid (Stainless Steel), size 1/2, for Vario Case
51. Total performance system power tool with saws, driver and burrs. Saggital saw hand piece, transverse saw hand piece, power drive, mini burr.

**. Each Items must be US FDA/ European CE approved.**

**Item No. 18 - Electronic Tourniquet with Accessories and five cuffs for Bilateral Surgery**

**Quality Based**

1. Tourniquet with 4 cuffs.

**Each Items must be US FDA/ European CE approved.**

**Item No. 19 - Magnifying Loupes on head band**

**Quality Based**

1. Magnifying Loupes on head band with cold light illumination system 4 x magnification.

**Each Items must be US FDA/ European CE approved.**

**Item No. 20 - Microsurgery set containing Micro Instruments**

**Quality Based**

1. Contain micro instruments and vascular clamps Basic instruments set.

**Each Items must be US FDA/ European CE approved.**

**Item No. 21 - Nerve Stimulator-mapper-locator with separate output for stimulator/Mapper and locator**

**Quality Based**

1. Nerve Stimulator with Mapper locator cable, probe and power adapter.  
**Each Items must be US FDA/ European CE approved.**

**Item No. 22 - Surgical Cautery (Cutting, Coagulation, Fulguratron and spray)**

**Quality Based**

Surgical Cautery with Mono polar and bipolar cable cord with foot switch and patients pad.  
High Frequency Microprocessor based 300 – 400 W of High reputed foreign make

**Each Items must be US FDA/ European CE approved.**

**Item No. 23 Micro motor set with accessories bits, punches & burrs**

**Quality Based**

1. Micro motor set with accessories – bits, punches, burrs.  
**Each Items must be US FDA/ European CE approved.**

## **Item No. 24      Maxillofacial mini plating set**

**Quality Based**

1. Maxillofacial mini plating set with complete accessories.  
**Each Items must be US FDA/ European CE approved.**

## **Item No. 25      - Hand Held Vascular Doppler**

**Quality Based**

1. Bidirectional probe with intra operative monitoring probe.  
**Each Items must be US FDA/ European CE approved.**

## **Item No. 26      LASER**

- **Ndyag**
- **CO<sub>2</sub>**

1. Operation Interface 6" dual colour LCD.
2. Wavelength – Dual wavelength.
3. Pulse width - <10ns
4. Pulse Frequency 1, 2, 3, 4, 5, 6 Hz.
5. Pulse Energy approx 1000MJ.
6. To be operated on 250 V. 50 Hz.
7. Aiming Beam Guided by red light.
8. Connectors are plug-and play, easy installation and un installation.
9. Metal Frame for more stability of set.
10. Short time to remove the tattoo.
11. Short recovery time.
12. Easy to operate: Technique manual and online services to be available.

**Each Items must be US FDA/ European CE approved.**

## Item No. 27 - Skin grafting Handle

Stainless Steel Knife Handles are used in conjunction with the sterile 158mm Skin Graft Blades for harvesting "Macro" or "Major" Skin Grafts. The knives have an in-built adjustable guard which can limit the maximal thickness of the graft harvested depending on the properties of the skin at the donor site. This can vary in thickness due to multiple factors including the age of the patient.

The exact thickness of the graft may depend upon:

- 1) The contact angle between the blade and skin whilst harvesting
- 2) The pressure applied by the operator onto the knife whilst harvesting

These are important aspects of skin grafting technique that need to be mastered to enable reproducibly consistent harvesting of high quality split thickness skin grafts.

Fitment: Sterile S/S Skin Graft Blades.

Three models: Braithwaite; Cobbett; and Watson.

Suitable for :

### Skin Graft Knife Sets - Non Sterile

Material	Description
Watson Skin Graft Knife Set	Individual Boxes
Braithwaite Skin Graft Knife Set	Individual Boxes
Cobbett Skin Graft Knife Set	Individual Boxes

### Skin Graft Knives Stainless Steel - Non Sterile

Material	Description
Watson Skin Graft Knife	Individual Boxes
Cobbett Skin Graft Knife	Individual Boxes
Braithwaite Skin Graft Knife	Individual Boxes

**Each Items must be US FDA/ European CE approved.**



## **Item No. 28 - Liposuction set with 2HP Motor and silicon tubing (6 Meters)**

The aspirator to be made even quieter with 1" shock mounts to eliminate vibration. This, combined with a super quiet muffler and insulation system,

Operated on	: 220 V 50 Hz
Maximum Vacuum	: 29+ inches Hg
Max Flow	: 7.5 = CFM
Sound Level	: 29+- 3db
Pump	: 2x2 Piston
Motor	: 2/3 hp

Aspirator Tubing : Super Soft Liposuction Tubing. Strong enough to prevent collapse during high vacuum 3/8" ID, box of 10. High capacity volume collection without disconnection Stainless steel hardware. system consist of -

- Canister System
- Liners
- Receptal Hard Canister and Disposable Liner System
- Filters

**Each Items must be US FDA/ European CE approved.**

## **Item No. 29 - Hair transplant set with Microscope and hair counter**

### **Hair transplant set consist of :**

1. Motor: 1pc
2. Electric handle: 1pc
3. Implantation needle: 10pcs
4. Tweezer: 2pcs (straight head and elbow head)
5. Implantation pen: 3pcs (dia:0.8 1.0 1.2)
6. Silicon block for hair: 1pc
7. Imported implantation knife handle and uk blade : 1 set
8. Foot switch
9. Packing case
10. Instruction DVD
- 11. Each Items must be US FDA/ European CE approved.**

## **Item No. 30 - Mesh dermatome (4x)**

### **Dermatome features**

- Available in two widths – Duplex at 73mm and Simplex at 48mm
- Sole reduction plates take the Duplex to 48mm and both Duplex and Simplex to a 23mm cutting width
- 7 pre set cutting depths from 0.08mm to 0.38mm in 0.05mm increments (0.003" to 0.015" in 0.002" increments)
- Accurate and consistent cutting performance when used with the Davies "Feather" Japanese made precision blades
- Durable with life spans of 10-12 years being experienced
- Fully autoclavable dermatome, motor and cable to 134°C
- Low maintenance
- CE approved
- Small, convenient and light weight
- Robust foot Control Pedal
- Multifunctional with E-type coupling
- Easy handling and maintenance
- Clear LED display
- Powerful and adjustable torque with high and low settings
- Variable speed from 1,000 to 30,000 rpm (Dermatome use at 8,000 to 11,000 rpm)
- Easily programmable with 3 setting
- Low maintenance

**Each Items must be US FDA/ European CE approved.**

## Item No. 31 - Dermabrasion Set

1 Diamond Dermabrasion System to be consist of:

- Skin Scrubber
- Hot & Cold Hammer
- Ultrasonic
- Photon
- Diamond tips
- Stainless steel wands
- 1 pack of small cotton filters
- 1 pack of big cotton filters
- 1 PVC hose
- Rubber and rings
- Fuses
- **Each Items must be US FDA/ European CE approved.**

## **Item No. 32 - Burn Bath Tub**

Height Adjustable Full Featured Bath. A height adjustable bathtub that complies with facilities that have a “No Lift Policy”. Attendants can be more productive while being able to bathe patients in a safe handling environment. The functional design of the integrated bathtub and panel makes it simple and convenient to operate. The key hole shape of the tub provides extra width at the head end resulting in more space for arms and shoulders. The smooth and soft lines allow for easy maintenance and clean-up. Available as height adjustable with whirlpool, cleaning system, and Auto fill, the full feature recumbent bath. The Auto fill bath to be more simple and efficient for staff to use. No waiting or observation time when pre filling the bathtub.

Space Saving Height Adjustable Bath. The specifically designed to optimize small space without sacrificing function and efficiency. Ideal for hospitals, nursing homes and private homes who have limited space and require a fully functioning bathtub.

Height adjustable WELLNESS Bath. Functional - Practical - Easy to use The Comfort line II provides superior bathing experience. The pleasingly simple design provides a more traditional visual approach to bathing available options to offer the user a soothing bathing experience are adjustable air spa, LED colour light system and music sound wave system.

**Each Items must be US FDA/ European CE approved.**

## **Item No. 33      Operating Microscope with camera and Recording device for Plastic Surgery**

**MICROSCOPE BODY** :-Motorized zoom magnification system with apochromatic optics, zoom magnification factors 0.4x to 2.4x, activation by handgrip, with manual override. Total magnification range 2X- 18X or higher.

-Internal motorized fine focusing system, activation by handgrip / foot control panel, continuously adjustable working distance from 200 mm to 500 mm without exchange of objective lens, integrated continuously variable illumination field from 60mm – 15mm or less.

**BINOCULAR TUBE** : 0- 180-degree tiltable binocular tube with focal length = 170mm or higher. Graduated knob for continuous adjustment of interpupillary distance from 55 mm to 75 mm

**EYEPIECES** :Pair of high eyepoint widefield push-in eyepieces 10x magnification with magnetic locks, diopter setting from -8D to +5D, also suitable for spectacles wearers

**ILLUMINATION SYSTEM** :Coaxial xenon illumination 180W with back up 180w xenon with Automatic lamp changer in case of failure of main lamp.

**HANDGRIPS** : Easily maneuverable handgrips with adjustable keys for zoom and focus, Illumination & Magnetic brakes. Programming for magnetic brake for control of stand & Microscope body brakes.

**FLOOR STAND** : Rollable floor stand on base with lockable castors, carrier and swivel arms with large reach of 1.60 m or higher,  
Should have free float magnetic system with Six magnetic brakes Three brakes for Microscope body & three for Microscope Stand with, release of magnetic brakes by handgrips.

**Auto balance system for microscope.**

**INTEGRATED DIGITAL VIDEO CAMERA SYSTEM** : Advanced digital Completely Integrated 3CCD SD video camera system suitable for connection to color monitor.

**Recording** : recording via integrated USB Media

**USER PROGRAMMING:** Programming for starting illumination, Magnification, working distance, Zoom speed & Focus speed for at least 8 - 9 different users.

**Face to Face System.**

**Each Items must be US FDA/ European CE approved.**

**Item No. 34 - Basic bone planting instruments with screw driver, drills, elevators, pliers**

Bone Elevators - Hohman Type	6mm
Plier	8mm
Depth Gauge	1.5, 2, 2.5mm
Trocar Sleeve / Drill Guide	
Self Holding Screw Driver with Teflon Handle - Color Coded	1.5, 2, 2.5, 2.7mm
Ordinary Screw Driver with Teflon Handle - Color Coded	1.5, 2, 2.5mm
"Cross-Drive" Screw Driver with Holding Sleeve - Fixed Handle	1.5, 1.8, 2, 2.3, 2.5mm
"Cross Drive" Screw Driver Quick Coupling Handle Only	
Cross Drive Screw Driver Shaft Only	Non Locking 1.2/1.5mm, 2mm, 2.5mm Locking 1.8mm, 2mm, 2.3mm, 2.5mm
Cross Drive Screw Driver - Without Sleeve Fixed Handle	1.5, 1.8, 2, 2.3, 2.5mm
Bone Tap - S.S.	1.5,2,2.5,2.7mm
Mini Bone Drill	
Plate Bending Forceps - Modified - With Pins 1.5,2,2.5mm	
Modelling Lever	
Plate Holding Forceps	
Plate Holding Fork	
Screw Holding Forceps X Action	2mm
Counter Sink for Lag Screws	2.5mm
Template For UltraLock Recon. Plates	Straight 16,20,24 Holes Single Angled 4+16, 4+20 Holes Double Angled 4+20+4, 6+22+6 Holes ( For 1.8mm Screws ) 1.2mm ( For 2mm Screws ) 1.5mm ( For 2.3mm Screws ) 1.7mm ( For 2.5mm Screws ) 2mm
Drill Sleeve for UltraLock Plates	
Mandibular Reconstruction Plate Bending Plier	
Mandibular Reconstruction Plates Bender ( Roller Type )	
Plate Bender in Pair	Small
Drill/Screw/Wire Gauge Scale	6"

Wire Cutter

Regular  
Double Action - Strong  
Ordinary

Arch Bar Cutter

Mini Plate Cutter

Multi Plate Cutter ( Circular Type )

Wire Twisting Forceps

Wire Twister Pencil Type

Transbuccal Device with Trocar & Cheek

Retractor

**Each Items must be US FDA/ European CE approved.**



**Item No. 35 - Ultra lock bone planting instruments**

**Quality based**

Ultra lock bone planting instruments  
**Each Items must be US FDA/ European CE approved.**

**Item No. 36 - Bone holding process (All varieties)**

Rowe Maxillary Disimpaction Forceps	Right & Left in pair
Harrison Mandible Holding Forceps	
Hayton William Forceps	Forward Traction Downward Traction
Asch Nasal Septum Forceps	Small or Big
Walsham Nasal Septum Forceps	Right & Left in pair
Bone (mandible) Holding Forceps	
Bone Holding Forceps	Pointed 6"
Bone & Plate Holding Forceps	Guarded Point Right & Left in pair
Reduction Bone Holding Forceps	Serrated with Ratchet
Chin Segment Forceps	
TMJ Spreading Forceps	
Mandibular Bone Graft Holder	
Maxillary Bone Graft Holder	

**Each Items must be US FDA/ European CE approved.**

**Item No. 37 - Skin and soft tissue and nasal retractors**

**Quality based**

Skin and soft tissue and nasal retractors  
**Each Items must be US FDA/ European CE approved.**

.

## Item No. 38 - Elevators (All varieties)

Mcdonald Dissector Dental Elevator	Straight Right & Left in Pair
Apexo Elevator	Right & Left in Pair
Ward Periosteal Elevator	Fan Shaped
Periosteal Elevator Fibre Handle	8 Shapes
Bristow Elevator	Fine
Cryer Elevator	Right & Left in Pair
Cryer X Bar Elevator	Right & Left in Pair
Warwick James (Ward) Elevator	Straight Right & Left in Pair
Rowe Zygomatic Elevator	8mm, 12mm
Kilner Zygomatic Elevator Farabeuf Ruginé	St. Or Cd.
Howarth Elevator	
Periosteal Elevator	Double Ended
Malar Elevator	
Dissector Probe	Double Ended
Septum Elevator	
Key's Fine Elevator with Fibre Handle	
Alveolar Dissector	Double Ended
Hajeck Septum Elevator	
Coupland Elevator	
Molt Elevator	
Cottle Elevator	Graduated
Root Tip Elevator	

**Each Items must be US FDA/ European CE approved.**

## Item No. 39 - Bone awls and hooks

Zygomatic Bone Awl	6"
	8"
Mandibular Awl	Set of 5
Kelsey Fry Bone Awl	Ring Handle
	Fibre Handle
Harrison Bone Hook	
Gillies Skin Hook	Flat Handle
	Round Handle
Kilner Skin Hook	
Double (McIndoe) Skin Hook	
Poswillo Malar Hook	
Stacey Zygomatic Bone Hook	

**Each Items must be US FDA/ European CE approved.**

## Item No. 40 - Bone cutters and nibblers

Bone Cutting Forceps - Single Action	St. Or Cd. 7½"
- Double Action	St. Or Cd. 5½"
- Double Action	St. Or Cd. 7½"
- Double Action	St. Or Cd. 9"
Bone Nibblers - Single Action	St. Or Cd. 5½"
- Single Action	St. Or Cd. 7½"
- Double Action	St. Or Cd. 5½"
- Double Action	St. Or Cd. 7½"
- Double Action	St. Or Cd. 9"
Strong Bone Cutter	Double Action
Doyen's Rib Shear	
Rib Cutter	Big
Rib Raspatory - Right & Left in pair	

**Each Items must be US FDA/ European CE approved.**

## **Item No. 41 - Osteotomes Chisels and gouges**

Fine Gouge	St. 2,4,6,8mm
Tessier Osteotome	St. Or Cd - 5,10,15,20mm
Fine Osteotomes	St. Or Cd. 2,3,4,5,6,8,10,12mm
Fine Chisels	St. 2,3,4,5,6,8,10,12mm
Cottle Osteotome (Half Moon)	8, 10mm
Nasal Septum Osteotome With Guard	'U' Shape
Nasal Chisel With Guard	Right & Left in Pair - 4,5,6,8mm
Ramus Stripper	
Pterigoidous Chisel	6,8,10,12mm
Bone Grafting Gouge with Fibre Handle	Cd. 2,4,6,8,10mm

**Each Items must be US FDA/ European CE approved.**

## Item No. 42 - Cullettes and mouth gouges

Volkman Bone Scoop	Double Ended
Lucas Currettes	Double Ended
Bone Scoops	Angled
Kilner Dott Mouth Gag with 3 Tongue Blades	
Doyen Mouth Gag	Adults
	Paediatric
Dingman Mouth Gag with 3 Blades	Adults
	Paediatric
Davis Boyle Mouth Gag With 5 Blade	
Heister Jaw Opener	Regular
	Reverse Action
Ferguson Mouth Gag	

**Each Items must be US FDA/ European CE approved.**



## Item No. 43 - Cleft lip and Palate instruments

Cleft Palate Raspatory - French Pattern	Right & Left in Pair
Cleft Palate Raspatory - Barsky Type	Right & Left in Pair
	Double Ended
Cleft Palate Raspatory - Curved	Up or Down
McIndoe Cleft Palate Raspatory	
	Small,Med, Big
Barsky Pharyngeal Flap Elevator	
Mitchell Trimmer	
Cleft Palate Knife	Triangular
Cleft Palate Hook	Right Angle
	Down Bent
Cronin Cleft Palate Elevator	Right or Left
	Small,Med, Big
Palate Dissector	Right & Left in Pair
Spoon Shape Elevator	Double Ended
Miller Bone File	Straight
	Curved
Elevator Double Ended - Angled	Right & Left
	Side & Flat

**Each Items must be US FDA/ European CE approved.**

**Item No. 44 Boxes and container**

**Ø For skin grafting handle**

**Ø For general instruments**

S. S. Box For Skin Grafting Handle	
S. S. Box For Max Kit With Two Trays	
S. S. Box For Implants	Big
S. S. Mini Box For Implants	For 1.5, 2, 2.5mm
S. S. Box For General Instrument	Small Medium Big
Drill Bits Container	4"
K Wire Container	6"
Mini Screw Container	Small
Mini Plate Container	Small
General Instruments Box With Silicone Mate	Small Big
All in One Box with 3 Trays	
All In One Box With 4 Tray - For UltraLock Recon Set	
Aluminium General Box - Anodized	Small Medium Big

**Each Items must be US FDA/ European CE approved.**

**Item No. 45      High Definition LCD Monitor (52 inches)**

**Quality based**

High Definition LCD Monitor (52 inches)

**Each Items must be US FDA/ European CE approved.**

## **Item No. 46      Pneumatic Compression Pump for Lymphoedema patients (Sequential Circulator)**

Segmented, Sequential Pneumatic Compression Device with Calibrated Gradient Pressures

INFLATION           : 44 Seconds

DEFLATION           : 5.5 Seconds

CYCLE TIME           : 5.5 Seconds/Chamber

(Electrical Specifications” under separate section)

The Sequential Circulator’s electrical pump and components are “double insulated” and thus do not require a “protective ground.” As a result, the equipped with an 18 gauge, 2-wire, 10 ft. power cord, secured through the pump casing with a Heyco strain relief bushing. Affixed to the rear exterior of the pump is a 3”x 3” Foil Label containing the “Electrical Specifications” printed in contrasting black type. These specifications are printed in both English and French and contain the following: ELECTRICAL RATING: 220 VAC, 50Hz

**Each Items must be US FDA/ European CE approved.**

**Item No. 47      Lighted retractor with console and light source**

**Quality based**

Lighted retractor with console and light source

**Each Items must be US FDA/ European CE approved.**

**Item No. 48      Fiber optic camera with recording device to be  
fitted with OT light**

**Quality based**

Fiber optic camera with recording device fitted with OT light

**Each Items must be US FDA/ European CE approved.**

## Item No. 49      Mini C- arm for hand surgery

Mechanical geometry:

- Manual C arm
- Depth of C arm at least 39 cm
- Working distance at least 35 cm

X Ray Generator :

- Power at least 40 W
- Max tension 80Kv
- Max current at least 0,4 mA
- Pulse functionality please specify
- System to reduce the dose: please specify

X ray tube:

- Focus no more 35 micron
- High anode dissipation

Flat panel detector :

- Type amorphous silicon or C Mos
- Field size: at least 15x15
- Dynamic range : > 65 DB
- Pixel size <127 micron

Monitor

- Display at least 21" high contrast and brightness LCD
- Monitor orientable
- Monitor touch screen

Software package & acquisition

- Acquisition at least 25 fr sec in fluoroscopy and cine
- Digital measurement

Post processing

- Zoom
- Windowing
- Edge enhancement evolved
- BW/WB
- Measurement of line and angles
- Overview

- Equalization of images

#### Digital memory

- Storage capacity . 100.000frames
- Digital image processing: 32 bit

#### Dicom class:

- Storage
- Print
- Worklist
- Media interchange ( burn CD/DVD with dicom reader)
- MPPS
- Query retrieve
- Storage commitment

#### Accessory

- Measure of dose
- Laser
- Led light
- Foot switch without cable
- Print A4 size

**Each Items must be US FDA/ European CE approved.**

## Item No. 50      Plastic surgery Surgical instruments set

S no.	Name of the instrument	Quantity	Distribution
1.	Scalpel handle no. 3 & 4	10 each	6 each for OT 2 each for OPD dressing room 2 each for ward dressing room
2.	Kidney trays	21	15 for OT 3 for OPD dressing room 3 for ward dressing room
3.	Small Bowls (Katori)	36	30 for OT 3 for OPD dressing room 3 for ward dressing room
4.	Sponge holding forceps	14	10 for OT 2 for OPD dressing room 2 for ward dressing room
5.	Artery forceps	60	40 for OT 10 for OPD dressing room 10 for ward dressing room
6.	Mosquito forceps	60	40 for OT 10 for OPD dressing room 10 for ward dressing room
7.	Cheatele forceps	18	12 for OT 3 for OPD dressing room 3 for ward dressing room
8.	Dissecting forceps 3", 4", 5"	16 each	10 each for OT 2 each for OPD dressing room 2 each for ward dressing room
9.	Metzenbaum scissors 6" curved	18	12 for OT 3 for OPD dressing room 3 for ward dressing room
10.	Metzenbaum scissors 9" curved	12	12 for OT
11.	Sponge holding forceps	18	12 for OT 2 for OPD dressing room 4 for ward dressing room
12.	Stitch cutting scissors	20	12 for OT 4 for OPD dressing room 4 for ward dressing room
13.	Skin hooks single	20	For OT
14.	Skin hooks double sharp	20	For OT
15.	Skin hooks double blunt	20	For OT
16.	Compass double hook (moveble)	10	For OT
17.	Langenbeck retractor small	10	For OT



<b>S no.</b>	<b>Name of the instrument</b>	<b>Quantity</b>	<b>Distribution</b>
18.	Langenbeck retractor medium	10	For OT
19.	Czerney retractor	12	For OT
20.	Deaver's retractor	8	For OT
21.	Doyen's retractor	8	For OT
22.	Desmarre's lid retractor	8	For OT
23.	Cat's paw retractor	12	For OT
24.	Jeweller's forceps small	8	For OT
25.	Jeweller's forceps medium	8	For OT
26.	Jeweller's forceps large	8	For OT
27.	Adson's forceps tooth	12	For OT
28.	Adson's forceps non-tooth	12	For OT
29.	Vulsellum forceps	6	For OT
30.	Mayo Scissors small straight	8	For OT
31.	Mayo Scissors small curved	8	For OT
32.	Mayo Scissors large straight	8	For OT
33.	Mayo Scissors large curved	8	For OT
34.	Iris scissors straight	8	For OT
35.	Iris scissors curved	8	For OT
36.	Allis Forceps	30	For OT
37.	Baby Allis Forceps	30	For OT
38.	Needle holder 4"	10	For OT
39.	Needle holder 5"	10	For OT
40.	Needle holder 7"	10	For OT
41.	Towel clips	60	For OT
42.	Chisel straight	8	For OT
43.	Chisel curved	8	For OT
44.	Bulldog clamps	20	For OT
45.	Giggley saw handle	6 pairs	For OT
46.	Dingman mouth gag with tongue depressor set	6 sets	For OT
47.	KilnerDott mouth gag with tongue depressor set	6 sets	For OT
48.	Fergusson mouth gag	6	For OT
49.	Heister's mouth gag	6	For OT
50.	Cleft palate elevators left,right,straight	6 sets	For OT
51.	Cleft palate elevators curved left,curvedright	6 sets	For OT
52.	Howarth elevator	6	For OT
53.	Cleft palate hook	6	For OT
54.	Cleft palate scissors 6"	6	For OT
55.	Cleft palate scissors 8"	6	For OT
56.	Dental scalers set	6 sets	For OT
57.	Cleft palate round scalpel handle	6	For OT
58.	Metallic rulers	6	For OT
59.	Cleft lip calipers	6	For OT

<b>S no.</b>	<b>Name of the instrument</b>	<b>Quantity</b>	<b>Distribution</b>
60.	Kilner alar retractor	6	For OT
61.	Aufricht retractor for rhinoplasty	6	For OT
62.	Killian's septal elevator straight	6	For OT
63.	Killian's septal elevator straight	6	For OT
64.	Cross serrated rasps	6	For OT
65.	Thudicum's nasal speculum	6	For OT
66.	Cartilage crusher	6	For OT
67.	Lucs forceps set of 3	6 sets	For OT
68.	Septum punch forceps	6	For OT
69.	Asch nasal forceps	6	For OT
70.	Walsham nasal forceps	6	For OT
71.	Nasal septal forceps straight	6	For OT
72.	Nasal septal forceps angled	6	For OT
73.	Aufricht scissors	6	For OT
74.	Skin grafting handle (Watson type)	12	For OT
75.	Silver's miniature skin grafting handle	6	For OT
76.	Skin grafting meshing board	12	For OT
77.	Double action bone nibbler	6	For OT
78.	Double action bone cutter	6	For OT
79.	Wire cutter	6	For OT
80.	Fascial stripper	6	For OT
81.	Tendon stripper	6	For OT
82.	Tendon hook	6	For OT
83.	Tendon retriever	6	For OT
84.	Areola marker	6	For OT
85.	Key hole pattern areola marker	6	For OT
86.	Hand drill chuck type	3	For OT
87.	Hand drill collet type	3	For OT
88.	Rib shear	8	For OT
89.	Zygoma hook	4	For OT
90.	Jaw hook	4	For OT
91.	Ramus retractor	6	For OT
92.	Mandible retractor	6	For OT
93.	Rowe's maxillary disimpaction forceps left and right	6 each	For OT
94.	Rowe's mandible holding forceps	6	For OT
95.	Fergusson bone holding forceps	6	For OT
96.	Bristow's zygoma elevator	6	For OT
97.	K – wire cutter	6	For OT

<b>S no.</b>	<b>Name of the instrument</b>	<b>Quantity</b>	<b>Distribution</b>
98.	K-wire bender	6	For OT
99.	Wire twister	6	For OT
100.	Bone awl	6	For OT
101.	Bone currete	6	For OT

**Each Items must be US FDA/ European CE approved.**

# 3-Department of General Surgery

## Technical Specifications for General Surgery Equipment's

### Item No. 51      Laparoscopic Hand Instrument as per attached List

Light adapter - Ø 4,8 mm - 90° angled - Free rotatable to connect with all standard Telescopes.	1
Telescope Variable direction of view from 0° to 120° Adjustment knob for selecting the desired direction of View diameter 10 mm, length 32 cm, autoclavable, fiber optic light transmission incorporated,	1
Forward-Oblique Telescope 30°, enlarged view, diameter 5 mm, length 29 cm, autoclavable, fiber optic light transmission incorporated,	1
BERCI Fascial Closure Instrument for subcutaneous ligature of trocar incisions, size 2.8 mm, length 17 cm	1
VERESS Pneumoperitoneum Needle with spring loaded blunt stylet, LUER-lock, length 13 cm	1
VERESS Pneumoperitoneum Needle with spring loaded blunt stylet LUER-lock, length 15 cm	1
Trocar, size 11 mm, color code: green, consisting of: Trocar only, with pyramidal tip Cannula without valve, with insufflation stop- cock, length 10.5 cm Multifunctional Valve	2
Trocar, size 6 mm, consisting of: Trocar only, with pyramidal tip Cannula without valve, with insufflation stop- cock, length 10.5 cm Multifunctional Valve	3
Telescope Stopper, size 11 mm, package of 12, sterile, disposable	1
Suction and Irrigation Tube, anti-reflex surface with two-way stopcock, for single hand control, size 5 mm, length 36 cm	1
KELLY Dissecting and Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, double action jaws, consisting of: Plastic Handle, without ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
METZENBAUM Scissors, rotating, dismantling, with connector pin for unipolar coagulation, with LUER-Lock connector for cleaning, double action jaws, curved, length of jaws 15 mm, size 5 mm, length 36 cm consisting of: Plastic Handle, without ratchet, with larger contact area at the finger ring Metal Outer Sheath, insulated Forceps Insert	1
Grasping Forceps, 2 x 4 teeth, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, double action jaws, consisting of: Plastic Handle with MANHES style ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
Bowel Grasper, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, double action jaws, consisting of: Plastic Handle, without ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
BABCOCK Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, double action jaws, consisting of: Plastic-Handle, with MANHES style ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1

CROCE-OLMI Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, atraumatic, fenestrated, curved, single action jaws, consisting of: Plastic Handle, with MANHES ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, atraumatic, fenestrated, double action jaws, consisting of Plastic Handle, with MANHES style ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
Grasping Forceps, atraumatic, rotating, with connector pin for unipolar coagulation, size 5 mm, length 36 cm, hollow jaws, single action jaws, consisting of: Plastic Handle, without ratchet, with larger contact area Outer Tube, insulated Forceps Insert	1
Coagulating and Dissecting Electrode, L-shaped, with connector pin for unipolar coagulation, size 5 mm, working length 36 cm	1
Monopolar High Frequency Cord with 4 mm plug for HF-unit, length 300 cm	1
Reducer 11/5 mm	1
Reduction Sleeve, 11/5 mm	1
Grasping Forceps, rotating, dismantling, with connector pin for bipolar coagulation, single action jaws, wide jaws, for dissection, grasping and bipolar coagulation of large vessels and tissue layers, size 5 mm, length 36 cm consisting of: Plastic Handle, without Ratchet, color code: light blue Outer Sheath L Forceps Insert	1
Bipolar High Frequency Cord with 2 x 4 mm banana-plug , Länge 300 cm	2
Retractor, size 5 mm, length 36 cm	1
Clip Applicator, for use with Pilling-Weck Titanium-Clips 30460 AL (medium large), dismantling, rotating, with ratchet to lock the jaw part holding the clip, size 10 mm, length 36 cm, consisting of: Metal Handle, with ratchet Metal Outer Tube ,insert	1
Grasping Forceps, size 10 mm, length 36 cm, double action jaws, for retrieval of gallstones, consisting of: Metal Handle, with MANHES style ratchet Outer Tube, insulated Forceps Insert	1
Claw Forceps, rotating, size 10 mm, length 36 cm, 2 x 3 teeth, single action jaws, consisting of: Metal Handle, with MANHES style ratchet Outer Tube, insulated Forceps Insert	1
Dismantling KOH needle holder, ergonomic axial handle with disengageable ratchet, ratchet release on top, left curved jaws, with tungsten carbide insert ø 5 mm, length 33 cm consisting of: 30173L insert 30173A outer tube 30173AO Handle	1
Dismantling KOH needle holder, ergonomic axial handle with disengageable ratchet, ratchet release on top, right curved jaws, with tungsten carbide insert ø 5 mm, length 33 cm consisting of: insert outer tube Handle	1
<b>Each Items must be US FDA &amp;European CE approved.</b>	

## Item No. 52 - High Definition Camera System With Integrated High Definition Recording System

Full HD Endoscopy Camera system to be used for all Endoscopic Surgery. And out put should be seen on HD monitor in High definition quality.

The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 format for Input & Output to guarantee genuine HDTV.

### **The system should have Special Features:**

- **Visibly Improved Imaging:** CCD sensing chip should optimizes image quality & Digital Source Sampling thus maximizing hi-fidelity image transmission.
- **Optimizes to Any Size: The system should have** Optical Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used.
- **Plug and Go:** The system should automatically optimize all settings. The system should be ready- to- use as soon as it is connected to the camera control unit.
- **Any Head- Any Time:** The system should have the facility to use a single camera control unit for all camera heads ( either single chip or three chip) thus minimizing preparation & maximizes interspeciality standardization.
- **The system should have USB port to capture still images in Full HD resolution as well as Video Sequences in SD to a USB mass storage device**

Camera system should be compatible with Communication Bus system for remote controlled operation of the various features of the camera along with other equipment. .

### Technical Specifications:

- Image sensor: 3X1/3'' CCD-Chip.
- Pixels 1920 x 1080
- AGC: Microprocessor controlled
- Lens: Integrated Zoom Lens
- Video output: Composite signal to BNC socket.  
Y/C signal to S-VHS socket (2 x).  
RGB signal to D-sub socket  
HDTV signal to DVI-D socket
- Input Keyboard input for character generator. 5-pole DIN socket.

### Control Output/Input

- 3.5mm Stereo Jack Plug ( ACC1, ACC2)
- Serial Port at RJ-11

- USB Port with ICM (2x).
- Mains Cord
- BNC/BNC Video Cable Length 180 cm
- S-Video (Y/C) Connecting Cable Length 180 cm
- Special RGB Connecting Cable Length 180 cm
- Connecting Cable for controlling peripheral units length 180 cm (2)
- DVI-D Connecting Cable Length 300 cm
- Keyboard with US English Character
- Power Supply:- 100-240 VAC 50/60 Hz
- Certified to : IEC 601-1, 601-2-18, CSA 22.2 No. 601, UL 2601 and

• according to MDD, protection class 1/CF

CE

## **XENON LIGHT SOURCE**

### **Xenon 300**

- Light Sources 300 watts Xenon  
**1**
- type:- Xenon 15V, 300 Watt Lamp
- Temperatures 6000K Color
- Outlets – 1 Light
- Intensity Adjustment :- Continuously adjustable either manually or Light
- ally by cameras video output signal. automatic
- Certified To :- IEC 601-1 & UL 544 CE According to MDD , protection class 1/CF

Fibre Optic Light Cable.

1

- Thickness 4.8mm Length 300 cms

Digital Monitor : FOR HD CAMERA.

Special Features.

- HDTV Display in original 16: 10 HDTV format
- 1080p/50 and 1080p/80 display possible

- On Screen menu for monitor setting (possible in several languages)
- Liquid crystal display
- Max Resolution 1920/1200 Pixels
- Anti reflection coated front glass
- Easy to access control buttons on the housing front.
- Dripwater protected, dustproof housing
- Low voltage protection via external 24VDC Mains power supply.
- Picture in Picture display (PIP)
- Mirror Imaging Possible
- Upto 5 different users profiles can be stored
- Medical grade FDA, UL and CE Approval.

## Specifications

• Flat Screen Monitor with stand size 26",	HD TFT
• Ratio 16:10 HD format	Aspect
• : 500 cd/m <sup>2</sup>	Brightness
• Resolution 1920/1200 Pixels	Max
• viewing angle : 178° vertical	Maximum
• ratio: 800 : 1	Contrast
• power : 115 watts	Rated
• Supply 100-240 VAC	Power
• Dimensions : 627 x 427 x 100mm	Screen
• Inputs : S- Video signal to 4 pol. Mini DIN socket	Video
• signal to 5 x BNC socket	RGB
• e to BNC socket	Composit
• signal to BNC socket	HD-SDI
• signal to DVI-D socket	DVI



- SDI signal
- to BNC socket
- Accessori
- es External 24VDC Power Supply, Mains Cord, Pedstal.
- Certified
- to : EN 60601-1, protection class IPX 1

### INSUFFLATION UNIT

Specifications : ELECTRONIC INSUFFLATOR

#### Special features :

High degree of patient safety

- Easy to use
- Clear, adjacent displays for set value and actual value allow easy monitoring of insufflation process
- Touch keys for precise preselection of set values
- Optical and acoustic warning signals in the event of patient overpressure
- Fully automatic, electronically controlled gas refill (e.g. in case of gas loss when changing instruments)
- Safety – constant monitoring of intra-abdominal pressure; any overpressure is reduced immediately

#### Technical specifications:

Gas flow/min 0-20 ltrs

Pressure (mmHg) 0-30

Intra-abdominal pressure guage 0-50 (mmHg)

Power supply 100-240 VAC (50/60 Hz)

Dimension 305 x 164 x 233 mm (w x h x d)

Weight 6 kg

Certified to IEC 601 – 1, CE label according to MDD

### SUCTION IRRIGATION SYSTEM

Special features : COMPLETE UNIT ALONGWITH ACCESSORIES

- Suction and irrigation system for use in laparoscopy
- Irrigation function is performed by reel pump
- Maximum parameters for Lap mode are automatically fixed by the choice of the tubing set
- Precise presetting of suction and irrigation parameters via touch keys
- Adjacent display scales for set values and actual value ensure safe monitoring of suction and irrigation levels

#### Technical specifications :

Irrigation :-

With pressure control 0-400 mmHg (for Laparoscopy)  
with flow control 0-1000 mmHg (for Laparoscopy)

Suction :-

Regulated Laparoscopy mode  
0 – 0.8 (80kPa)  
Power supply 240 VAC (50Hz)  
Certified to IEC 601 –1 CE label according to MDD

**FULL HD IMAGE/VIDEO RECORDING SYSTEM - QTY 1**

Documentation system should have following specifications,

- User friendly work flow in built in Medical grade unit
- Sleek and compact design
- Captures still images, video sequences
- Record still images and video in FULL HD at Resolution of 1920x1080P
- Controllable via membrane buttons on front panel, camera head buttons, footswitch mouse and keyboard
- Enters patient data in combination of keyboard
- Can be installed on Cart with single screen (no additional screen required)
- Supports network storage on file servers
- Network Protocol: TCP IP/ SMB
- USB support for storage on USB drives
- Customizable print-outs for the documented information
- Quick print function for fast print of images
- HIPAA compliant
- Medical grade unit CE certified, ICE 60601-1
- Microprocessor: RIMM (AMD) Processor at 500 Mhz.
- USB Silicon Keyboard with Touchpad
- Video signal inputs: DVI-I Dual Link, HD-SDI, Composite, S-Video, RGB, YPbPr
- Video Out: DVI-I Dual link
- Video output resolution: 1920x1080, 1280x1024, 1280x720, 1024x768, 800x600, 640x480
- Internal hard drive: 320 GB
- USB ports: USB 2.0 (1 front panel, 2 rear panel)
- Network: RJ45 / connection as network drive (SMB)
- Recording formats: Videos: H.264mp4  
Images: JPG, TIFF, BMP
- Patient data: Saved as .txt file and / or in EXIF format
- Power supply: 100/240 VAC, 50/60 Hz

## Signal Management Device

<b>Signal management</b>	1
<p>A compact solution enables the easy and efficient distribution and individual routing of several high-resolution video signals, even without an integrated OR.</p> <p>The HD Video Router shall be a Medical-Grade video routing system that accepts up to 4 DVI-D inputs and 4 DVI-D outputs. This shall be utilized to connect various imaging devices such as the Endoscopic Camera, Surgical Camera, Room Camera, Surgical Displays, etc...</p> <p>Routing the desired input to the desired output shall be possible via 4 membrane buttons on front panel,</p> <p>In addition, this system shall be able to also operate as a distributor in that any of the selected inputs is simultaneously broadcasted over the 4 outputs at the push of a button.</p> <p>System should have following features,</p> <ul style="list-style-type: none"><li>- Two operating modes – switcher or router.</li><li>- Convenient use via four membrane keys. LEDs on the front panel display the operating mode in use</li><li>- Easy switching or routing of DVI-D sources in the OR or during live transmission. The simultaneous connection of a documentation system enables the recording of up to four sources</li><li>- Convenient distribution of DVI-D sources in the OR to various monitors or documentation systems</li></ul> <p>Management system can be controlled via a front-button operation, it should have,</p> <ul style="list-style-type: none"><li>- Video inputs: 4 x DVI-D</li><li>- Video outputs: 4 x DVI-D</li><li>- Operation: 4 membrane keys with LED display</li><li>- Max. video resolution: 1920 × 1080p; 50/60 Hz</li><li>- External dimensions (w × h × d): 305 × 83.7 × 249 mm</li><li>- Weight: 2.2 kg</li><li>- Power supply: 100-240 VAC; 50/60 Hz</li><li>- Protection class: IP 20 (DIN 60529)</li></ul> <p><b>Each Items must be US FDA &amp;European CE approved.</b></p>	

## **Item No. 53     -Nd Yag Laser**

1. Operation Interface 6" dual colour LCD.
2. Wavelength – Dual wavelength.
3. Pulse width - <10ns
4. Pulse Frequency 1, 2, 3, 4, 5, 6 Hz.
5. Pulse Energy approx 1000MJ.
6. To be operated on 250 V. 50 Hz.
7. Aiming Beam Guided by red light.
8. Connectors are plug-and play, easy installation and un installation.
9. Metal Frame for more stability of set.
10. Short time to remove the tattoo.
11. Short recovery time.
12. Easy to operate: Technique manual and online services to be available.
13. **Each Items must be US FDA &European CE approved.**

## **Item No. 54     -Diathermy**

High Frequency Microprocessor based 300-400 W of High reputed foreign make

Capable of Monopolar and bipolar coagulation separately without switchover

Micro adjustment of bipolar current

Digital display with touch control panel

Silicon patient plate

Bipolar cord - 10

Monopolar cord -10

Vario foot control

Bipolar non sticky 1mm blunt tip bayonet forceps 6 inches long - 2

Bayonet Bipolar non sticky, 0.4 - 0.5 mm tipped 7 inches long forceps -2

Unit should have Audio-visual error monitoring system

Voltage/Ampere plug top as per Indian standard

Trolley with inbuilt electric socket with strong four wheels

**Instrument must be US FDA/ European CE approved.**

## Item No. 55      -General Surgery Instrument Set

S. No.	PARTICULARS	QUANTITY
1.	SPENCERWELLS FORCEPS CD 6 INCHES	1
2.	SPENCERWELLS HAEMOSTATIC FORCEPS CD 18CM	1
3.	MAYO HEGGAR NEEDLE HOLDERWITH T/C TIP 180MM	1
4.	MAYO HEGGAR NEEDLE HOLDERWITH T/C TIP 200MM SS SISCO	1
5.	BABY-METZENBOUM SCISSORS CURVED T/C TIP 180MM	1
6.	BSC 342 C SCISSORS FINE CD 8 INCH	1
7.	BSC 333 C SCISSORS MAYO CD 8 INCH SS SISCO	1
8.	BECKHAUS TOWEL CLIP 12.5 CM SS SISCO	1
9.	BECKHAUS TOWEL CLIP 15 CM SS SISCO	1
10.	Vascular clamp	1
11.	Suction Machine	1
12.	Needle holder Large, Medium, Small	1 +1+1
13.	Self Retaining Abdominal Retractor	1
14.	Allies Forceps	1x10
15.	Mosquito Forcep	1x12
16.	Artery Forcep Long	1x12
17.	Artery Forcep Small	1x12
18.	Sponge holder	1x2
19.	FINE ADSON DIS FORCEP TOOTHED 150 MM	1
20.	MICRO ADSON DIS FORCEP PLAIN 150 MM	1
21.	BECKSMAN ADSON RETRACTOR	1
22.	CZERNEY RETRACTOR 3 X 2.8 SS SISCO	1
23.	STANDERD DIS FORCEP PLAIN 150 MM	1
24.	STANDERD DIS FORCEP TOOTHED 150 MM	1
25.	FINE WIRE CUTTER DOUBLE ACTION 175 MM	1
26.	B.P Handel 3 no., 4no	1x2
27.	ALLIES TISSUE GRASPING FORCEP 180 MM	1
28.	BABCOCK TISSUE FORCEP 180 MM	1x4
29.	HEATHS SUTURE CUTTING SCISSORS 100 MM	1
30.	Mayo,s Scissure	1x2
31.	LANGENBACK RETRACTOR 2.5 X 0.6 CM SS SISCO	1
32.	HALSTED MOSQUITO FORCEPS ST 125 CM	1
33.	MORRISS RETRACTOR 250 MM	1
34.	ATROUMETIC INTESTINAL CLAMP 280 MM STRAIGHT	1
35.	ATROUMETIC INTESTINAL CLAMP 280 MM CURVED	1
36.	ATROUMETIC INTESTINAL CLAMP 280 MM RIGHT ANGLED	1

S. No.	PARTICULARS	QUANTITY
37.	DEAVER RETRATOR 3 X 18 CM	1
38.	DEAVER RETRATOR 6 X 18 CM	1
39.	JOLLS THYROID RETRATOR	1
40.	DOYEN RETRATOR	1
41.	Right angle forcep long	1x2
42.	Kocher Forcep	1x4
43.	Metzenbaum Scissor Long, Medium	1x2
44.	Gall bladder holding forcep	1x2
45.	Skin hook	1x4
46.	Cats Paw Retyractor	1x2
47.	Octopus Retractor	1
48.	Harmonic Scalpal	1
49.	Diathermy with Monopolar, Bipolar unit	1
50.	Video Colonoscope	1
51.	Sigmoidoscope	1
52.	Fiberoptic Choledochoscope	1
53.	Celon power system(RFA)	1
54.	IRC-HIS (INFRA RED COAGULATOR)	1
55.	Sphicterometer/ Anal tonometer	1
56.	Ligasure system	1
57.	Formalin chamber	2
58.	Skin graft mesher	1
59.	Magnum biopsy instrument	3

**Each Items must be US FDA &European CE approved.**

**Item No. 56 - Instrument Set for General Surgery Instrument Set**

Sl.No.	Name of the Instrument	Quantity
1.	Metzenbaum scissors 6" curved (TC)	6
2.	Metzenbaum scissors 9" curved (TC)	6
3.	Stitch cutting scissors	10
4.	Mayo Scissors small straight (TC)	4
5.	Mayo Scissors small curved (TC)	4
6.	Mayo Scissors large straight (TC)	4
7.	Mayo Scissors large curved (TC)	4
8.	Iris scissors straight (TC)	2
9.	Iris scissors curved (TC)	2
10.	Langenbeck retractor small	8
11.	Langenback retractor medium	8
12.	Czerney retractor	8
13.	Deaver's retractor	8
14.	Doyen's retractor	8
15.	Morris retractor Large	4
	Small	4
16.	Cat's paw retractor	4
17.	Jeweller's forceps small	4
18.	Jeweller's forceps medium	4
19.	Jeweller's forceps large	4
20.	Adson's forceps tooth	4
21.	Adson's forceps non-tooth	4
22.	Vulsellum forceps	4
23.	Allis forceps	8
24.	Baby Allis Forceps	8
25.	Babcock Forceps Large	8
	Small	8
26.	Scalpel handle no.3 & 4	10 each
27.	Kidney trays	10
28.	Small Bowls (Katori)	10
29.	Sponge holding forceps	10
30.	Artery forceps (6 inch & 9 inch)	20 each
31.	Mosquito forceps	20
32.	Cheatle forceps	6
33.	Dissecting forceps 3", 4", 5"	6
34.	Skin hooks single	4
35.	Skin hooks double sharp	4
36.	Skin hooks double blunt	4
37.	Compass double hook (moveable)	2
38.	Needle holder 4" & 5"	4 each
39.	Needle holder 7"	4
40.	Towel clips	40
41.	Chisel straight	4
42.	Chisel curved	4
43.	Bulldog clamps	10



44	Giggley saw handle	6 pairs
45	Dingam mouth gag with tongue depressor set	2
46	Kilner Dott mouth gag with tongue depressor set	2
47	Fergusson mouth gag	2
48	Heister's mouth gag	2
49	Cleft palate elevators left, right, straight	2
50	Cleft palate elevators curved left, curved right	2
51	Howarth elevator	2
52	Cleft palate hook	1
53	Cleft palate scissors 6" (TC)	1
54	Cleft palate scissors 8" (TC)	1
55	Dental scalers set	2
56	Cleft palate round scalpel handle	2
57	Metallic rulers	12
58	Cleft lip calipers	1
59	Kilner alar retractor	1
60	Aufricht retractor for rhinoplasty	1
61	Killian's septal elevator straight	1
62	Killian's septal elevator straight	1
63	Cross serrated rasps	1
64	Thudicum's nasal speculum	1
65	Cartilage crusher	1
66	Selfretaining abdominal wall retractor	6
67	Lucs forceps set of 3	1
68	Septum punch forceps	1
69	Asch nasal forceps	1
70	Walsham nasal forceps	1
71	Nasal septal forceps straight	1
72	Nasal septal forceps angled	1
73	Aufricht scissors	4
74	Skin grafting handle (Watson type)	4
75	Silver's miniature skin grafting handle	2
76	Skin grafting meshing board	2
77	Double action bone nibbler	2
78	Double action bone cutter	2
79	Wire cutter	2
80	Fascial stripper	1
81	Tendon stripper	1
82	Tendon hook	1
83	Tendon retriever	1
84	Hand drill chuck type	1
85	Hand drill collet type	1
86	Rib shear	2
87	Zygoma hook	1
88	Jaw hook	1
89	Ramus retractor	1
90	Mandible retractor	1
91	Rowe's maxillary disimpaction forceps left and right	1

92	Rowe's mandible holding forceps	1
93	Fergusson bone holding forceps	1
94	Bristow's zygoma elevator	1
95	K-wire cutter	1
96	K-wire bender	1
97	Wire twister	1
98	Bone awl	1
99	Bone currete	1
100	Joel's Thyroid retractor	4
101	Desjordin's store holding forceps	8
102	Intestinal Clamps (Non crushing)	8
103	Vascular Clamps (De Bakey's)	16
104	Right angle Bowel Clamps (Non crushing)	8
105	Octopus self retaining abdominal wall retractor	1
106	Right angle artery Forceps (6 & 8 inch)	4 each
107	Thoracotomy set	1
108	Lung retractor	4
109	Periosteal elevator (straight & Curved)	4 each

**Each Items must be US FDA &European CE approved.**

# **4- Department of Orthopaedic**

## **Technical Specifications for Orthopaedic Instrument's**

### **Item No. 57 -Combined Generator for Ultrasonic Cutting, Coagulation, RF Energy Compact with Articulation Device & Probes**

- System should Single Generator for Ultrasonic & Advance Bipolar with universal connector to connect Ultrasonic energy and Advanced RF energy instruments.
- System should have automatic instrument recognition.
- System should be CE approved.
- System should have the ability for software updates via USB memory stick.
- System should conform to the following international standards EN (IEC) 60601-1, EN (IEC) 60601-1-2, EN (IEC) 60601-2-2, EN (IEC) 60601-1-8
- System should provide Class 1 protection against electric shock
- System should not have minimal lateral thermal spread more than 1 mm.
- System should have standby mode to ensure safety.
- System should have onscreen warning display system for generator overheating, generator software upgrade, handpiece errors and instrument errors
- System should be able to power ultrasonic energy instruments with 55.5 KHz frequency and have the ability to power ultrasonic energy instruments in the frequency range of 30-80 KHz in future
- The hand piece for the system should come with an inbuilt transducer.
- System should be compatible for open surgery and for laparoscopic surgery.
- System should be compatible with both 5mm and 10mm instruments.
- System should be equipped with advanced RF energy technology that can simultaneously seal and transect vessels up to and including 7mm, large tissue pedicles and vascular bundles.
- System should be equipped with advanced RF energy technology that provides temperature controlled energy delivery which should maintain tissue temperature approximately at 100 degree Celsius.
  
- All hand probes for open and lap procedures should be able to simultaneously cut and coagulate tissues.

#### Open Surgery Instruments:

1. 9cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with 16 mm active blade & 240-degree activation, triggers support multiple hand positions.
2. 17cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with 16 mm active blade & 240-degree activation, triggers support multiple hand positions.
3. 5mm Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 23 cm shaft length, ergonomic handle
4. Curved Blade having telescoping shaft (10cm-14cm) with integrated hand activation control buttons.
5. Dissecting Hook having telescoping shaft (10cm-14cm) with integrated hand activation control buttons.
6. 25 cm Advance Bipolar Shear with straight Shaft.

#### Laparoscopic Surgery Instruments:

1. 35 cm Advance Bipolar Shear with articulation for better access.
  2. 36 cm Ultrasonic Shear with curve tip.
- System should comprise of the following

Hardware:

- 1 Generator
- 2 Footswitch & Cable

Accessories:

- 1 Handpiece (Transducer)
- 2 Handpiece (Blue)
- 3 Adaptors for ultrasonic and advanced RF energy instruments

**Each Items must be US FDA &European CE approved.**

## **Item No. 58      -Electrical Suction Pump**

Suction cum irrigation pump high flow rate, oil less low noise (imported) diaphragm pump for simultaneous operation of suction and irrigation with pressure and vacuum gauges and flow regulator.

25. 2 x 2 Ltrs. Polycarbonate jars (Long Type) with overflow safety
26. Noise level of suction apparatus with the range of 55 dB +/- 05 dB
27. Rocker Piston Vacuum Pump with the range of 720 +/- 10 mmHg
28. Anti corrosive and Epoxy Powder Coated Mild Steel Trolley
29. Ideal for Medical / MTP / Surgical procedures
30. Heavy duty HN-65 Castors with brakes
31. Free air displacement 35 ~ 40 LPM
32. Non collapsible Suction Tubing
33. Standard 63 mm Vacuum Gauge
34. Bacterial filter fitted

**Each Items must be US FDA / European CE approved/ ISO Certified.**

**Item No. 59 -Orthopedic Surgical Instrument set for 4 OT**

<b>Sl. No</b>	<b>SPINE</b>	<b>Qty.</b>
	<b>Spine General Instruments</b>	
1.	BoneCurette rectangular straight 8	1
2.	Bone-Lever curv w/15 L375/218	1
3.	BoneCurette angl oval edge 3.5*5.25 L480	1
4.	CancellousBone-Impact-straight	1
5.	Rasp round	1
6.	Gouge straight w/10	1
7.	Gouge curv w/10	1
8.	Chisel-flat-straight w/16	1
9.	Chisel-flat-curved w/16	1
10.	Bone Holding Forceps self-center speed-l	1
11.	Bone-Spreader speed-lock L140	1
12.	Reduc-Forceps toothed speed-lock L240	1
13.	Bone-Spreader softlock w/5 L148	1
14.	Bone-Spreader softlock w/8 L220	1
15.	Periost-Elev straight shaft straight edge	1
16.	Periost-Elev curv-shaft straight edge w/	1
17.	Chisel-Handle	1
18.	Chisel Blade w/10	1
19.	Chisel Blade w/16	1
20.	Chisel Blade w/25	1
21.	Chisel Blade w/5	1
22.	Gouge f/CancellousBone-Graft straight w/	1
23.	Gouge f/CancellousBone-Graft curv w/5 L2	1
24.	Osteot w/5 L150	1
25.	Sharp Hook L155	1
26.	Pliers f/Scr-Remov L205	1
27.	BoneHook sharp medium L230	1
28.	Laminectomy-Punch 40°angl w/4 L400	1
29.	Rongeur f/Discs w/4 L400	1
30.	Rongeur f/Discs w/2 L400	1
31.	Rongeur f/Discs w/6 L400	1
32.	Rongeur curv angl w/4	1
33.	Rongeur curv opening upwards w/4	1
34.	Rongeur curv angl w/8	1
35.	Rongeur curv opening upwards w/8	1
36.	Rongeur f/Discs w/4 L400	1
37.	CancellousBone-Impact 12*12 L480/250	1
38.	Laminectomy-Punch 40°angl w/4 L400	1
39.	Elevator f/End-PI w/15 L480/250	1
40.	Bone-Lever straight w/25 L410/250	1
41.	Bone-Lever curv w/15 L375/218	1
42.	Periost-Elev slightly curv-blade straigh	1
43.	Periost-Elev slightly curv-blade straigh	1
44.	Periost-Elev slightly curv-blade round e	1
45.	USS PedicFeeler L300	1
46.	USS LaminaFeeler L300	1
47.	Compr-Forceps L335 f/PedicScr	1

48.	Spreader Forceps f/PedicScr L330	1
49.	PedicProbe ø4.8 w/Canevasit Handle L230	1
50.	PedicProbe ø3 L230 f/Scr ø4.2	1
	<b>Cervical Retractor &amp; Distractor System</b>	
51.	Forcep s, L 115mm, f/changing the blades 1	1
52.	Cervical Retractor, transverse, SST/Peek 1	1
53.	Cervical Retractor, longitudinal, SST/Peek 1	1
54.	Medial Blade, 23 x 40mm 2	2
55.	Medial Blade, 23 x 50mm 2	2
56.	Medial Blade, 23 x 60mm 2	2
57.	Medial Blade, 23 x 75mm 2	2
58.	Lateral Blade, 23 x 40mm 2	2
59.	Lateral Blade, 23 x 50mm 2	2
60.	Lateral Blade, 23 x 75mm 2	2
61.	Lateral Blade, blunt, 15 x 40mm 2	2
62.	Lateral Blade, blunt, 15 x 50mm 2	2
63.	Lateral Blade, blunt, 15 x 60mm 2	2
64.	Cervical Distractor, right, with adjustable angle	1
65.	Screwdriver, hexagonal, length 200 mm, for Screw for Cervical Distractor	1
66.	<b>Insight Retractor</b>	
67.	Retractor frame, medial/lateral 1	1
68.	Retractor Handle 2	2
69.	Retractor frame, cranial/caudal 1	1
70.	Cranial/caudal blade, left hand, 100 mm 1	1
71.	Caudal/caudal blade, right hand 60 mm 1	1
72.	Caudal/caudal blade, right hand 80 mm 1	1
73.	Caudal/caudal blade, right hand 100 mm 1	1
74.	Medial/lateral blade, narrow, 100 mm 2	2
75.	Medial/lateral blade, wide, 60 mm 2	2
76.	Medial/lateral blade, wide, 80 mm 2	2
77.	Medial/lateral blade, wide, 100 mm 2	2
78.	Dilator 013.0/16.0 mm, for No. 03.610.002 1	1
	<b>TRAUMA</b>	
	<b>POWER DRILL SYSTEM</b>	
	<b>Basic</b>	
79.	Battery Handpiece, modular, for Trauma Recon System	1
80.	Power Module, for Trauma Recon System	2
81.	Lid for Battery Hand piece	1
82.	Sterile Cover, for Trauma Recon System	1
83.	Universal Battery Charger II	1
84.	<b>Attachments</b>	1
85.	AO/ASIF Quick Coupling, for Trauma Recon System	1
86.	Drill Chuck (drilling speed), with key, for Trauma Recon System	1
87.	Drill Chuck (reaming speed), with key, for Trauma Recon System	1
88.	Drill Chuck, keyless, for Trauma Recon System	1
89.	Attachment for Acetabular and Medullary Reaming, for Trauma Recon System	1
90.	Quick Coupling for Kirschner Wires Ø 1.0 to 4.0 mm, for Trauma Recon System	1

91.	Quick Coupling for DHS/DCS® Triple Reamers, for Trauma Recon System	1
92.	Screw Attachment, with AO/ASIF Quick Coupling, for Trauma Recon System	1
93.	Torque Limiter , 1.5 Nm for TRS	1
94.	Torque Limiter , 4.0 Nm for TRS	1
95.	Hudson Quick Coupling (drilling speed), for Trauma Recon System	1
96.	Hudson Quick Coupling (reaming speed), for Trauma Recon System	1
97.	Trinkle Quick Coupling (drilling speed), for Trauma Recon System	1
98.	Trinkle Quick Coupling (reaming speed), for Trauma Recon System	1
99.	Trinkle Quick Coupling (drilling speed), modified, for Trauma Recon System	1
100.	Trinkle Quick Coupling (reaming speed), modified, for Trauma Recon System	1
101	Sagittal Saw Attachment, Long, for Trauma Recon System	1
102	Kuentscher Adapter	1
103	Harris-Adapter	1
104	Reciprocating Saw Attachment, for Trauma Recon System	1
105	Cleaning Brush for TRS	1
106.		
	<b>SYNREAM</b>	
107	Tissue Protector, L 140mm	1
108	T-Handle with quick coupling, L 85mm	1
109	Holding Forceps for Reaming Rod 2.5mm	1
110	Hand Reamer, 8.0mm dia., for predrilling in pseudarthroses	1
111	Reaming Rod, 2.5mm dia., L 950mm, 3.5mm olive	2
112	Flexible Shaft, 7.0mm dia., reaming depth to 470mm	1
113	Cleaning Brush for 3.6mm Flexible Shaft, L 600mm	1
114	Reduction Head, straight	1
115	Reduction Head, displacement 2.5mm	1
116	Reamer Head, 8.5mm dia.	1
117	Reamer Head, 9.0mm dia.	1
118	Reamer Head, 9.5mm dia.	1
119	Reamer Head, 10.0mm dia.	1
120	Reamer Head, 10.5mm dia.	1
121	Reamer Head, 11.0mm dia.	1
122	Reamer Head, 11.5mm dia.	1
123	Reamer Head, 12.0mm dia.	1
124	Reamer Head, 12.5mm dia.	1
125	Reamer Head, 13.0mm dia.	1
	<b>Orthopaedic Surgical Instruments</b>	
	<b>LC-DCP and DCP Basic Instrument Set</b>	
126.	Lid	1
127	Drill Bit, 3.2mm dia., L 145/120mm for quick coupling	3
128	Drill Bit, 4.5mm dia., L 147/120mm for quick coupling	2
129	Countersink, large, L 180mm	1
130	T-Handle with quick coupling, L 80mm	1



131	Tap for 4.5mm Cortex Screws, L 70/125mm	2
132	Tap for 6.5mm Cancellous Bone Screws L 195mm	1
133	Double Drill Sleeve 4.5/3.2	1
134	Insert Drill Sleeve 4.5/3.2, L 80mm	1
135	Double Drill Sleeve 6.5/3.2	1
136	Screwdriver Shaft, hexagonal, large, L 100mm	1
137	Screwdriver, hexagonal, large, with groove, L 240mm	1
138	Holding Sleeve, large, L 120mm	1
139	Depth Gauge for 4.5 to 6.5mm Screws	1
140	Sharp Hook, L 155mm	1
141	Tension Device, articulated	1
142	Combination Wrench, 11mm, L 140mm	1
143	DCP® Drill Sleeve 4.5	1
144	LC-DCP Drill Sleeve 4.5	1
145	Universal Drill Sleeve 4.5	1
	<b>Small Fragment LC-DCP &amp; DCP® Instrument Set, st. steel</b>	
146	Drill Bit, 2.5mm dia., L 110/85mm for quick coupling	2
147	Drill Bit, 3.5mm dia., L 110/85mm, for quick coupling	2
148	Countersink Shaft 3.5, L 72mm	1
149	Tap for 3.5mm Cortex Screws L 50/110mm	2
150	Tap for 4.0mm Cancellous Bone Screws L 110mm	2
151	T-Handle with quick coupling, L 80mm	1
152	Double Drill Sleeve 3.5/2.5	1
153	Insert Drill Sleeve 3.5/2.5, L 42mm Drill Bit 2.5mm dia.	1
154	Screwdriver, hexagonal, small, with Holding Sleeve	1
155	Screwdriver Shaft, hexagonal, small, L 100mm, for quick coupling	1
156	Screwdriver, hexagonal, small, with groove, L 200mm	1
157	Holding Sleeve, L 80mm, for nos. 314.070/550/570, 388.310	1
158	Depth Gauge for 2.7mm to 4.0mm Screws	1
159	Sharp Hook, L 155mm	1
160	Holding Clip 4.5 - 7.0mm	2
161	Screw Forceps, self-retaining, L 85mm	1
162	DCP® Drill Sleeve 3.5 for neutral and load position	1
163	Bending Iron, slit widths 4.5/2.5mm, L 150mm, for Plates 2.7 and 3.5	1
164	Bending Iron, slit widths 2.5/4.5mm, L 150mm, for Plates 2.7 and 3.5	1
165	Bending Pliers for Plates 2.4 to 4.0, L 230mm	1
166	Wire Bending Pliers, L 155mm	1
167	Bending Iron, for Kirschner Wires 1.25 to 2.5mm dia., L 120mm	1
168	Reduction Forceps with points, L 130mm	1
169	Reduction Forceps with points, wide, ratchet lock, L 132mm	1

170	Reduction Forceps, toothed, ratchet lock, L 140mm	1
171	Bone Holding Forceps, self- centering, speed lock, L 190mm	1
172	Retractor, small, 8mm wide, short narrow tip, L 160mm	2
173	Periosteal Elevator, round edge, 6mm wide, L 200mm	1
174	Retractor, 15mm wide, L 160mm	2
	<b>Select LCP Upgrade Instrument Set - Large &amp; Small Fragment</b>	
175	Torque-Limiting Screwdriver, L 255mm, for 3.5 mm hexagon	1
176	Drill bit, 3.5mm dia., for metal	2
177	Extraction Screw, conical, for 4.5/6.5mm Screws	1
178	Drill Bit, 4.3mm dia., L 221mm	2
179	Screwdriver Shaft 3.5, self-retaining, L 110mm	1
180	Threaded LCP Drill Guide for 4.3mm Drill Bit	2
181	Screw Holding Sleeve for LCP 4.5/5.0	1
182	Torque-limiting Attachment for LCP 3.5, 1.5Nm	1
183	Drill bit, 2.5mm dia., for metal	2
184	Extraction Screw, conical, for PC-Fix	1
185	Drill Bit, 2.8mm dia., L 165mm for quick coupling	2
186	Screwdriver Shaft 2.5, L 80mm	1
187	Screw Holding Sleeve for LCP 3.5	1
188	Threaded LCP Drill Guide for 2.8mm Drill Bit	2
189	Handle with Quick Coupling	1
	<b>HCS Ø 2.4 mm Instrument Set</b>	
190	Screw Rack, size 1/2, for HCS - Headless Compression Screw Ø 1.5 to 2.4 mm, with Lid, without Contents	1
191	Insert for Screw Rack Module, for HCS - Headless Compression Screw Ø 2.4 mm	1
192	Handle with Quick Coupling, length 110 mm	1
193	Screwdriver Shaft, Stardrive®, T8, self-holding	1
194	Screw Forceps, self-holding, length 85 mm	1
195	Double Drill Guide 2.0/1.1	1
196	Drill Bit Ø 2.0/1.15 mm, cannulated, length 150/48 mm, 3-flute, for Quick Coupling	2
197	Direct Measuring Device for HCS - Headless Compression Screw Ø 3.0 mm	1
198	ScrDriver Shaft T8 cann T8 w/color-marking	1
199	Handle for Compression Sleeve, for HCS - Headless Compression Screw Ø 3.0 mm	1
200	Guide Wire Ø 1.1 mm with trocar tip, length 150 mm, Stainless Steel	10
201	Cleaning Brush Ø 1.25 mm, for Cannulated Instruments	1
202	Cleaning Stylet Ø 1.1 mm, for Cannulated Instruments	1

203	Compression Sleeve for HCS - Headless Compression Screw Ø 2.4 mm	1
	<b>CSS 4.5mm Instrument Set in Vario Case</b>	
204	Drill Bit ø1.5 L110/85 2flute	1
205	Drill Bit ø3.2/1.75 cann L170/140 4flute	2
206	Countersink-cann ø4.5	1
207	T-Handle w/Quick-Coupl	1
208	DoubleDrillGuide 4.5/3.2	1
209	Parallel-Guide f/Guide-Wires ø1.6 adjust	1
210	Trocar ø1.6 ø4.5	1
211	DrillSleeve 3.2/1.6 ø4.5	1
212	DrillSleeve 7/3.2 ø4.5	1
213	Protect-Sleeve 9.5/7 ø4.5	1
214	ScrDriver-hex-cann ø4.5	1
215	Hold-Sleeve f/ 314.200	1
216	Direct Measur-Device ø4.5	1
217	Clean-Stylet ø1.6	1
218	Hold-Clip f/Washers	1
219	ScrForceps self-hold L85	1
220	GuideWire ø1.6 w/thread-tip w/trocar L15	10
	<b>CSS 6.5mm Instrument Set in Vario Case</b>	
221	Drill Bit ø5 cann L300/250 3flute	1
222	Parallel-Guide f/Guide-Wires ø2.8 adjust	1
223	Trocar ø2.8	1
224	Protect-Sleeve 12/8.5	1
225	DrillSleeve 8.5/2.8	1
226	Protect-Sleeve 15.5/13	1
227	ScrDriver-hex-cann ø6.5+7.3	1
228	Hold-Sleeve large	1
229	Clean-Brush ø2.9	1
230	Hold-Clip f/Washers	1
231	Clean-Stylet ø2.8	1
232	Direct Measur-Device f/GuideWires ø2+2.8	1
233	ScrForceps self-hold L85	1
234	GuideWire ø2.8 w/thread-tip w/trocar L30	10
	<b>Bone Forcep's Range</b>	
235	Reduc-Forceps w/Points narrow ratchet-lock	1
236	Reduc-Forceps w/Points wide ratchet-lock	1
237	Reduc-Forceps w/Points ratchet-lock L180	1
238	Reduc-Forceps toothed speed-lock L170	1
239	Reduc-Forceps w/Points speed-lock L130	1

240	Reduct-Forceps-large w/Points speed-lock	1
241	Reduc-Forceps toothed speed-lock L140	1
242	Reduc-Forceps w/Points ratchet-lock L160	1
243	Reduc-Forceps w/Points ratchet-lock L130	1
244	Reduc-Forceps toothed ratchet-lock L140	1
245	Bone Holding Forceps self-center speed-l	1
246	Bone Holding Forceps self-center speed-l	1
247	Bone Holding Forceps self-center speed-l	1
248	Hold-Forceps f/Tib-Edge Fragn L210	1
249	Hold-Forceps w/Ball ratchet-lock L180	1
250	Bone-Spreader speed-lock L140	1
251	Stagbeetle-Forceps ratchet-lock L120	1
252	Patella Forceps speed-lock L175	1
253	Malleolar Forceps speed-lock L210	1
254	Reduc-Forceps toothed speed-lock L170	1
255	Plate Holding Forceps, size 2	1
256	Plate Holding Forceps, size 0	1
	<b>General Instrument Set</b>	
257	Bone Hook, sharp, small, L 230mm	1
258	Bone Hook, sharp, medium, L 230mm	1
259	Retractor, 8mm wide, short narrow tip, L 220mm	2
260	Retractor, 18mm wide, short narrow tip, L 235mm	2
261	Retractor, 24mm wide, long and wide tip, L 270mm	1
262	Periosteal Elevator, curved shaft, 14mm wide, L 200mm	1
263	Periosteal Elevator, round edge, 6mm wide, L 200mm	1
264	Periosteal Elevator, straight shaft, 14mm wide, L 200mm	1
265	Hammer 500g, L 230mm	1
266	Chisel Handle, L 185mm	1
267	Chisel Blade, 10mm wide, thickness 0.9mm, L 81mm	1
268	Chisel Blade, 16mm wide, thickness 0.9mm, L 81mm	1
269	Chisel Blade, 25mm wide, thickness 0.9mm, L 81mm	1
270	Gouge, curved, for cancellous bone graft harvest., 10mm wide, L 250mm	1
271	Bone Lever, short narrow tip, width 8 mm, length 220 mm	1
272	Bone Lever, narrow tip, width 43 mm, length 240 mm	1
273	Holder for Hohmann Retractor	1
274	LCP Drill Bit Ø 4.3 mm with Stop, length 221 mm, 2-flute, for Quick Coupling	2
275	Guiding Block for TomoFix™ Tibial Head Plate, small, medial, proximal	1
	<b>Instruments for damaged screw removal</b>	
276	Hollow Reamer for 3.5/4.0mm Screws	1
277	Spare Reamer Tube for no. 309.035	1

278	Extraction Bolt for 3.5/4.0mm Screws	1
279	Extraction Screw, conical, for 2.7mm, 3.5mm and 4.0mm Screws	1
280	Hollow Reamer for 4.5mm Screws	1
281	Spare Reamer Tube for no. 309.450	1
282	Extraction Bolt for 4.5mm Screws	1
283	Extraction Screw, conical, for 4.5/6.5mm Screws	1
284	Hollow Reamer for 5.0/6.0/6.5/7.0mm Screws	1
285	Spare Reamer Tube for no. 309.065	1
286	Extraction Bolt, for 5.0/6.0/6.5/7.0mm Screws	1
287	Aluminium Plate, anodized	1
288	Sharp Hook, L 155mm	1
289	Forceps for Screw Removal, L 205mm	1
290	Gouge, 10mm wide, L 205mm	1
291	T-Handle with quick coupling, L 80mm	1
	<b>Wire Instrument Set in Aluminium Case</b>	
292	Drill Bit, 2.0mm dia., L 102/75mm for quick coupling	1
293	Triple Drill Guide 2.0 with 3 holes, opposite side 1 hole	1
294	Wire Passer, 45mm bending diameter	1
295	Wire Passer, 70mm bending diameter	1
296	Wire Tightener with handle and two pegs, L 240mm	1
297	Holding Forceps for Cerclage Wires, L 170mm	1
298	Wire Bending Pliers, L 155mm	1
299	Parallel Pliers, flat nosed, L 160mm	1
300	Wire Cutter, large, L 220mm	1
301	Wire Cutter, short, L 175mm	1
302	Bending Iron, for Kirschner Wires 1.25 to 2.5mm dia., L 120mm	1
303	Wire Mount	3
	<b>Mini Instrument Set in Aluminium Case</b>	
304	Drill Bit, 1.1mm dia., L 60/35mm for quick coupling	2
305	Reduction Forceps with points, wide, micro handle, softlock, L 127mm	1
306	Reduction Forceps with points, narrow, micro handle, softlock, L 127mm	1
307	Drill Bit, 1.5mm dia., L 85/60mm for quick coupling	2
308	Drill Bit, 2.0mm dia., L 102/75mm for quick coupling	2
309	Drill Bit, 2.7mm dia., L 100/75mm for quick coupling	2
310	Countersink Shaft 2.7, L 62mm	1
311	Countersink Shaft 1.5/2.0	1
312	Handle with mini quick coupling	1
313	Tap for 1.5mm Cortex Screws, L 50mm	2

314	Tap for 2.0mm Cortex Screws, L 53mm	2
315	Tap for 2.7mm Cortex Screws L 100mm	2
316	Handle with quick coupling, L 110mm	1
317	Double Drill Sleeve 1.5/1.1	1
318	Double Drill Sleeve 2.0/1.5	1
319	Double Drill Sleeve 2.7/2.0	1
320	Screwdriver Shaft, hexagonal, small, L 100mm, for quick coupling	1
321	Screwdriver, hexagonal, small, with groove, L 200mm	1
322	Screwdriver Shaft, hexagonal, with Holding Sleeve	1
323	Depth Gauge for 2.7mm to 4.0mm Screws	1
324	Depth Gauge for 1.5mm to 2.0mm Screws	1
325	Sharp Hook, L 155mm	1
326	Holding Clip 4.5 - 7.0mm	6
327	Screw Forceps, self-retaining, L 85mm	1
328	Bending Iron, L 130mm, for Plates 1.5 and 2.0	1
329	Bending Pliers for thin Plates 1.5 to 2.7, L 140mm	1
330	Wire Bending Pliers, L 155mm	1
331	Wire Cutter, short, L 175mm	1
332	Bending Iron for Kirschner Wires 0.8 to 1.25mm dia., L 115mm	1
333	Holding Forceps for small Plates, L 135mm	1
334	Retractor, small, 6mm wide, short narrow tip, L 160mm	1
335	Retractor, small, 8mm wide, short narrow tip, L 160mm	1
336	Periosteal Elevator, straight edge, 3mm wide, L 200mm	1
337	Retractor, 15mm wide, L 160mm	2
	<b>Reduction Handles, toothed and rounded, small &amp; large in Modular Tray</b>	
338	GuideWire $\phi$ 1.6 w/thread-tip w/trocar L41	4
339	GuideWire $\phi$ 2.8 w/thread-tip w/trocar L30	4
340	Allen-Key-angled $\phi$ 3.5	1
341	Combination Wrench $\phi$ 11	1
342	Reduct-Handle toothed f/Thread-Rod $\phi$ 5	2
343	Reduct-Handle rounded f/GuideWire $\phi$ 2.8	2
344	Protect-Sleeve 11 slotted	1
345	DrillSleeve 11/2.8	1
346	DrillSleeve 5/1.6	1
347	DrillSleeve 11/5	1
348	Tap $\phi$ 5/1.6 cann self-drill L195 SSt	1
349	Adjust-Nut f/Thread-Rod $\phi$ 5 SSt	2
350	Thread-Rod $\phi$ 5 w/self-drill tip L380 SSt	4
351	Thread-Rod $\phi$ 5/1.6 w/blunt tip cann L335	2
352	Combination-Clamp clip-on self-hold MR-s	2
353	Carbon Fibre Rod $\phi$ 11 L250	1

354	Carbon Fibre Rod $\phi$ 11 L350	1
355	Insert f/Reduction Handles toothed+round	1
356	Lid siz 1/1 w/o Labelling	1
	<b>Soft Tissue Spreader Set</b>	
357	Forceps for Soft Tissue Spreader	1
358	Retractor for Soft Tissue Spreader, left, length 75 mm	1
359	Retractor for Soft Tissue Spreader, right, length 75 mm	1
360	Retractor for Soft Tissue Spreader, left, length 35 mm	1
361	Retractor for Soft Tissue Spreader, right, length 35 mm	1
362	Trocar, length 35 mm, for Soft Tissue Spreader	1
363	Trocar, length 75 mm, for Soft Tissue Spreader	1
364	Chisel for Extraction of Plates	1
	<b>Hohmann Retractor</b>	
365	Holder for Hohmann Retractor	1
366	Bone Lever, width 8 mm, 30°, curved, right	1
367	Bone Lever, width 8 mm, 30°, curved, left	1
368	Bone Lever, short narrow tip, width 8 mm, length 220 mm	1
369	Bone Lever, short narrow tip, width 18 mm, length 235 mm	1
370	Bone Lever, narrow tip, width 70 mm, length 240 mm	1
371	Bone Lever, narrow tip, width 43 mm, length 240 mm	1
372	Bone Lever, long blade, width 43 mm, length 235 mm	1
	<b>Periarticular Reduction Forceps</b>	
373	Bone Lever, long blade, width 43 mm, length 235 mm	1
374	Bone Lever, with wide tip, width 22 mm, length 250 mm	1
375	Bone Lever, with long, wide tip, width 24 mm, length 270 mm	1
376	Periarticular Reduction Forceps, medium, with pointed ball tips	1
377	Periarticular Reduction Forceps, large, with pointed ball tips	1
	<b>BROKEN NAIL REMOVAL SET</b>	
378	Connector f/Extract-Hook	2
379	Extract-Hook L480 f/Nails $\phi$ 9	2
380	Extract-Hook long f/Nails $\phi$ 9-11	2
381	Extract-Hook long f/Nails $\phi$ 11-14	2
	<b>PELVIC INSTRUMENTS</b>	
382.	Bone Hook, sharp, large, L 200mm	1
383.	Pelvic Reduction Forceps, medium, length 250 mm, for use with Cortex Screws $\phi$ 3.5 and 4.5 mm	1
384.	Pelvic Reduction Forceps, large, adjustable, speed lock, length 330 mm	1
385.	Ball Spike, straight, with pointed ball tips $\phi$ 6.5 mm, length	1

	300 mm	
386.	Pelvic Reduction Forceps with pointed ball tips Ø 6.5 mm, length 250 mm	1
387.	Pelvic Reduction Forceps, oblique, with pointed ball tips Ø 6.5 mm, length 240 mm	1
388.	Pelvic Reduction Forceps, asymmetric, with pointed ball tips Ø 6.5 mm	1
389.	Pelvic Reduction Forceps, small, for Screws Ø 3.5 mm, length 250 mm	1
390.	Disc, hole Ø 6.5 mm	2
391.	Retractor for Sciatic Nerve	1
392.	Bone Hook, large, long, length 330 mm	1
393.	Pelvic Reduction Forceps, medium, length 250 mm, for use with Cortex Screws Ø 3.5 and 4.5 mm	1
394.	Pelvic Reduction Forceps, large, adjustable, speed lock, length 330 mm	1
395.	Ball Spike, straight, with pointed ball tips Ø 6.5 mm, length 300 mm	1
396.	Pelvic Reduction Forceps with pointed ball tips Ø 6.5 mm, length 400 mm	1
397.	Pelvic Reduction Forceps, oblique, with pointed ball tips Ø 6.5 mm, length 240 mm	1
398.	Pelvic Reduction Forceps, asymmetric, with pointed ball tips Ø 6.5 mm	1
399.	Pelvic Reduction Forceps, small, for Screws Ø 3.5 mm, length 250 mm	1
400.	Disc, hole Ø 6.5 mm	2
401.	Retractor for Sciatic Nerve	1
402.	Retractor, can be contoured, width 40 mm	1
403.	Pelvic Retractor, medium, length 268 mm	1

**Each Item must be US FDA &European CE approved.**



## **Item No. 60    -Nailing Set list**

1. Interlock Nailing sets Tibia, Femur, Humerus, distal femoral ,Proximal femur, Proximal Humerous nail
  2. Plating of Tibia, Femur, Humerus, Radius, Ulna, Metacarpal,
  3. Clavicle, Calcaneum – Plating set – 2.7,3.5.4.5
  4. ( Non Locking and Locking Plates set, cannulated, & Non- cannulated screw set )
  5. 3. External fixator - Complete set of Ilizarov system
    - a. A.O. Tubular Systems
    - b. JESS system with clamps
    - c. C Clamp
  6. D.H.S - One set each
  7. 5. D.C.S. - One set each
  8. C.C.S. - One set each (4.5mm, 6.5mm)
  9. Company Item should be US- FDA & European CE approved.
- 10.Each Item must be US FDA &European CE approved.**

**Item No. 61      -Skeletal Traction apparatus Set**

- a. Steinmann Pins – 1 doz.
- b. Denham Pins - 1 doz.
- c. K wires - 1 doz. Each of 1.5,2.0,2.5,3.0mm
- d. Crutch field Tongs – 1 doz

**Each Item must be US FDA /European CE approved/ ISO Certified.**

## Item No. 62      -Power drill system

1. Set Power drill system (modular)
2. Battery Handpiece, modular
3. Power Module (2 per set)
4. Sterile Cover, for Power drill system
5. Lid for Battery Handpiece
6. AO/ASIF Quick Coupling
7. Drill Chuck (Drilling Speed), with Key
8. Attachment for Acetabular and Medullary Reaming,
9. Quick Coupling for Kirschner Wires \_ 1.0 to 4.0 mm,
10. Quick Coupling for DHS/DCS® Triple Reamers
11. Screw Attachment, with AO/ASIF Quick Coupling
12. Sagittal Saw Attachment
13. Vario Case, size 1/1, Battery Hand piece,with Insert, without Lid, without Contents
14. Lid (Stainless Steel), size 1/1, for Vario Case
15. Oil Dispenser with 50 ml

### **Power Tool**

16. Battery Handpiece, modular
17. Lid for Battery Handpiece
- Charger, battery and accessories for battery**
18. Universal Battery Charger II
19. Power Module
20. Sterile Cover

### **Attachments**

21. AO/ASIF Quick Coupling
22. Drill Chuck (drilling speed), with key
23. Drill Chuck (reaming speed), with key
24. Drill Chuck, keyless
25. Attachment for Acetabular and Medullary Reaming
26. Quick Coupling for Kirschner Wires \_ 1.0 to 4.0 mm
27. Quick Coupling for DHS/DCS® Triple Reamers
28. Screw Attachment, with AO/ASIF Quick Coupling
  - a. Torque Limiter, 1.5 Nm
  - b. Torque Limiter, 4.0 Nm
29. Hudson Quick Coupling (drilling speed),
30. Hudson Quick Coupling (reaming speed)
31. Trinkle Quick Coupling (drilling speed),
32. Trinkle Quick Coupling (reaming speed),
33. Trinkle Quick Coupling (drilling speed), modified,
34. Trinkle Quick Coupling (reaming speed), modified,
35. Sagittal Saw Attachment,
36. Reciprocating Saw Attachment,
37. Adapter for Radiolucent Drive,
38. Top for Sternum for Reciprocating Saw Attachment
39. Radiolucent Drive
40. Angular Drive Unit for Medullary Reaming
41. Kuentscher Adapter

- 42. Harris Adapter
- Accessories**
- 43. Spare Key for Drill Chuck, clamping range up to \_ 6.5 mm
- 44. Cleaning brush
- 45. Oil dispenser with oil
- Vario Case**
- 46. Vario Case, size 1/1, Battery Handpiece,with Insert, without Lid, without Contents
- 47. Insert, size 2/3, for Vario Case
- 48. Vario Case, size 1/2, for Trauma Recon System Battery Handpiece,without Lid, without Contents
- 49. Lid (Stainless Steel), size 1/1, for Vario Case
- 50. Lid (Stainless Steel), size 1/2, for Vario Case

**Each Item must be US FDA &European CE approved.**

**Item No. 63      -Pneumatic tourniquet**

Quality Based

Pneumatic tourniquet

**Each Item must be US FDA /European CE / ISO approved**

**Item No. 64      -Eschmarch tourniquet**

Quality Based

Eschmarch tourniquet

**Each Item must be US FDA /European CE approved.**

**Item No. 65      -Pulse lavage system**

Quality Based

Pulse lavage system

**Each Item must be US FDA /European CE approved.**

**Item No. 66      -Vacuumed Assisted Closer Device (VAC)**

Quality Based

Vacuumed Assisted Closer Device (VAC)

**Each Item must be US FDA /European CE approved.**

## **Item No. 67      -Portable ultrasound with three Probes including TEE**

Technical specification for Portable Colour Doppler Echocardiography System with TEE capability . A state of art fully digital, compact portable Colour Doppler Ultrasound machine (weight <5 kg) is required with following technical features

1. Unit should be able to give very high image quality with advance technologies like compound imaging with at least 5 sights of lines for better cardiac contrast resolution, tissue differentiation and edge detection, equivalent to high end cart based systems. Please specify the technology.
2. System should be able to support speckle reduction imaging for better tissue differentiation and edge enhancement please specify the technology.
3. The system shall have the ability to enhance tissue margins and improve contrast resolution by reducing artifacts and improving visualization of texture patterns & needle tip within the image, please specify the technology.
4. System should have both online (Read) as well as offline(Write) zoom facility
5. Imaging modes of Real time 2D, Colour Doppler, Pulsed wave Doppler, Continuous wave Doppler, Power Doppler must be available on all cardiac transducers.
6. System must have fast start up to scanning in less than 30 seconds from off condition, for use in critical and emergency situations.
7. System should support transducer technologies like phased array, convex, linear, TEE etc.
8. Cine memory on all modes.
9. The system shall process a dynamic range that is at least 165db. The system must display at a maximum depth of 35 cm.
10. The system must have a dedicated cardiac calculation packages with PISA, TDI calculation packages, vascular calculations package.
11. The unit must be compact, portable and lightweight, weighing less then 5 kg.
12. Unit must be sturdy, resistant to breakage & damage on fall/ hit against the wall or hard surface for out of the hospital use.
13. Flat LCD/ TFT monitor of at least 10 inches with flicker free image.
14. Alphanumeric soft keys keyboard with easy access scans controls, facility to sanitize the system keyboard to avoid cross contamination.

15. The system must have the ability to function by AC/DC or battery power with the same degree of functionality, the battery life (run time) shall be at least 2 (Two) hours, this need to be demonstrated.

16. The system must have archive capability for storage and retrieval of images and clips.data.

17. Data Transfer facility should be available as standard , to transfer images etc. easily onto another system/computer etc.

18. System should posses software for Enhanced Needle Visualization to track the needle clearly at steep angles during the procedures while maintaining striking image quality of the target structures and the surrounding anatomy with simple On/Off functionality. This Facility should be available on both High frequency Linear and Curvilnear probes for superficial as well as deeper blocks.

19. Unit must be sturdy, resistant to breakage & damage on fall/ hit against the wall or hard surface.

20. The system shall support the all DICOM functionality, Storage, Print, and Work List, also ready to connect to PACS.

21. The manufacture shall provide a loaner system in case of failure of system.

22. The equipment should be mountable on trolley & locking mechanism should be inbuilt into the

trolley for safety & security of the system.

23. System configured application specific educational video tutorials should be provided as standard with the system.

24. System should have both European CE and US FDA quality certification.

Transducers to be supplied as standard

1. 6-13 MHz multi-frequency, broadband linear array transducer for vascular, nerve imaging

with less then 40 mm size for vascular access, small parts, vascular, musculoskeletal

Interscalene, Supraclavicular, Axillary, Musculocutaneous, Popliteal, Saphenous. Higher

frequency will be preferred.

2. 2-5 MHz multi-frequency broadband curved array transducer for general purpose,

abdominal, deep nerve access Specially Celiac , Sciatic nerve, Epidural, Subgluteal &

abdominal applications



3. 1-5 MHz multi-frequency, broadband phased array transducer for adult cardiac, abdominal, FAST, imaging.
4. 8-3 MHz Transesophageal Transducer for Trans Echocardiography applications
5. Mobile cart with transducer holder should be provided as a standard

**OPTIONAL TRANSDUCERS:-**

6. 4-8 MHz Phased Array paediatric Echocardiography with PW & CW facility,

**ESSENTIAL REQUIREMENT:** The firm must have minimum number of 150 installations of the same model in India, attach list of installations, and also provide performance certificates.

**WARRANTY:** The system should be covered with comprehensive onsite warranty for five years commencing from the date of issue of installation certificate.

**Each Item must be US FDA /European CE approved.**

## Item No. 68 -C Arm

The unit should have good manoeuvrability for easy positioning during surgery in OT as well as in ICU. It should be a well - balanced system for quick positioning. It should be compact design

### System Configuration:

1. Mobile C Arm unit
2. Stationary Anode tube
3. 9” Image Intensifier
4. 19” LCD or bigger

#### A. C Arm Unit

Fully balanced C Arm with electro- magnetic lock mechanism for individual locking of all movements.

All C arm cables should be concealed in the body.

#### B. X-ray High Voltage Generator

- Inverter generator with inverter frequency of not less than 40 kHz.
- Maximum output: 2kW and above
- Fluoroscopy / Radiographic kV range : 40 - 110kV
- Fluoroscopy mA range: Max mA should be 9 mA or more
- Pulse fluoroscopy: 9 mA, 2 ~ 12 fps
- Radiography mA; 20 Ma
- Radiographic mAs range: Minimum 200 mAs or more
- Anatomical program memory
- LED/LCD readout for parameter display.
- Graphical User Interface with touch screen
- Fluoro image display in the Technician GUI screen for ease of access

#### C. X Ray Tube

- High capacity Stationary anode tube
- Anode heat capacity – 100 kWhU or more. Higher capacity would be given preference.
- Focal spot size – 0.6 mm
- Collimation – Iris type with parallel & rotation compensation filters.
- Beam hardening filter to cut soft X rays. Selection of filters would be preferable.
- Collimation position memory & recall.

#### D. Image Intensifier

- Input field size – 9” or bigger
- Fibre grid for low X ray absorption and to effectively reduce scattered radiation

#### E. TV System

- CCD Camera medical grade 1kx1k @ 12 bit resolution

- X Ray TV Image rotation – 360 deg
- Twin Monitor 19”LCD or bigger
- Folding Monitor mount for Ease of transport
- Height adjusting monitor Mount for Ease of Use

F. Image Processor

- Should be able to store up to 170 images in RAM memory
- Recursive filtering, auto window, edge enhancement, real time zoom, image inversion
- Should have virtual Collimation and Rotation
- Should have minimum 3 Fluoroscopy modes Low Dose/Normal/HQ
- Beam Hardening filter 3 types or better
- Pulse fluoroscopy upto 15 FPS or better
- Integrated Dose Display

G. C-arm Movements

- All C Arm movements to be balanced perfectly
- All C Arm Movements to be Locked /Unlocked Using Single

Touch Operation

- SID or FFD to be 950mm or better
- C Arm Free space should be 770mm or bigger
- Width of C arm base should be equal or smaller than 800mm
- C Arm Rotation 120 deg or better
- C Arm Holder Rotation more than 200 deg
- C Arm Longitudinal Travel 450mm or better
- C Arm Compression Travel 20 cm or more
- C Arm Swivel 12.5 deg plus/minus
- C Arm Doctor Handle with single touch unlock in the Image

Intensifier to be

- provided

H. Accessories

- Cassette holder-1
- Lead Aprons light weight 5 nos
- All major components of the Unit- Viz- X Ray Generator, X ray

tube,

Image Intensifier should be from the same manufacturer.

UPS 5 KVA Pure sine wave type with isolation Transformer

I. Others

- CD Recording Workstation with Ability to record Images in

DICOM

Printing/ DICOM Store /etc. should be standard

Ability to Record 10,000 images in the Hard Drive

UPS for the Workstation

Unit to be integrated into the Monitor Trolley of the C Arm

AERB type approval/NOC should be given

The Unit should be IEC 3<sup>rd</sup> edition Certified

The unit should be Ro Hs compliant

**Each Item must be US FDA &European CE approved.**

## Item No. 69      Portable X-ray machines

Compact, Lightweight easily transportable Portable X-ray machine, suitable for bedside X-ray, trauma, intensive care units, operation theatres and also in the Radiology Department for conventional radiography. Unit should be completely integrated systems with X ray Tube, X ray generator & Collimator should be from same manufacturer.

It should have following features.

1. Mobile Cart with telescopic arm/Articulated arm with electromagnetic lock type tube support.
2. It should have facility to moving forward or backward with handle push/pull without any special switch
3. Additional fine positioning to be possible from collimator side
4. It should have Rotating anode tube
5. It should have battery operated and or exposure can take without connecting power. It should have motorized operated
6. It should be upgradeable to Mobile DR Systems.
7. It should operate in single phase electric connection also

### A. Mobile Cart

Telescopic cross arm/Articulated arm for easy positioning at the bedside

Single push button should release all locks. The lock release button should be available on either side of the tube handle.

Rotation of collimator should be possible. At least +90 deg

Width of the unit should be smaller than 590 mm

Length of the unit should be smaller than 1150mm

Height of the unit should be smaller than 1940mm

Weight of the unit should be smaller than 400KG

### B. X-Ray High Voltage Generator

Inverter generator with inverter frequency of not less than 60 KHz

- Maximum output: 30 kW or More
- Radiographic kV range: 40 – 125 KV or More.
- mA should be more than 300mA
- Radiographic mAs should be 300 mAs
- It should have Anatomical program more than 50 types
- LED readout for parameter display
- It should have facility to exposure with remote Control.

### C. X-Ray Tube

High speed rotating anode tube

Anode heat capacity – 300KHU or More.

Focal spot size 0.7mm/1.3mm or less

Max. KV – Not less than 125 KV

Collimation – Multi Leaf collimator

There should be cassette storage box to store up to 10 cassette of 14" x 17".

The X-Ray unit should have Type Approval/ NOC from AERB & IEC/CE/FDA for radiation protection. Manufacturing firm should be ISO approved.

Unit should have upgrade to Mobile Flat panel DR systems in Future.

Unit should have IEC 3<sup>rd</sup> edition compliance

Unit should be RoHS compliant

**Each Item must be US FDA /European CE approved.**

## Item No. 70 Computerized Radiography System (CR)

The CR System should have following essential features ;

### 1. Image recording system ( Cassettes & Imaging Plates)

The following sizes of Cassettes along with flexible Imaging plates should be supplied along with the unit

- a) 14" X 17"- High resolution (HR)- 02 Nos
- b) 10" X 12"- High resolution (HR) -02 Nos
- c) 8" X 10"- High resolution (HR) -02 Nos

### 2. CR Reader /Digitizer (Single cassette Vertical loading type) –1 No

Should be able to process not less than 50 Imaging Plates / hour on an average with a resolution of 6 pixels/mm in Standard and 20 Pixels in High Resolution or more.

### 3. Console / Workstation PC with 17" TFT Monitor for Cassette / Patient ID and Image Review / Preview - 1 No

Console PC should be a separate module, It should have following features with Cassettes ID

- i) Cassette / patient ID software / Bar cod reader
- ii) Image preview / review with Window leveling , annotation , printing, rotating , flipping ,panning zooming , image post processing features.

Work station :

It should have following features & compatible to connect with PACS / HIS.

- i) Should be capable of processing raw image data of the CR Reader Digitizer .
- ii) Should have Multi Scale image contrast amplification, Annotation Black border and Paediatric software is must.
- iii) Should have software for Printing and to create various film layouts and multiple formats on single film for optimum utilization of film and present ability. The capability to customize user defined no. of formats and layouts on the single film. There should be capability of printing the zoomed image along with the over view of the main image on the same film. There should be a capability of printing multiple (more than four) patient images on one film and multiple images of same patient on one film.
- iv) Other features should include image gray scale reversal , imaging flipping & rotating , image zooming , edge enhancement , Latitude reduction , Image Noise Reduction, grey scale saturation feedback.

### 4. CD Burning / Writing facility

The system should have facility of burning DICOM Images with viewer on CD / DVD for local media archiving of images.

5 . Dry Laser Imager – 1 No

The system should be supplied with direct laser Dry DICOM Imager (Please specify) with a spatial resolution not less than of 580 DPI . It should have contrast resolution of 14 bits /pixel or more. It should have three online film sizes . There should not be involvement of wet chemistry.

6. Interconnectivity with other imaging equipment should be if required.

7. Standard Software / features

- a) Customized printing of layouts .
- b) Advanced Annotations including measurement features
- c) Pediatric imaging feature or Pediatric Software
- d) Whole-Leg / Whole spine software.

11. UPS

The equipment should be supplied with UPS of the required rating and at least 20 minutes back up for the whole system

12. Warranty

The warranty shall be for a period of One year from the date of installation. Please also quote AMC & CMC for Next 3 Years For CR system.

OTHER TERMS & CONDITIONS:

1. List of Installation

The firm should attach list of Installation of CR System . minimum 10 installations should be within U.P. Please do furnish installations list of Government Hospital or Government medical College .

**Each Item must be US FDA &European CE approved.**

## **Item No. 71      Arthroscopic Set**

### **TECHNICAL SPECIFICATION for Knee Arthroscope**

For Knee Arthroscopy including ACL & PCL set with Full HD Camera System, Shaver and Pump Systems including Instrument for Shoulder Arthroscopy, Hip Arthroscopy, Small Joint and Data management System.

**Arthroscope: Autoclavable** Qty one each.

Wide angle Forward-Oblique and lateral scope.

Field of view :

Angle of View : 30° and 70°

Diameter 4 mm

Length 16 cm to 18 cm

Fibre Optic light transmission incorporated

Standard ocular window for coupling camera head

Scratch resistance sapphire quoted tip lens

Rod lens system for optimum brightness, contrast and definition.

**Arthroscope Sheath, rotatable** Qty-1

Diameter 5.5 to 6 mm

Working length 12 cm

With 2 rotatable stopcocks

**Autoclavable**, for use with telescope 30° and 70°.

**Semi Sharp Obturator** Qty-1

Use with arthroscopy sheath, working length 12 cm

**Hook Probe Graduated** Qty-1

**Autoclavable**, for use with telescope 30° and 70°.

### **Specifications of Arthroscopy Shaver**

**High speed shaver system with :**

Stable torque throughout entire speed range

Optionally available high speed shaver hand pieces with rotational speed ranging from 1000 rpm to 15000 rpm

Oscillation of shaver within rotation speed from 500 rpm to 3000 rpm

Choice between hand controls, control via footswitch or control from the console via LCD touch screen.

Drill and saw hand piece can be used.

**Light weight handle with switches for selection with rotation** (clock wise anti clock wise and oscillation)

**Control to increase or decrease the rotation speed.**

**Suction control**, on the handle itself

**High speed hand piece with not more than 8000 rpm**

**Autoclavable**

**Unit should be supplied with foot switch and Shaver handle.** Qty -1

**Specification for Shaver blades preferably reusable** Qty-1 each.

Aggressive cutter 4.5 mm, reusable

Full radius Resector 4.5 mm, reusable

Curved aggressive full radius resector, distal tip curved 15 deg up to 4.2 mm, reusable.

Round Burr 5.5 mm, reusable Finnish barrel burr 5.5 mm, reusable

## **FLUID PUMP MANAGEMENT SYSTEM**

**Irrigation pressure and flow rate are electronically controlled.**

**Flow rate 1-2 lts/min**

**Display of operating parameters set points and actual performance data.**

**The unit should be compact with front panel display of critical parameters like flow-reset and actual with audible alarm system in case of overpressure.**

**Unit should be supplied with foot switch**

**Qty-1**

**Preferably Reusable tubing set**

**Qty-2**

### **HAND INSTRUMENTS**

**All hand instruments should have one piece out shaft with excellent control over the cutting process**

#### **Punches**

**All purpose, low profile not more than 3 mm enables access to structures in narrow joint areas with large aperture angle allows efficient resection. Should have and ergonomic handle for controlled, measured and non tiring cutting.**

Qty-1 each

**Straight cutting width 2.7 mm, shaft diameter 3.5 mm Working length 12 cm**

Upturned 15 deg Cutting width 2.7 mm, shaft diameter 3.5 mm, working length 12cm

Jaws curved 30 deg left Cutting width 2.7 mm, shaft diameter 3.5 mm, working length 12cm

Jaws curved 30 deg right Cutting width 2.7 mm, shaft diameter 3.5 mm, working length 12cm

Jaws curved 90 deg right Cutting width 2.7 mm, shaft diameter 3.5 mm, working length 12cm

Jaws curved 90 deg Left Cutting width 2.7 mm, shaft diameter 3.5 mm, working length 12cm

Qty-1 each

Straight Cutting width 3.4 mm, shaft diameter 3.5 mm, working length 12 cm.

Upturned 15 deg Cutting width 3.4 mm, shaft diameter 3.5 mm, working length 12 cm.

Jaws curved 30 deg left Cutting width 3.4 mm, shaft diameter 3.5 mm, working length 12 cm.

Jaws curved 30 deg right Cutting width 3.4 mm, shaft diameter 3.5 mm, working length 12 cm

Jaws curved 90 deg right Cutting width 3.4 mm, shaft diameter 3.5mm, working length 12 cm

Jaws curved 90 deg left Cutting width 3.4mm, shaft diameter 3.5 mm, working length 12 cm.

#### **Scissor Punch, Qty-1 each**

Straight Cutting width 1.5 mm, shaft diameter 3.5mm, working length 12 cm;

Shaft curved left Straight Cutting width 1.5 mm, shaft diameter 3.5mm, working length 12cm;

Shaft curved right Straight Cutting width 1.5mm, shaft diameter 3.5mm, working length 12 cm

Grasper Qty-1 each

Straight spoon shaped jaws Shaft diameter 3.5 mm, Working length 12cm;

Aggressive foreign body grasper Shaft diameter 3.5mm, Working length 12cm;

30 deg upturned spoon shaped Shaft diameter 3.5 mm, Working length 12cm;

Rasp and Curette;

Oval curette curved 10 deg, length 12 cm

Oval curette curved 30 deg, length 12cm

Rasp straight, narrow, fine working length 12 cm

Rasp narrow curved, Working length 12 cm



## Specification of ACL Set.

Instruments set for bone tendon bone as for soft tissues

### Tibial tunnel Guide Anterior Cruciate Ligament

Variable angle, tunnel angle between 40 deg and 60 deg.

With specially designed tip for viewing the exit of the target wire from above before placement

With special fixation mechanism for secure and continuous fixation of the guide pin in every position

The guide should have stable construction which prevents winding and torsion of the guide and provides extremely high target precision

Design should be sturdy allows absolutely no area for play between angles

Tendon Stripes 6-7 mm

### Drill Wire Qty -10

Diameter 2.4 mm

Length 32 cm, pyramidal shape

### Headed Bone Drill Qty- 1 each

Diameter 4.5,7,8,9,10 and 11 mm

Should have marking

Cannulated, for use with drilling wire, diameter 2.4 mm

Tendon Striper:

Diameter 7 mm

Length 30 cm

Should have length marks on the stripper for measurement of the length of the graft

Tendon thickness Tester Qty- 1

For determination of tendon thickness from 6mm to 10.5 mm in 0.5 mm increments

Should provide precise thickness measurement with a flap mechanism to measure the graft when it is tensed on the graft board

No threading through the tendon or the bone block should be required

Femoral tunnel Guide, Anterior Cruciate Ligament Should consist of Qty-1

Handle Qty-1

Attachments for 4,5,6,7,8 mm offset

Qty-1

Curette, oval, large, curved 10 deg, length 13 cm

Qty-1

Rasp narrow curved, fine serration , length 13 cm

Qty-1

Tendon hook

Qty-1

Tendon Board for cleaning and preparing the graft

Qty-1

Graduated scakle for measurement of the graft

Facility for preparation and initial tensioning of the graft.

Marking for the determination of the graft portion in the femoral tunnel intraarticular and tibial tunnel

Including a retainer for femoral fixation button

Thread Clip

Qty-1

Length Gauge

Qty-1

Graduated

Length 23 cm

Thread Hook

Qty-1

Drilling wire with eye

Qty-5

Diameter 2.4 mm

Length 38 cm, spiral-shaped polishing

Specifications of PCL Instruments

Tibial target guide for PCL

Qty-1

Femoral PCL aimer, graduated,

Qty-1

length 14.5 cm

Awl for PCI, 1.5 mm dia 4mm, length 20 cm  
 Raspatory, crescent shape, length 13 Qty-1  
 Blunt spoon for PCL with T shaped handle Qty-1  
 Suture retriever for PCL with T shaped handle Qty-1  
 Instruments for meniscus repair  
 inside techniques of meniscus repair for posterior horn area of lateral and medial meniscus. Suture material used with the set should be monofilament 2-0 to 2  
 Handle for suture attachments  
 Wheel attachment to roll suture  
 Suture attachment straight, hook shaped, length 13 cm  
 Suture attachment angled 180 deg right, length 13 cm  
 Suture attachment angled 180 deg left, length 13 cm  
 Suture attachment angled 360 deg right, length 13 cm  
 Suture attachment angled 20 deg upward, length 13 cm  
 Suture attachment angled 20 deg upward, length 14 cm  
 Cannula to use with suture attachment  
 Obturator Cannula  
 Knot pusher  
 Suture curette, for retinaculum suture with handle  
 Thread grasping forceps  
 Mobile Video Trolley  
 Mobile video trolley rides in 4 antistatic dual wheels.  
 Wheel diameter not less than 12 cm  
 Two equipped with locking breaks  
 One camera head mount  
 Integrated power board provides connection to all units.  
 Channel inside the stands to avoid hanging of the cables.  
 One drawer with lock  
 Should have inbuilt arm for 26 inch TFT monitor  
 One adjustable swivel arm for monitor can be mounted either on left or on right stand for touch screen  
 Arthroscopy Leg holder  
 Arthroscopy Leg holder, with Qty-1  
 Clamp 25 mm and 30 mm  
 Cushion  
 Strip for tightening

**Small Joint Arthroscope**

Wide angle Forward-Oblique scope  
 Field of view  
 Angle of View : 30 °

Diameter 2.4 mm

Length not more than 10 cm

Fibre Optic light transmission incorporated.

Standard ocular window for coupling camera head

Scratch resistance sapphire coated tip lens

Rod lens system for optimum brightness, contrast and definition

Arthroscope Sheath, rotatable

Diameter 3.5 mm

Working length 6-7 cm

With 2 rotatable stopcocks

Autoclavable, for use with telescope 30° and 70°

**Blunt obturator,**

Use with arthroscopy sheath

**Instruments for Small Joint**

Punch, straight, dia 2.3 mm, length 10 cm

Punch, 15 deg upward angled, dia 2 mm, length 10 cm

Biopsy, Forceps, spoon shaped jaws, dia 2.3 mm, length 10 cm.

Grasping forceps, dia 2.3 mm, length 10 cm.

Hook retractor

System must be having two years standard warranty and next five years CMC price must be given

System must be  
FDA or CE, ISO Certified

**(A) Full High Definition Digital Camera**

Full HD Endoscopy Camera system to be used for all Endoscopic Neuro and Spine and Endoscopic assisted Micro Neuro Surgery. The camera system should come with adapter to be attached with already existing Carl Zeiss Pentero micro scope. And out put should be seen on HD monitor in High definition quality.

The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 format for Input & Output to guarantee genuine HDTV.

### **The system should have Special Features:**

- **Visibly Improved Imaging:** CCD sensing chip should optimize image quality & Digital Source Sampling thus maximizing hi-fidelity image transmission.
- **Optimizes to Any Size: The system should have** Optical Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used.
- **Plug and Go:** The system should automatically optimize all settings. The system should be ready- to-use as soon as it is connected to the camera control unit.
- **Any Head- Any Time:** The system should have the facility to use a single camera control unit for all camera heads ( either single chip or three chip) thus minimizing preparation & maximizes interspecialty standardization.
- **The system should have USB port to capture still images in Full HD resolution as well as Video Sequences in SD to a USB mass storage device**

Camera system should be compatible with Communication Bus system for remote controlled operation of the various features of the camera along with other equipment.

### **Technical Specifications:**

- Image sensor : 3X1/3" CCD-Chip.
- Pixels : 1920 x 1080
- AGC : Microprocessor controlled
- Lens : Integrated Zoom Lens
- Video output : Composite signal to BNC socket.  
Y/C signal to S-VHS socket (2 x).  
RGB signal to D-sub socket  
HDTV signal to DVI-D socket
- Input : Keyboard input for character generator. 5- pole DIN socket.

### **Control Output/Input**

- 3.5mm Stereo Jack Plug ( ACC1, ACC2)
- Serial Port at RJ-11
- USB Port with ICM (2x).
- Mains Cord
- BNC/BNC Video Cable Length 180 cm
- S-Video (Y/C) Connecting Cable Length 180 cm
- Special RGB Connecting Cable Length 180 cm
- Connecting Cable for controlling peripheral units length 180 cm (2)
- DVI-D Connecting Cable Length 300 cm
- Keyboard with US English Character
- Power Supply:- 100-240 VAC 50/60 Hz

**Same camera head should be attached to already existing Carl Zeiss Pentero Microscope by Special C – Mount adaptor having following specifications**

### **High performance TV Adaptor for Surgical Microscopes**

### **Technical Specifications:**

- Compatibility: Surgical Microscopes from Carl Zeiss Pentero
- Focal Length: 45- 70mm
- Camera Interface- C Mount

- Microscope Interface – Connector to co-observation tube
- Dimensions (W\*H\*L): About 45 \*50\* 90 mm
- Weight: 250 - 300 g

**Features:**

- The C –Mount Interface has a rotatable clutch that permits immediate correction of the camera orientation during mounting.
- Allows easy adjustment of the camera focus for razor sharp images at both the microscope and the monitor (parfocality).
- Provides a comfortable way to enhance the depth of field of the camera image.
- Gives full control over the horizontal position of the camera image.

Allows setting of the vertical position of the camera image. With Pan and Tilt, the camera view can be adapted to the preference of the surgeon.

**XENON LIGHT SOURCE**

**Xenon 300**

- Light Sources 300 watts Xenon
- type:- Xenon 15V, 300 Watt Lamp
- Temperatures 6000K Color
- Outlets – 1 Light
- Intensity Adjustment :- Continuously adjustable either manually or automatically by cameras video output signal. Light

**Fibre Optic Light Cable.**

Thickness 4 – 5 mm Length 300 cms

**Digital Monitor : FOR HD CAMERA**

**Special Features.**

- HDTV Display in original 16: 10 HDTV format
- 1080p/50 and 1080p/80 display possible
- On Screen menu for monitor setting (English)
- Liquid crystal display
- Max Resolution 1920/1200 Pixles
- Anti reflection coated front glass
- Easy to access control buttons on the housing front.
- Dripwater protected, dustproof housing
- Low voltage protection via external 24VDC Mains power supply.
- Picture in Picture display (PIP)
- Mirror Imaging Possible
- Upto 5 different users profiles can be stored
- Medical grade FDA, UL and CE Approved.

**Specifications**

- TFT Flat Screen Monitor with stand size 26" HD
- Ratio 16:10 HD format Aspect
- Brightn

Resolution 1920/1200 Pixels	Max
Maximum viewing angle : Approximate 180° vertical	Maximum
Contrast ratio: 800 : 1	Contrast
Power consumption : Around 110 watts	Rated Power
Supply 100-240 VAC	Power
Dimensions : Approximate 625 x 425 x 100 mm	Screen
Inputs : S- Video signal to 4 pol. Mini DIN socket	Video
• signal to 5 x BNC socket	RGB
• Composite to BNC socket	Compos
• SDI signal to BNC socket	HD-
• signal to DVI-D socket	DVI
• signal to BNC socket	SDI

Accessories External 24VDC Power Supply, Mains Cord, Pedestal.

### **FULL HD IMAGE/VIDEO RECORDING SYSTEM - QTY 1**

Documentation system should have following specifications,

- User friendly work flow in built in Medical grade unit
- Sleek and compact design
- Captures still images, video sequences
- Record still images and video in FULL HD at Resolution of 1920x1080P
- Controllable via membrane buttons on front panel, camera head buttons, footswitch mouse and keyboard
- Enters patient data in combination of keyboard
- Can be installed on Cart with single screen (no additional screen required)
- Supports network storage on file servers
- Network Protocol: TCP IP/ SMB
- USB support for storage on USB drives
- Customizable print-outs for the documented information
- Quick print function for fast print of images
- HIPAA compliant
- Medical grade unit CE certified, ICE 60601-1
- Microprocessor: RIMM (AMD) Processor at 500 Mhz.
- USB Silicon Keyboard with Touchpad
- Video signal inputs: DVI-I Dual Link, HD-SDI, Composite, S-Video, RGB, YPbPr
- Video Out: DVI-I Dual link
- Video output resolution: 1920x1080, 1280x1024, 1280x720, 1024x768, 800x600, 640x480
- Internal hard drive: 320 GB
- USB ports: USB 2.0 (1 front panel, 2 rear panel)
- Network: RJ45 / connection as network drive (SMB)
- Recording formats: Videos: H.264mp4  
Images: JPG, TIFF, BMP
- Patient data: Saved as .txt file and / or in EXIF format
- Power supply: 100/240 VAC, 50/60 Hz

<u>S.no</u>	<b><u>HIP ARTHROSCOPY SET all items must be ISO/CE/US FDA certified</u></b>	<u>Qty</u>
1	<b>Guide Wire:</b>	10
	Diameter – 1.5mm, Length – 400mm.	
2	<b>Positioning Needle:</b>	3
	With Obturator, Diameter – 2.1mm, Working Length 21.3cm	
3	<b>Dilator Cannulated</b>	1
	length 310mm for use with Arthroscopy Sheath. And Guide wires.	
4	<b>Changing rod</b>	1
	for use with Arthroscopy Sheath.	
5	<b>High flow Arthroscopy Sheath with obturator:</b>	
	Diameter – 6 mm, Length – 13.5cm, Rotatable	1
	Diameter – 5.5 mm, Length – 13.5cm, Rotatable	1
	Diameter – 5 mm, Length – 13.5cm, Rotatable	1
6	<b>Obturator:</b>	3
	Blunt for use with Arthroscopy sheath.	
7	<b>Cannulated Obturator:</b>	
	With handle compatible with Arthroscopy Sheath(5.5 & 6mm).	1
	With handle compatible with Arthroscopy Sheath(5mm).	1
8	<b>Gasket Attachment:</b>	5
	Cone with Gasket for use with Arthroscopy sheath to avoid drainage of fluid.	
9	<b>Arthroscopy: Forward- Oblique Telescope</b>	1
	30°, enlarged view,	
	Diameter 4 mm,	
	Length 18cm,	
	Autoclavable,	
	Fiber optic light transmission incorporated.	
10	<b>Arthroscope: Forward- Oblique Telescope</b>	1
	70°, enlarged view,	
	Diameter 4 mm,	
	Length 18cm,	

		Autoclavable,	
		Fiber optic light transmission incorporated.	
11	<b>Target Guide: Aimer for the use in Hip Arthroscopy for portal placement, complete, along with -</b>		1
		Bullet short, 105mm	
		Bullet long, 145mm For the use with the arthroscopy sheath	
12	<b>Palpation Hook: Straight</b>		
		Graduated, Diameter 3.5mm, Length of the hook 3mm, working length 18cm.	1
		Graduated, Diameter 3.5mm, Length of the hook 3mm, working length 21.5cm.	1
13	<b>Palpation Hook: bent 20 deg</b>		1
		Graduated, Shaft bent 20deg, Diameter 3.5mm, Length of the hook 3mm, working length 20cm.	
14	<b>Palpation Hook: bent 10 deg</b>		1
		Graduated, Shaft bent 10deg, Diameter 3.5mm, Length of the hook 3mm, working length 20cm.	
15	<b>Evacuation cannula for use with arthroscopy sheath.</b>		1
16	<b>Cannula:</b>		
		Transparent, Inner Diameter – not less than 6.1mm, Length 90mm.	1
		Transparent, Inner Diameter – not less than 6.1mm, Length 120mm.	1
		Transparent, Inner Diameter – not less than 8.25mm, Length 90mm.	1
		Transparent, Inner Diameter – not less than 8.25mm, Length 120mm.	1
17	<b>Handle for Cannula with cannulated obturator compatible with all sizes.</b>		
18	<b>Housing for gasket for use with transparent cannula.</b>		3



19	<b>Gasket for use with housing of the cannula to avoid fluid leakage.</b>		10
20	<b>Mirror attachment:</b>		
		10 deg bent.	1
		40 deg bent.	1
		Handle for mirror.	1
21	<b>Hand Instruments:</b>		
		Grasper – Foreign body grasper, Length 20cm, fenestrated jaws.	1
		Grasper – Foreign body grasper, Length 20cm, fenestrated jaws with lock.	1
		Punch – Shaft 15 deg upturned, Diameter - 3.4mm, length - 20cm.	1
		Punch – Jaws 15 deg upturned, Diameter – 3.4mm, length - 20cm.	1
22	<b>Curette:</b>		
		Oval both side cutting edges bent 20 deg upward, length 180 mm.	1
23	<b>Knife:</b>		
		Curved, double edged Length not less than 18cm.	1
24	<b>Microfracturing chisel:</b>		
		Tip bent 30 deg up. Length 180	1
		Tip bent 70 deg up. Length 180mm.	1
25	<b>Half Pipe</b>		
		Handle Rotated 90deg, Handle axis 135deg, working Length 95mm	1
		Handle Rotated 90deg, Handle axis 135deg, working Length 120mm	1
		With Slim Design , Working Length 95mm	1

**The system should be USA FDA and European CE certified**

# **5- Department of Anesthesia, O.T. & ICU**

## **Technical Specifications for Anaesthesia & ICU Equipments**

### **Item No. 72      ABG Machine**

Fully automatic, upgradeable fast and latest blood gas and electrolyte combi analyzer.

Simultaneously measured following parameters: pH, pCO<sub>2</sub>, pO<sub>2</sub>, Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>, and Hematocrit (Hct) in one single machine with one single aspiration of blood sample.

Calculated parameters which includes BE, BE<sub>ecf</sub>, BB, HCO<sub>3</sub><sup>-</sup>, tCO<sub>2</sub>, cHCO<sub>3</sub><sup>-</sup>, stpH, ctO<sub>2</sub>, H<sup>+</sup>, AaDO<sub>2</sub>, Anion Gap (AG), P50, Qs/Qt, PAO<sub>2</sub>, OER, Hct(C), RI<sub>t</sub>

Sample volumes – 68 micro lit max

Sample throughput – 30 samples / hour

Fast analysis time - maximum 50 sec to results

Maintenance free electrodes with individual electrodes ON / OFF facility

Fully automatic liquid calibration of all parameters at user-defined intervals without the use of Gas equilibrated reagents, external gases, tanks & regulators. Reagents should be in separate bottle which can be individually replaceable( Not one pack system)

Continuous reagent level monitoring with graphic display.

Automatic sample device recognition.

Upgradeability for auto QC

Data display on well illuminated 5” LCD color touch screen display

Data printout on in built graphic printer

Storage facility of measured data in case of power failure.

Built in data storage facility for at least 25,000 patient results

Should have true liquid calibration.

System should not use cartridge based technology.

Built in QC analysis software for Levy Jennings

Built in barcode reader

Built in optional Auto QC facility

RS 232 interface facility

Built in Network and remote control facility

Built in voltage stabilizer for the range of 100 – 240 V / 50 Hz with 601-1 compliance

**Should be latest model and FDA approved.**

## **Item No. 73      Advanced Cardiac skill Trainer**

- Should be able to simulate real emergency scenes and all the related signs of emergency patient, such as: pupil states, artery pulse, heart rhythm, heart and lung auscultation sound, etc.
- The simulator should allow various clinical emergency measures such as defibrillation, pacing, CPR, drug therapy, etc, and the real clinical emergency instrument to be acted on the system.
- The manikin should show different vital signs changes according to different rescue measures.
- Should allow the teacher to edit required emergency cases according to clinical practice and teaching requirement for students' training.
- The manikin should allow Vital signs simulation like pupil observation, LCD pupil display with CSTN pseudo-color, 65K color, RGB; diameter range upto 9mm
- It should simulate different pupil states: normal, mydriasis and miosis and should include spontaneous carotid artery pulse, vivid reproduction of patient moaning, coughing and vomiting sound
- Should have respiration mode which should include normal breath, sighing breath, Cheyne-stokes breath, Kussmaul-kien respiration and Biot's respiration
- Airway management system should include standard oral and nasal intubation, tracheotomy, open airway by head tilt and jaw thrust
- The manikin should have an audible warning feedback if there is pressure on the teeth and should detect intubation position via auscultation
- The manikin should have a facility of CPR Operation Training which should include multiple breathing ways by mouth to mouth, mouth to nose and simple respirator to mouth, should electronically monitor airway open, respiratory times, frequency and volume, and compression times, frequency, position and Depth
- The simulator should automatically judge the ratio of respiration and chest compression and should show data in real time with English voice prompts during the entire process
- Pupil state should change to normal and should restore spontaneous carotid artery pulse after successful rescue
- Simulator should be such that it can be used with different kinds of defibrillating pacer to achieve real defibrillation and pacing
- Should have simulative defibrillation and pacing and multimedia animation to display the operation process of medical defibrillator
- Simulator should be such that it can be used with KAR/AED980 simulative defibrillating pacer to achieve defibrillation and pacing
- Defibrillation energy should be selectable, the maximum energy should not be more than 360J
- Should have real AED facility which can be used with different types of AED to achieve AED operation
- Should have simulative AED and multimedia animation to display AED operation process
- Simulator should be such that it can be used with KAR/AED98F automatic external defibrillation machine to achieve AED training and should have English voice prompts during the entire process

- Should automatically detect heart rhythm and analyze if the defibrillation is needed
- Should have Real ECG monitoring which should support different manufacturers and types of ECG monitors for real ECG monitoring
- Should facilitate simulative ECG monitoring to monitor blood oxygen with finger-piece blood detecting head
- Simulator should be such that it can be used with KAR/AEDJ116 simulative multi-parameter ECG monitor to simulative ECG monitoring
- Simulative multi-parameter monitor screen should display 2-lead ECG, saturation of blood oxygen, breath, CO<sub>2</sub>, BP (arterial BP, central venous pressure, pulmonary arterial pressure, non-invasive BP), cardiac output etc;
- Should have dozens of sounds, including normal heart sound, abnormal heart sound, normal breath sound, abnormal breath sound, normal bowel sound, abnormal bowel sound
- Simulator should allow BP measurement, venipuncture and vastus lateralis intramuscular injection
- Should have a realistic arm vein and a “pop” should be felt when entering the veins and blood flash back should indicate proper insertion
- Skin and blood vessel should be replaceable

**The system should be USA FDA / CE certified**

## **Item No. 74      Air Bed**

- Alternating inflatable air mattress / dynamic air flow mattress system with interlinked & individually replaceable cells.
- Should be able to support up to at least 160 Kgs patient weight.
- Cover of the mattress should be two way stretchable, water resistant, vapor permeable.
- Power supply 220 – 240 Volts, 50Hz, and appropriately fitted with compatible plug.
- Facility for quick deflation with CPR lever for emergencies.
- Mattress cover should be launder able.
- Height of the mattress cells should be minimum 12.5cms when fully inflated.

**The system be European CE approved/ISO/ISI Certified**

**Item No. 75 -AMBU bag (Adult)**

Manual RECUSCITATOR Quality Based

**The system be European CE approved/ISO/ISI Certified**

## **Item No. 76      Ambulatory Blood Pressure Monitor**

1. Monitor must be validated by BHS
2. ABMP must be lightweight .
3. Monitor must take less than 4 AA batteries
4. Must be able to programme at least 6 time intervals
5. Must have Windows XP compatible software.
6. Monitor shall be able to measure down to 30mmhg for diastole
7. ABMP must be able to interface to computer using a serial or USB cable
8. Software must be able to email report as a pdf .
9. Software must allow easy selection section of data to be for analysis
  
10. At least 5 sizes of cuff must be available for use with ABMP
11. Software will have inbuilt security with easily accessible log of users.
12. Software must be able to analyze data over 48hrs

**The system be European CE approved/ISO/ISI Certified**



## Item No. 77      **Bed Side Monitors (Five Para)**

1. Patient monitor system should be of modular type and capable of monitoring adult, pediatric & neonatal patients.
  2. Monitor should have 10.4” display with touch screen
  3. Should be capable of 6 traces display.
  4. Monitor must be capable of simultaneously monitoring the following parameters which should be present as standard: ECG, NIBP, SpO2, invasive pressures (2), temperatures (2)
  5. Should be compatible with 4 channel EEG, SPO2, BIS
  6. **Optional quotes for BIS Module, EEG Module and SvO2 Module to be offered**
  7. ECG should have capability for 3, 5 and / or 10 lead monitoring and should have built in arrhythmia monitoring on all leads.
  8. Inbuilt ST segment analysis and arrhythmia detection for all the leads should be possible.
  9. Alarm parameter should flash red in the presence of high priority alarms (e.g. ventricular fibrillation and asystole) and flash yellow in the presence of medium or low priority alarms (e.g. noisy signal, etc.)
  10. 24 hours trend data should be displayed.
  11. All monitors including central station should have similar user interface for easy usage among all clinicians.
  12. Monitor shall provide the capability to interact with alarms at remote bedsides.
  13. Monitor shall provide the capability to receive and display real-time waveforms, trended data and alarm status from other bedside or telemetry units on the patient monitoring network.
  14. Monitor shall provide the capability enter patient information at the bedside or central monitor.
  15. Alarm limit status (ON/OFF) must be indicated on-screen for each parameter and actual parameter alarm settings must be displayed on-screen when alarms are on.
  16. Monitor shall permit the optional ability to receive and display information from other patient devices such as ventilators, infusion pumps and other standalone devices.
  17. Bed to bed communication between the monitors should be possible with out a central station.
  18. Patient monitoring network shall use standard TCP/IP protocol and be capable of residing on hospital’s network infra-structure.
  19. Should be compatible with HIS and should be HL7 compliant.
  20. Monitor should have capability to accommodate remote viewing of real time waveforms through internet. This facility should be quoted as optional
- . Accessories and spares
1. ECG / respiration: 5 lead ECG cable and lead wire set
  2. NIBP: Adult: 1 sizes and Pediatric 1 sizes and neonatal, 1 size per monitor
  3. SPO2 Sensor: Adult sensor with cable, pediatric sensor with cable
  4. Temperature: Skin and nasopharyngeal probes per monitor.
- The system should be USA FDA / European CE approved**

## Item No. 78 Bi-Pap Ventilator

### Specifications for Non Invasive Ventilator (Bi-PAP Machine)

1: Non Invasive Ventilator with advance technology constant speed blower valve technology should have the following pressure settings and specifications:

2: Mode of Operations:

- i) Spontaneous (S)
- ii) Timed (T)
- iii) CPAP
- iv) Spontaneous/timed (ST).
- v) Assisted Pressure Control Ventilation (APCV)

3: It should have the following pressure range:

IPAP Pressure : 4 to 30 cmH<sub>2</sub>O or More

EPAP Pressure : 4 to 20 cmH<sub>2</sub>O or More

Rise Time : 25- 600 ms

Inspiratory Time setting : 0.2 to 4.0 sec

Respiratory Rate : 4-50 bpm

Target Tidal Volume : 100-2000 ml

4: Should be able to display patient data like set and delivered pressure, VT, Leak, Min Ventilation, set mode, Resp. Rate etc, Graphs for the Pressure & Flow, Advance technology for triggering and cycling throughout changing breathing pattern & Leak.

5: Unit offered should have the latest constant speed blower with valve technology to ensure better patient-machine synchronization.

6: Should be supported with inbuilt expiratory sensor at patient end and patient circuit with sensor tubing should be supplied with the machine.

7: Should have Alarm for High Pressure, Apnea, Low Minute Ventilation, and Low VT<sub>e</sub>, High Leak, & Power Off.

8: Input Power 100 VAC – 230 VAC at 50-60 Hz.

9: Should be CE Approved.

10: Machine should be supplied with following accessories:

- A) Reusable Patient Circuit with Sensor Tube: One Unit
- B) NIV Masks (Small, Med, & Large) One each
- C) Power Cord: One Unit
- D) User Manual: One Unit

## Item No. 79      **Biphasic Defibrillator with AED**

Automated external defibrillator (AED)

### **1. Description of Function**

Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.

### **2. Operational Requirements**

- 1) Defibrillator should be Bi- Phasic, light weight and latest model
- 2) Should monitor vital parameters and display them
- 3) Should print the ECG on thermal recorders.
- 4) Should work on Manual and Automated external defibrillation (AED) mode. Manual selection up to 360 J.
- 5) Should be capable of doing synchronized & a synchronized cardio version
- 6) Can be operated from mains as well as battery
- 7) Should have defibrillator testing facility
- 8) Demonstration of the equipment is a must.

### **3. Technical Specifications**

- 1) Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all Arrhythmia within a maximum energy of 360 Joules
  - 2) Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles.
  - 3) Should have Automatic Lead switching to see patient ECG through paddles or leads
  - 4) Should measure and compensate for chest impedance for a range of 25 to 150 ohms
  - 5) Should have a built in 50mm strip printer/ thermal recorder
  - 6) Should have charging time of less than 3 seconds for maximum energy. Charging indicator should be there.
  - 7) Should have bright electroluminescent display for viewing messages and ECG waveform of 4 seconds
- AIIMS Bhopal/MC/RC-EMERGENCY MEDICINE DEPARTMENT EQUIPMENT /2013-14/01 Dated : 09.09.2013 Page No. ( 79 )
- 8) Should have external & internal paddles with paddles contact indicator – for good paddle contact. Single Adult and paediatric paddles should be available.
  - 10) Should have event summary facility for recording and printing at least 250 events and 50 waveforms.
  - 11) Should be capable of printing Reports on Event summary, configuration, self-test, battery capacity etc.
  - 12) Should have facility for self-test check before usage and set up function
  - 13) Should have SP<sub>O</sub><sub>2</sub>, NIBP and ETCO<sub>2</sub> integrated facility.
  - 14) Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.
  - 15) Should have user friendly colour coded operation

### **4. System Configuration, Accessories, spares and consumables**

- 1) Defibrillator -01
- 2) Paddles Adult/Paediatric (pair) -01
- 3) Paddles –Internal (pair) -01

- 4) Patient cable -02
- 5) ECG Rolls -50
- 6) Disposable pads-10 nos.
- 7) NIBP Cuff Adult medium sized - 02
- 8) NIBP Cuff Paediatric- 02
- 9) NIBP Cuff Infants- 02
- 10) Reusable SPO2 Finger Probe-Adult -02
- 11) Reusable SPO2 Paediatric Finger Probe - 02
- 12) Complete set of ECG Leads- 02
5. Environmental factors

**The system should be USA FDA / European CE approved**

## **Item No. 80      Blood Warming System**

1. Required for **warming Blood** before transfusion to a patient
2. Should be able to warm fluid/blood to a temperature range of 37-40 C
3. Should be able to maintain the temperature up to a blood/fluid flow rate of 5 L/hour
4. Should have digital temperature display of fluid/blood
5. Should have an in-built water tank to warm the infused fluid/blood
6. Should have warm water connection till the patient end of the tubing to maintain the temperature of the infused fluid
7. Should have audible and visual alarms for tubing disconnection, low water and over-temperature
8. Should be possible to use the same equipment in both adults and children
9. Should be portable and compatible with infusion pumps
10. Should be quoted with 100 disposable, non-pyrogenic tubing's for fluid/blood infusion
11. The financial bid must include cost of all spares, accessories, consumables, etc. If an item is not quoted, it will be assumed that the company will provide it free of cost during the five years of comprehensive warranty. However, five year of comprehensive warranty will include all accessories and spares, the only exception being disposable warming tubing.
12. The firm should quote charges of CMC from 6th to 10th year.
13. Demonstration of the quoted model is essential, failing which the quotation will be rejected.
14. Warming cabinet for Intravenous fluids for operation theatre.
15. Should be made of high quality stainless steel to ensure long trouble free life time.
16. Should be provided with transparent Double insulating safety glass to enable to observe stored items from outside.
17. Should have well insulated door and cabinet for silent & low power consumption.
18. Cabinet should be provided with lockable wheel.
19. Dimensions to be around Height:  $640 \pm 20$  mm ; Width  $550 \pm 20$  mm ;Depth:  $500 \pm 20$  mm
20. Warming Temperature range from  $35^{\circ}$  to  $50^{\circ}$  .
21. Provision for at least 4 shelves and 1 drawers having a capacity for at least 5 bottle's (I.V. fluid) per shelves.
22. Should be from a reputed manufacturer with CE/US FDA+ certification for the quoted product.
23. Built- in safety features provide added Protection.
24. Operating set-point at  $41^{\circ}\text{C}$ .
25. Audible and visible system alarms if fluid temperature exceeds  $42^{\circ}\text{C}$ .
26. Audible and visible under temperature alarm. Secondary alarm systems provide fall-safe back-up.
27. Preventive machine maintenance four times in a year.
28. Response time for acknowledgment of complaint 30 minutes.
29. Response time for physical presence within one working day.
30. Uptime 355 days in a year.
31. Downtime 48 hours with a penalty of Rs.1000/- every day after downtime
32. Demonstration of equipment is compulsory.

**The system should be USA FDA / European CE approved**

## **Item No. 81      Cardiac-compression(Auto-Pulse)with CPR Ready**

1. The Cardiac support pump should be able to generate chest compression & provide consistent compression with no interruptions.
2. It should be easy to use in both Hospital and Emergency set up mainly during transportation and even on 45 degree elevation
3. It should be battery operated and extremely simple user interface.
4. It should be able to achieve uniform load distribution by squeezing entire chest.
5. The Chest compression band should have an ability to do the high quality compression.
6. It should have small LCD backlit screen to show compression modes.
7. It should have ability to automatically size the patient by calculating size, shape and compliance of every patient.
8. The system should be capable to provide both 30:2 (30 compressions and 2 ventilation pause) and continuous compression just by pressing buttons.
9. The system should come with 3 batteries, 1 Battery Charger and 3 load distributing band.
10. The battery should be made Li-Ion technology which enable to provide continuous compression of minimum 20 minutes in full charge.
11. The Device should be supplied with an latest advanced AED with following features
12. Energy Settings should conform with Latest AHA/ERC guidelines and maximum energy level should be 200 Joules.
13. The unit must include an LCD that is capable of displaying text prompts, CPR feedback for depth of chest compressions,
14. The unit must be capable of doing automatic internal tests.
15. The unit should include an easily identifiable on/off switch along with CODE READY indicator on the front of the device.
16. The unit should have ability to record data to an internal memory and to upload the same to a computer through wireless mode.
17. The unit should come with Disposable Battery
18. The unit must detect the use of paediatric pads and automatically adjust the arrhythmia analysis processing for a paediatric patient and must invoke specific paediatric Joule settings
19. The unit should have IP55 dust and water ingress rating .
20. Should be compliant with latest AHA 2010 guidelines.
21. **The system should be USA FDA / European CE approved**

## **Item No. 82      Modular Monitors with Central Monitoring Station**

### **(Central Monitoring Station for Multi Para Monitor)**

- 1 System should have minimum 16 beds capability.
- 2 Central station should have 19" colour display touch screen.
- 3 Should have drug dose and hemodynamic calculation.
- 4 It should have possible to view information such as vital sign , alarm status, arrhythmia analysis, trended parameter, patient data etc., for any selected bed from the central station.
- 5 Should have separate computer keyboard and 4 channel thermal array recorder.
- 6 Should have default alarm limits and customizable parameter settings.
- 7 Central station should have full bed review capability.
- 8 Central station should be able to configure as a bedside monitor if required.
- 9 Should have 24 hours trends.
- 10 Should have capability for HL7 interface. Should be capable of monitoring telemetry modules.
- 11 All system should have CE and US FDA certifications.
- 12 Should be supplied with a online suitable UPS.
- 13 NOTE: Price of Multipara Monitor and Central Monitoring Station should be quoted separately.

**The system should be USA FDA / European CE approved**

## **Item No. 83      Chest vibration system**

1. **Heavy Duty Chest Vibration System:** Stoking combines both horizontal and vertical forces, which produce an effective and comfortable percussion, a mobilization of waste products, An Oscillating Massage's certified.24 Volt brushless motor with internal 24 Volt /150W transformer, Variable frequency control 0-60 Cps Rolling caster stand and accessory tray Physio Kit of 4 application :-Soft Massage , Deep Massage, Trigger Point Relaxation Drainage

**The system should be USA FDA / European CE approved**



## **Item No. 84      Crash Cart**

- Overall Size: 960mm Lx500mm W x 1545mm H
- The crash cart should have 25.4mm x 18G Stainless steel tubular frame work.
- Two lockable plastic box units with 3 drawers should measure 305 mm L x 380mm D x320mm H.
- The emergency equipment cart should have the following facilities: 6 nos. Hand out bins to keep important supplies easily accessible of size approx. 110mm W x 125 mm D x 75 mm H.
- Light weight 2 nos. plastic box with three drawers each to hold emergency medicines, ambu. Bags, IV solutions, catheters, etc. separately and methodically in boxes of size approx-85 mm W 85 L 50 mm H-6 nos., -85 mm W 175 L50mm H-3 nos. and 85 mm W 255 L 50 mm H-4 nos.
- Facility to carry monitors, ECG, Suction apparatus on open areas at top centre and bottom shelves.
- Stainless steel saline rod made of 12mm dia. 304 grade S.S. approx. 750 mm long and bent at top to have an arm of 400 mm approx. at the end of which of 6 mm dia.
- SS hook shall be welded with TIG process.
- Crash cart with 125 mm dia. non – rusting castor two with brakes and two without brakes. Castor made from high grade non floor staining synthetic materials with integrated thread guards. Wheel centre having precision ball bearing to run smoothly.
- Provided with round buffer, one on each corner.
- Pull-out cardiac massage board made of MDF of minimum size 670 x 330 x 12 mm laminated on top and bottom of laminate of 1 mm and 0.6 mm respectively. MDF shall have water resistance property and it should be made from eco-friendly material.
- Oxygen cylinder stand epoxy powder coated, on one side.
- All MS parts are passed through 8 tanks pre-treated & powder coated process. All SS parts finished with Matt Polish.
- All Process Parameters to be as per documented IMS Procedures for quality assurance (ISO 9001:2008)

## **Item No. 85      Crash Carts (Resuscitation Trolley)**

1. Size - 960 L x 500 W x1545 H mm approx.
2. Trolley with 25 mm Diameter polished SS tubular frame
3. Drawers maximum number possible of adequate size (at least 6 ) of polished machined bend SS Sheet. They should have corrosion free telescopic channels. Each drawer should have drug labelling slot.
4. Flat surfaces should be stainless steel.
5. Two/three rows of hand out bins of different size & colour to hold different sizes of ampoules/vials of emergency medicine.
6. Light weight plastic box with drawers of different sizes and colours to hold emergency medicines, ambu bag, IV solution , catheters etc. (to be supplied separately).
7. Facility to carry monitor & suction apparatus.
8. Stainless steel saline rod-one.
9. Castor wheels of 12.5 cm diameter – Front two having locking arrangement.
10. Pull out cardiac massage board above drawers.
11. Oxygen cylinder stand on one side.
12. Whole crash cart should be washable.
13. All the Stainless Steel should be seamless conforming to 304 grade/ 16 gauge and polished finished
- 14. The system be European CE approved/ISO/ISI Certified**

## Item No. 86 CRRT machine

1. **Technical Specifications of CRRT Equipment :**
2. **APPLICATIONS:-**The machine is dedicated to the fully automated practice of a complete range of continuous renal replacement and fluid management therapies.
3. The machine is a fully automatic integrated unit, and able to perform the following therapies:
  - a. **GENERAL FEATURES :**
    - i. S.C.U.F - Slow Continuous Ultra Filtration.
    - ii. C.V.V.H - Continuous Venovenous Haemofiltration
    - iii. C.V.V.H.D - Continuous Venovenous Haemodialysis
    - iv. C.V.V.H.D.F - Continuous Venovenous Hemodiafiltration
    - v. T.P.E - Therapeutic Plasma Exchange
  - b. The machine is user friendly and has automated functions which include:
4. A large colour TFT-LCD touch screen and smart software for easy operator guidance.
5. Step-by-step instructions with graphical instructions on screen for easy setup.
  - a. Graphical User Interface
  - b. Keyboard function keys are provided.
  - c. An enlarged and high resolution colour screen for dialysis data display:-
    - i. High resolution LCD colour display.
    - ii. Its brightness is adjustable adaptively to the illumination of the environment.
6. The system must be user friendly. The system must with the following features:
  - a. On-screen user guidance with step-by-step screen instructions.
  - b. Integrated help function.
  - c. Auto-priming of the filter, extracorporeal blood and fluids are highly preferred so that therapy performing by non-specialized nursing staff is possible.
  - d. Flexible disposable with cassette system and filter.
  - e. Self testing of alarms and functions after priming and every 2 hours to ensure the patient's safety
  - f. Rapid and automatic priming procedure
7. The system should contain four pumps to control the flow rates of Blood, Filtrate, Substitute and Dialysate.
8. Continuous and precise fluid balance management using 4 dedicated (independent) weighing devices monitoring Pre-Blood pump, Replacement pump, Dialysate pump and Effluent pump.
9. Recording of patients' treatment history up to 90 hours.
10. Total filtrate volume, replacement solution volume, dialysate volume, pre-blood solution volume and elapsed time are shown and updated on treatment history screen in an orderly fashion for ease of recording and patient safety.
11. Continuous information of all parameters displayed on one screen including **graphical display of pressure monitoring** such as filter differential pressure and TMP (trans-membrane pressure).
12. System comes with the following :
  - a. Option for **recirculation mode**.

- b. Option to change syringe to enable heparin syringe change or enable anti-coagulation.
  - c. Option to **change therapy** without the need to change disposable set.
  - d. Option to upgrade software.
13. **Pre-connected** filter together with the tubing set (the choice of membrane of the filter used with this system should be made from Acrylonitrile69 (**AN69**) which has been proven to remove inflammatory molecules e.g. IL-6 effectively)
14. Should operate with a **low extracorporeal blood volume** which is equal or less than 152ml (93ml for Paediatric) in order to improve patient tolerance without affecting patient's haemodynamic stability and limited blood loss.
15. **Build-in dosage calculator.**
- a. Able to provide additional tool to support operator on the dosage prescription.
  - b. This helps in easy management with built-in calculator aid in providing up-to date details on treatment efficiency. Source: Dr.Ronco&Bellomo, Lancet 2000.
16. **TECHNICAL REQUIREMENTS:**
- a. The system is equipped with **four (4) separate pumps** for the following functions:
    - b. Blood Pump;
    - c. Dialysate pump;
    - d. Effluent pump;
    - e. Replacement pump
  - f. Flow Rate (*With clinical paper proven that the delivered and prescribed setting is always lower than 2%*)
    - i. Blood pump flow rate ranges between 10ml to 450ml/min with accuracy of  $\pm 10\%$  of the set rate.
    - ii. Replacement solution flow rate ranges between 0 ml to 8000ml/hr\*.
    - iii. Dialysate flow rate ranges between 0 ml to 8000 ml/hr\*.
    - iv. Pre-blood infusion pump flow rate between 0 ml to 8000 ml/hr\*.
    - v. Filtrate or Effluent flow rate ranges between 0 ml to 10,000 ml/hr.
17. **Replacement + Dialysate + PBP + Pt Fluid Removal.  $\leq 10,000$  ml/ hour.**
18. Equipped with **four (4) independent weighing scales** which allows the user to use different composition of fluids for each scale in order to ensure precision and accuracy in delivering the fluids :
- a. Pre-Blood pump Scale;
  - b. Replacement Scale;
  - c. Dialysate Scale;
  - d. Effluent Scale.
  - e. Equipped with five (5) independent pressure sensors :
  - f. Pre Filter pressure sensor;
  - g. Effluent pressure sensor;
  - h. Blood access pressure sensor;
  - i. Blood return pressure sensor;
  - j. Fifth pressure sensor port for future therapy e.g. couple filtration.
  - k. Equipped with **2 pinch valves** for the pre and post dilution capability using the same treatment set.
  - l. For CVVHDF modalities, machine should have the flexibility to use lactate based dialysate solution and bicarbonate solution simultaneously.
  - m. Alarms (**audio and visual**) and safety system includes:
    - i. Bag change information;

- ii. Pre alarm on filter clotting;
  - iii. Venous pressure measurement;
  - iv. Ultrasound air detector;
  - v. Blood leak detector;
- n. Equipped with the capabilities for connectivity and information technology: computer interface (RS232) which allows via modern connection for Remote troubleshooting; Ethernet connection with ICU network\* ; PCMCIA slot with data card to store treatment data that can be downloaded into PC\*.
- 19. \*To be developed**
- a. Pressure monitoring range:
    - i. Access line: (-) 250 mmHg to (+) 300mmHg.
    - ii. Return line: (-) 50 mmHg to (+) 350mmHg
    - iii. Pre filter line: (-) 50mmHg to (+) 450 mmHg
    - iv. Effluent line: (-) 350 mmHg to (+) 400 mmHg.
20. The system should include (integrated) infusion pump for continuous or bolus anticoagulation.
- a. Syringe type for heparin pump is calibrated with 10ml to 50ml.
  - b. **Optional blood warmer** (*can also be used as fluid warmer*)

**The system should be USA FDA**

**Item No. 87      Drip infusion pump**

Quality Based

The system should be USA FDA / European CE approved

## Item No. 88 ECG Machine

### Equipment Specifications for ECG Machine- 12 Channels

- 1 ECG Machine is primary equipment to record ECG Signal in various configurations. 12 channels with interpretation are required for recording and analysing the waveforms with special software.
- 2 The ECG Machine should be able to acquire all 12Leads simultaneously and interpret them
- 3 Should acquire simultaneous 12 lead ECG for both adult and paediatric patients
- 4 Should have Real time Colour display of ECG
- 5 waveforms with signal quality indication for each lead
- 6 Should have Artefact, AC, and low and high pass
- 7 Frequency filters.
- 8 Should have a storage memory of at least 100 ECGs with easy transfer by optional modem and data card.
- 9 Should have full screen preview of ECG report for quality assessment checks prior to print.
- 10 Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and paediatric patients
- 11 Should have alphanumeric Keyboard for patient data Entry.(virtual or hard keys)
- 12 Should have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer
- 13 Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.
- 14 Should have battery capacity of at least 30 ECGs or minutes of continuous rhythm recording on single charge
- 15 Should be able to be connected to HIS /LAN/Wireless LAN(OPTIONAL)
- 16 Should display ECG on LCD/TFT Display of 640x480 pixel resolution.
- 17 USB Support (optional) for Storage on external portable memories.
- 18 Multimode of ECG Storage capability on Floppy( min2), 150 ECG on Internal Flash Memory
- 19 ECG Machine 12 Leads with Interpretation – 01 , Patient Cable -02
- 20 Chest Electrodes Adult-(set of six) -02 sets.
- 21 Chest Electrodes Paediatric-(set of six) -02 sets each of Adult and Paediatrics-Total 4 sets
- 22 Limb Electrodes(set of 4)- 02 sets of Adult and 02 sets of Paediatrics
- 23 Thermal Paper A4 Size for 500 patients
- 24 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%

**The system should be USA FDA / European CE approved**

## **Item No. 89      Electric suction machines**

Suction cum irrigation pump high flow rate, oil less low noise (imported) diaphragm pump for simultaneous operation of suction and irrigation with pressure and vacuum gauges and flow regulator.

1. 2 x 2 Ltrs. Polycarbonate jars (Long Type) with overflow safety
2. Noise level of suction apparatus with the range of 55 dB +/- 05 dB
3. Rocker Piston Vacuum Pump with the range of 720 +/- 10 mmHg
4. Anti corrosive and Epoxy Powder Coated Mild Steel Trolley
5. Ideal for Medical / MTP / Surgical procedures
6. Heavy duty HN-65 Castors with brakes
7. Free air displacement 35 ~ 40 LPM
8. Non collapsible Suction Tubing
9. Standard 63 mm Vacuum Gauge
10. Bacterial filter fitted
11. Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS)
12. General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC;EMC-directive.
13. **The system be European CE approved/ISO/ISI Certified**





## Item No. 91      Entropy monitor

Monitor should have capability to display upto 14 Waveforms, Should have Entropy/ BIS  
Dedicated software and parameters to monitor physiological parameters of patient's in ICU  
Capability to connect Keyboard, Mouse, Remote Control, Touchscreen  
3/5/12 Ld ECG, 3 Leads Resp, 2 Temp, upto 4 Invasive Pressures, NIBP, SpO2, Cardiac  
Output, Etco2( Mainstream, Sidestream, low flow sidestream) and Spirometry  
Minimum 19 inch Medical Grade High Resolution Active matrix TFT LCD with Touch screen on  
primary display.  
Optionally able to support independently configurable secondary displays.  
Standard 8 (expandable upto 28) waveform display and upto 22 parameter box (expandable  
upto 44)  
Embedded data access software in a primary display that enables easy access to labs, X-rays,  
charting and other data at the bedside.  
Easily configurable profiles with multiple pages view  
Preferably combination of single control knob & active hot keys.  
Should be able to perform Multi-lead (upto 4) arrhythmia analysis at the bedside & during  
transport.  
Shall be able to perform (automatic and manual) & display True diagnostic quality 12 lead ECG  
analysis at the bedside with complete measurement and interpretation.  
Shall also be able to perform 12 Lead ECG analysis with 6 Lead cable with standard lead  
placements.  
Able to perform Gender Specific 12 Lead ECG at the bedside  
Customizable Auto 12 lead interval and ability to trigger 12 lead automatically on alarm  
(including ST Alarm)  
Shall be able to perform/ review continuous on-line ST analysis upto 12 leads  
Should have capability to perform realtime QT Analysis at the bedside  
Should be able to store 400 snapshots at bedside - upto 6 waveforms  
72hr Trend @ 20 sec resolution  
Should be able to detect and review Lethal Arrhythmias as well as other ventricular and Atrial  
Fibrillation as standard.  
Shall be able to perform respiration measurements using impedance variation detection and  
apnea detection.  
Shall be able to measure and display SpO2. - (Should support conditions like Low Perfusion ,  
Motion Tolerant Spo2 technology on all the beds)  
Shall be able to measure upto 4 IBP and cardiac output simultaneously  
Should be able to perform manual and automatic calculation of Pulmonary Artery Wedge  
Should have the facility to change the transducer sites without physically removing the  
transducer from one port to the other.  
Shall have colour coding for different pressure waveforms.  
Should be able to perform manual and Automatic Non invasive Blood Pressure measurements  
Should be able to set alarm limits for all the measured Parameters using single function  
Should have facility to trend all the measured parameters graphically for 24 hours with 2 second  
resolution  
Should have Audio and Visual alarms with alarm light on display.  
Should be able to use both on a Adult and Neonates. Software should be provided standard for  
all the monitors  
Capability of drug dose calculation with ability to manually add drugs.  
System shall be able to integrated fully to any third party CIS provider.  
Data should not be lost upon power failure  
The monitor should be equipped with support for local area network capable of bed-to-bed &  
bed-to-centralstation data communications.  
Able be view other patients on the network from the bedside with out the need of a central

station

Able to place the acquisition device close to the patient thereby reducing the cable cluster  
Acquisition device should have a battery back up and ability to power transport monitor for upto 1 hr

Acquisition device should have the capability to rezero the pressure transducers without the need to go the bedside

Acquisition device should be able to monitor 3/5/12 Ld ECG, Three channels of RESP, 4channels of Invasive Pressure, 2 Temperatures, NIBP, SPO<sub>2</sub>, and Cardiac output as standard. ( vendors to include all the parameters as standard in their offer)

Acquisition device should have the defib/IABP sync port Acquisition standard

Should be able to measure End Tidal EtCo<sub>2</sub> on all three modes, viz Mainstream, Sidestream, and Low flow sidestream

Should provide easy to use Spirometric monitoring for continuous analysis of respiratory flow, pressure & volume parameters during anesthesia & intensive care of ventilated patients.

Should provide adult/pediatric (<= 6.5cc dead space) & neonatal(<0.8cc dead space) flow sensors.

Peak Exp Flow, Airway Resistance, Mean Airway Pressure, Auto-PEEP, Work of Breathing (Total), Resistance-Exp(PAW), Purge Mode, Fast Look (updated every 2 sec) & Volume waveform should be standard.

Continuous Flow, Pressure, Volume Vs. Time waveform including Flow & Volume loops.

Monitor should be able to add on Level of sedation, EEG, Metabolic monitoring and Surgical pleth index, - modules can be offered as options

Shall have capability to superimpose baseline and current ECG complexes

Shall be able to transfer all patient data from bedside, including from individual modules to the transport monitor and back.

Ability to view beds on alarm automatically

Monitor shall have capability to silence alarms at bedside during night and keep the alarms active at central station.

Ability to store 12 lead ECG centrally at a ECG management system.

Ability to view 12 lead ECG with measurement and interpretation at bedside and compare interpretation with old ECGs.

Should have ability to save/restore configurations over network

Should have the capability to remotely service the monitor in the event of breakdown

Should have Entropy/ BIS

Should be upgradable to parameters like SVO<sub>2</sub>, EEG & NMT.

**The system should be USA FDA & EUROPIAN CE Approved**

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## Item No. 92 External cooling system

Cooling Therapy. An innovative treatment for cardiac arrest, acute stroke, traumatic brain injury, acute myocardial infarction and sepsis, Cooling System need for Neuroprotection by cooling the brain.

The concept of neuro-protection by hypothermia has taken a giant step into the future.

The protective effects of hypothermia are due to:

◆Reduction of cerebral metabolism,

oxygen consumption, and

glucose demand

◆Slowing of the destructive

neuroexcitatory process

◆Decrease of free radical

production

◆Stabilization of the blood-brain-

barrier

◆Reduction of the inflammatory

process

Cooling Systems consist of the following elements:

1. Specially designed garments, the Cure Wrap™, obtain maximum thermal efficiency. It achieves high heat transfer by 3-dimensional surface coverage.

The CureWrap™ is constructed of flexible yet durable materials in view of well being and comfort - for both the patient and the treating personnel. CureWrap is available in various designs and sizes, ranging from infants to adults.

2. Control Unit – Criti Cool™ is a microprocessor-controlled temperature management unit.

Using feedback from the patient's core and skin temperature sensors, the proprietary control algorithm responds by modifying water temperature such that patient target temperature will be achieved precisely.

This achieves management of patient body temperature in a non-invasive, effective and precise manner.

Cooling Improves Neurological Outcome and Reduces Mortality

Cardiac arrest - Hypothermia after cardiac arrest has been proven to:

Improve neurological outcome by 16%

Reduce mortality by 14%

ILCOR and AHA have use of therapeutic hypothermia for patients after cardiac arrest. This treatment has become part of routine practice in medical centers worldwide.

Stroke - Therapeutic hypothermia shows promising results as a neuro-protectant in improving outcome of patients suffering from ischemic stroke. A decrease in brain temperature has been shown to reduce

ischemic brain injury and to decrease brain edema and intracranial pressure.

Traumatic Brain Injury (TBI) -

Several studies have shown that hypothermia results in better patient outcome by significantly reducing ICP and limiting secondary brain injury after severe head trauma.

Uncontrolled Hyperthermia -

Fever is very common in patients with neuronal injury and is associated with poor outcome. Even minimal increases in temperature have harmful effects on injured brain tissue.

Therefore measures should be taken to control temperature.

Asphyxia and Hypoxic-Ischemic Encephalopathy -

Asphyxia is when there is less than normal oxygen delivered to the body or an organ and there is build up of carbon dioxide in the body or tissue. Not enough blood flow to an organ can cause asphyxia.

**The system should be USA FDA**

**Item No. 93      Extra-Corporeal Membrane oxygenation  
system**

Quality Based

The system should be USA FDA

## **Item No. 94      Hyperbaric oxygen therapy**

The Hyperbaric oxygen therapy should have following specifications : -

1. The system should be designed, constructed and tested in accordance with the requirements of ASME PVHO-1, the safety standards for Pressure Vessels for Human Occupancy of the American Society of Mechanical Engineers, and should meet the requirements of the National Fire Protection Association (NFPA) for hyperbaric and healthcare facilities.
2. The system should be FDA approved with 510 (K) certification (for medical prescription) and carry CE mark (Medical Device Directive & Pressure Equipment Directive).
3. The system should have a single compartment chamber having a clear, seamless, cast acrylic structure and should provide excellent observation of the patient
4. The chamber should have a internal diameter of either 30 inch or more and internal length of min. 89 inch for placing the patient comfortably in supine position.
5. The Monoplace Hyperbaric Chamber System should have inbuilt 2 independent, fully redundant chamber control systems consisting of
  - a) Computerised touch screen control for the primary automatic operation of the chamber
  - b) Manual pneumatic system serving as backup with equal performances and control.
6. The control system should have the facility to select curvilinear compression & decompression protocol to reduce incidence of barotrauma substantially.
7. Gas – flow related operating parameters should be:
8. Pressurization Rate - Adjustable from 0.5 to 5 PSI / min upto 3 ATA
9. Depressurization Rate - Adjustable from 0.5 to 5 PSI / min.
  - a) Emergency depressurization from 3 ATA to ambient with in 60 sec or less.
  - b) Design working temperature is required to be upto 100 °F
  - c) The chamber should have safety interlock to prevent accidental door opening while chamber is under pressure.
10. Should have facility to adjust chamber ventilation rate at any time during treatment without any interruption
11. Should have adjustable ventilation rate of 90 lpm (min) upto 400 lpm (max.) for the optimum use of oxygen.
12. Should be equipped with gas supply panel to select 100% oxygen or compressed air as gas supplied to the chamber
13. Should be equipped with air break assembly with mask to provide air breaks.
14. The system should provide reproducible treatment protocols, should also store treatment records for review & analysis.
15. Should have facility to programme at-least 30 treatment profiles with upto 18 – 20 segments.
16. Should have inbuilt colour LCD touch screen for parameters setting and constant display of actual & planned treatment profile
17. Should have facility to programme and save the treatment profiles by drawing the treatment segment on the touch screen resulting automatic calculation of cycle parameter.
18. Should have facility to connect a printer to provide printout, summary of treatment profile selected, set parameters event marker entries and treatment given.
19. Should have a two-way voice communication and entertainment system, operating at less than 15 VDC, to ensure that power levels in the chamber are safe for pure oxygen environments in accordance with NFPA standards.

20. The chamber should have integrated connectors and attachments for upgradation with
  - a) Monitor & support equipment such as Infusion Pump,
  - b) Ventilator,
  - c) TCOM etc.
21. Should have provision for patient to be grounded to the chamber.
22. The system must be provided with adjustable-height trolley with litter complete with mattress and pillow made of the fire-resistant and anti-static material. Patient trolley should be equipped with castors with brakes.
23. Trolley should be equipped with side rails & IV Rod.
24. System should be supplied with a wedge pillow to raise patient's torso & head from horizontal.
25. The supplier should take responsibility
  - a) To install and start-up the system, and
  - b) To perform operational training that includes standard and contingency operation, as well as basic care of the system.
  - c) Two years comprehensive warranty.
26. Firm should have experience in installation of the same unit in India & the past experience with the firm regarding installation and after sales service of this unit in Govt. Hospital will be given utmost importance.

27.

**The system should be USA FDA**



**Item No. 95      Intermittent leg compression machine**

Quality Based

The system should be USA FDA

**Item No. 96      Intra-aortic balloon pump**

Quality Based

The system should be USA FDA

## **Item No. 97      IV fluid warmer system**

1. Required for **warming fluids** before transfusion to a patient
2. Should be able to warm fluid/blood to a temperature range of 37-40 C
3. Should be able to maintain the temperature up to a blood/fluid flow rate of 5 L/hour
4. Should have digital temperature display of fluid/blood
5. Should have an in-built water tank to warm the infused fluid/blood
6. Should have warm water connection till the patient end of the tubing to maintain the temperature of the infused fluid
7. Should have audible and visual alarms for tubing disconnection, low water and over-temperature
8. Should be possible to use the same equipment in both adults and children
9. Should be portable and compatible with infusion pumps
10. Should be quoted with 100 disposable, non-pyrogenic tubing's for fluid/blood infusion
11. The financial bid must include cost of all spares, accessories, consumables, etc. If an item is not quoted, it will be assumed that the company will provide it free of cost during the five years of comprehensive warranty. However, five year of comprehensive warranty will include all accessories and spares, the only exception being disposable warming tubing.
12. Demonstration of the quoted model is essential, failing which the quotation will be rejected.
13. Specifications:-
  - Warming cabinet for Intravenous fluids for operation theatre.
  - Should be made of high quality stainless steel to ensure long trouble free life time.
  - Should be provided with transparent Double insulating safety glass to enable to observe stored items from outside.
  - Should have well insulated door and cabinet for silent & low power consumption.
  - Cabinet should be provided with lockable wheel.
  - Dimensions to be around Height:  $640 \pm 20$  mm ; Width  $550 \pm 20$  mm ;Depth:  $500 \pm 20$  mm
  - Warming Temperature range from  $35^{\circ}$  to  $50^{\circ}$ .
  - Provision for at least 4 shelves and 1 drawer having a capacity for at least 5 bottles' (I.V. fluid) per shelves.
14. Preventive machine maintenance four times in a year.
15. Response time for acknowledgment of complaint 30 minutes.
16. Response time for physical presence within one working day.
17. Uptime 355 days in a year.
18. Downtime 48 hours with a penalty of Rs.1000/- every day after downtime
19. Demonstration of equipment is compulsory.

**The system should be USA FDA / European CE approved**

## Item No. 98 Syringe Infusion Pump

Should have three kinds of modes: Rate Mode, Time Mode, and Body Weight Mode.

- Should have unique door free structure: Avoiding problem of pump stock and fluid leakage.
- Should have Double CPU: making the process of injection safer and more reliable.
- Should have accurate infusion: Precise control of the infusion rate & infusion volume.
- Should have Flow rate range: 1.0ml/h-2000ml/h.
- Should have driven & step motor: No pulsating wave will be reduced even during low rate infusion.
- Should have Alarm is given in the following situations: Infusion Completion, Occlusion, Low battery, Air bubble, Installation error when there is malfunction or operation error, and the machine stops running automatically.
- Should have KVO rate can be selectable according to concrete requirements from 1.0ml/h to 5.0 ml/h.
- Should have Wireless Module Control: When used with SK data collector terminal, the infusion information will be transferred to the infusion supervision system in order to ensure the patients safety.
- Should have Displayed information: Rate, Vol Limit, Battery charge indicator, AC power indicator, Over, OCCL, Air, Bed no.
- Should have Infusion rate range: 1.0 – 2000ml/h.
- Should have Batter Accumulated injection volume 0.1ml-9999.9ml.
- Should have Infusion accuracy: +\_ 3%

### Equipment Specifications for Syringe Infusion Pump

#### 1. Description of Function

1. Syringe Infusion Pump provides uniform flow of fluid by precisely driving the plunger of a syringe down its barrel. It provides accurate and continuous flow rate for precise delivery of I.V. medication in critical medical care.

#### 2. Operational Requirements

2.1 The syringe pump should be programmable, user friendly , safe to use and should have battery backup and comprehensive alarm system. This should be able to integrate in the HIS

2.2 Demonstration of the equipment is essential.

#### 3 Technical Specifications

3.1 Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.

- 3.2 Bolus rate should be programmable to 40 – 500 ml/hr or more with infused volume display. Reminder audio after every 0.5 ml delivered bolus. SAVE last Bolus rate even when the AC power is switched OFF.
- 3.3 Display of Drug Name with a provision of memorizing 10~15 names by the operator
- 3.4 Keep Vein Open (KVO) must be available 1.0 ml/hr or set rate if lower than 1.0 ml. User should have choice to disable KVO whenever desired.
- 3.5 Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg
- 3.6 Must Work on commonly available ISI/CE/FDA APPROVED/CERTIFIED 20, 50/60 ml Syringes with accuracy of minimum of +/-2% or better.
- 3.7 Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc.
- 3.8 Anti bolus system to reduce pressure on sudden release of occlusion
- 3.9 Should have comprehensive alarm package including: Occlusion limit exceed alarm ,Near end of infusion pre-alarm & alarm, Volume limit pre-alarm & alarm, KVO rate flow, Low battery pre-alarm and alarm, AC power failure, drive disengaged and preventive maintenance.
- 3.10 Rechargeable Battery having at least 5~6 hour backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.
4. System Configuration Accessories, spares and consumables
  - 4.1 Syringe Infusion Pump -01
  - 4.2 Mounting device/ Docking Station for two or four pumps as per requirement so as to enable to power up to 2-4 pumps with one power cord when mounted on IV pole. -01
5. Environmental factors
  - 5.1 Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
  - 5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
  - 5.3 The unit shall be capable of being stored continuously in ambient temperature of 0 -500 C and relative humidity of 15-90%
6. Power Supply
  - 6.1 Power input to be 220-240VAC, 50Hz
7. Standards, Safety and Training
  - 7.1 Should be FDA or CE approved product
  - 7.2 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
  - 7.3 Manufacturer should be ISO certified for quality standards.

7.4 Certified for meeting IEC60601-2-24:Particular requirements for the safety of infusion pumps and controllers

7.5 Should meet IEC 529 Level 3 (IP3X) (spraying water) for enclosure protection, water ingress.

7.6 Electrical Safety Classification Class I/II, Type CF and Internally powered equipment.

7.7 Certified for meeting IEC 60601-1-4 Medical electrical equipment - Part 1-4: General requirements for safety - Collateral Standard: Programmable electrical medical systems

7.8 Comprehensive warranties any of the government institutions in last two years.

2. It should have color coded modules to avoid inserting wrong cables or leads.

3. It should have bright, highly visible minimum 12 inch flat Touch screen color TFT medical grade display of the parent company preferably with 1024 x 768 line resolution for easy viewing from a distance.

4. It should have the capability to be operated through both Touch screen and Trim Knob interface.

5. It should have the capability to display at least four real time waveforms along with related numerical parameters on a single screen.

6. The size of the numeric and waveforms should be adjustable to become larger for viewing from very long distance.

7. It should have continuous 12 lead ECG monitoring facility through 5 or 10 lead cable including 12 lead ST segment analysis with 12 lead ST mapping facility.

8. It should have minimum 48 hours of Graphical, tabular and horizon trending facility.

9. It should have advanced multi-lead arrhythmia analysis capability

10. It should have configurable screen configurations for various monitoring settings like emergency, general monitoring, 12 lead screen etc.

11. The monitor should facility to be connectable to central nursing station and should use a single network for all kinds of networking with the central station or the other hospital systems.

12. The monitor should be facility to be upgraded for connectivity to the other diagnostic and administrative systems for 5 years and provision of CMC for next 5 years.

7.9 Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

8. Documentation

8.1 Certificate of calibration and inspection from factory.

8.2 List of Equipment's available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.3 User Manual in English

8.4 Service manual in English

8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

8.6 List of important spare parts and accessories with their part number and costing.

8.7 User list to be provided with performance certificate.

8.8 Performance report in the last 5 years from major hospitals should be enclosed.

**The system should be USA FDA / European CE approved**

## Item No. 99 Low Temperature H<sub>2</sub>O<sub>2</sub> Plasma Sterilizer

1. Should provide simple and fast sterilization of medical devices at low temperature using Hydrogen Peroxide Plasma sterilization technology
2. Should be suitable for sterilization of metal & non metal medical devices like flexible endoscopes, rigid endoscopes, metal & plastic lumen items heat & moisture sensitive instruments etc.
3. Should be able to sterilize lumens of internal diameter 1mm or above steel lumens up to 50 cm length and plastic lumens upto 200cm length without use of any additional accessory/consumable like boosters/adapters
4. Usable volume of chamber should be at least 125 liters.
5. The chamber should be rectangular shaped enabling max. usage of chamber volume.
6. Sterilization temperature should not be more than 50 deg C.
7. Should have selectable pre programmed sterilization cycles for different types/ quantity of load with max. sterilization time not more than 50 min.
8. Should use minimum quantity of sterilant to ensure safety of instruments
9. Should detect excess moisture thus eliminating chances of contamination due to residual bio burden
10. Should have touch screen LCD display for controlling & monitoring the sterilization process.
11. Should have storage facility for at least 4000 sterilization cycle for recall & printing.
12. Should have foot switch for convenient door operation
13. Should have inbuilt thermal printer for printing cycle details.
14. Should be easy to install without any civil / plumbing work and should be mobile on wheels for easy movements.
15. Should conform to international safety & quality standards ISO13485, FDA/CE
16. Should be supplied with following
  - a. Instrument Tray / appliance box - 02 nos
  - b. Sealing Machine - 01 No.
  - c. Biological Indicator Incubator - 01 No.
17. Should be supplied with following consumables sufficient for atleast 100 sterilization cycles as follows
  - a. Sterilant bottle / Cassette for 100 cycles.
  - b. Chemical Indicator Strips- 250 Nos.
  - c. Chemical Indicator Tape (40m)-02 Rolls
  - d. Packing Paper for wrapping instruments (with chemical indicator) different sizes.

75mm x 80m	1 roll
100mm x 80m	1 roll
150mm x 80m	1 roll
200mm x 80m	1 roll
300mm x 80m	1 roll

    - I. Biological Indicator- 30 Pcs.
    - II. Wrap Cloth (1.2m x 1.2m) 150 Pcs
    - III. Printer paper 15 rolls

**The system should be USA FDA / European CE approved**

## **Item No. 100 Minimally invasive cardiac monitor**

- 1 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
- 2 Power input to be 220-240VAC, 50Hz fitted with Indian plug
- 3 Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms .(OR EQUIVALENT BIS Standard)
- 4 User Manual in English
- 5 Service manual in English
- 6 List of important spare parts and accessories with their part number and costing
- 7 Certificate of calibration and inspection.
- 8 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
- 9 The job description of the hospital technician and company service engineer should be clearly spelt out
- 10 List of Equipment's available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

**The system should be USA FDA / European CE approved**



## **Item No. 101 Nerve Mapper/Locator/Stimulator**

1. Should be suitable to identify peripheral nerves and giving percutaneous stimulation in neuro muscular block.
2. Should have a percutaneous monopolar/ bipolar stimulating handle for localization of nerves without puncturing the nerve which should be autoclavable.
3. Should have selectable stimulation intensity ranging from 0-60mA in steps 0.1mA
4. and stimulation impulse width from 0.3ms,0.5ms and 1.0ms
5. Should continuously measure & display actual current passing through the patient and selected current.
6. Should have pause function to interrupt stimulation without delivering impulses test function
7. Should allow switching between invasive and percutaneous nerve stimulations
8. Should automatically switch off with a acoustic warning if not operated over a period of 20 mins
9. Should have LCD display for stimulation current, impulse pattern, pulse width, impulse amplitude.
10. Should have analog and digital display of selected current and actual current.
11. Should have membrane touch pads for choosing stimulation function
12. Should be small (pocket size) & light weight.

### **Should be supplied complete with**

- Adapter with extension cable
- Percutaneous Stimulating Handle
- Plexus Cannula with Thin polymer insulation coating (Teflon coating not desirable) 22G,24G, 25G - 10 nos. each
- 9 volt rechargeable battery with charger

**The system should be USA FDA / European CE approved**

## Item No. 102 Pasteurization system

1. Should be suitable for washing & disinfection of semi critical items of respiratory care & anesthesia/ operating room by pasteurization.
2. Should provide high level disinfection at 70 – 75 deg C.
3. Should require only simple tap water for washing & disinfection.
4. Should have internal heaters to heat the water to a desired temperature.
5. Should have a 30 min wash cycle constituting 6 steps to remove gross contaminants.
  - a. Filling, b. Jet spray washing, c. Rotary washing, d. Drain & rinse, e. Rotary Rinse
6. f. Final rinse
7. Should have a 30 min pasteurization cycle at 71°C to 75°C with hot water constituting 3 steps
  - a. Filling cycle, b. Basket rotation cycle, c. Draining cycle
8. Should have vertical basket rotation during washing and pasteurization cycle for release of trapped air from coiled tubes and other hollow parts.
9. Should provide full submersion of the load during pasteurization cycle.
10. Should have integrated power hoist to load items in the chamber.
11. Should have facility to select full wash – pasteurize cycle or part of the cycle.
12. Should have prompt / signal to indicate cycle progress and time remaining.
13. Should have removable separate baskets for different loads.
14. Should have a recorder to provide summary of every pasteurization cycle, time & temperature.
15. Should be eco friendly, simple and easy to use.
16. Dimensions : 30”(W) X 32” (D) X 65” (H) inches (approx.)
17. Should have a minimum load capacity of 2.5 cubic feet or more.
18. Should meet international / US federal safety and quality standards.
19. Should be supplied complete with
  20. Small basket 4” 2 nos.
  21. Large basket 8” 1 no.
  22. Bag for Small parts 4 nos.

### **Should be supplied with sterile drier with following specifications:**

- Should be suitable for drying of respiratory accessories, hollow tubes, breathing bags and instruments.
- Should be made up of Aluminium for long life and prevention from corrosion.
- Should be equipped with spun fiber prefilter to remove airborne particles.
- Should be equipped with HEPA filter to remove bacteria larger than 0.3 micron.
- System should conform to standard 209b for HEPA filter leak testing.
- Should provide forced vertical airflow to speed up the drying process.
- Should have insulated return plenum in wall for hot air recirculation providing faster drying and saving electricity.
- Should have micro processor based temperature controller with adjustable temperature for heat sensitive parts & varying load requirements.
- Should have automatic timer switch (setting upto 4 hours).
- Should have slide through tube holders & trays which can be easily rearranged depending on the load requirement.
- Tube holder should hold atleast 30 tubes at a time.
- Should also be supplied with removable breathing bag drier to dry atleast 16 bags of any size at a time.

- Should have see through doors for clear visibility of the loads.
- Should be supplied complete with Nylon coated trays full size – 9 nos.
- Should meet international / US federal safety and quality standards.
- Dimensions 115 x 50 x 215 cm

1.

**The system should be USA FDA**

## **Item No. 103 Patient positioning system**

1. Should consist of vaccum pad filled with plastic beads capable of taking any shape as per positioning needs.
2. Should be easy to use using vaccum line / vacuum pump.
3. Should be supplied with manual Vaccum Pump
4. Should provide quick stable and comfortable patient positioning during all kind of surgeries without forcing the patient into a strained position.
5. Should mold firmly to shape of the patient body providing uniform support to all body parts and preventing pressure injuries.
6. Should facilitate maneuvering patients arm and legs without needing to change position of the system.
7. Positioning pad should be made up of soft latex free PVC fabric
8. Should be radiolucent and easy to disinfect using common liquid disinfectants.
9. Should be supplied complete with Pads in 7 different shape and sizes
  - **U Shape** (40 X 30 cm) For Head immobilization and Neck Support
  - **TShape with flaps** (85 X 70 cm) – For Back Support
  - \* **Small, with Ushape cutout** (45 x 50 cm) For Thyroid Position
  - **Medium, with Ushape cutout** (70 X 90 cm) – For Kidney Position
  - **Large, with Ushape cutout** – (95 X 90 cm) For Frog Leg Position
  - **ExtraLarge, with Ushape cutout** – (115 X 90 cm) For Lateral Position and Shoulder Access
  - **Large rectangle** – (75 X 190 cm) For Full body support

**The system should be USA FDA / European CE approved**

## Item No. 104 Patient warming system

1. Should be suitable for intra-operative applications.
2. Should consist of active warming arm-cum-shoulder section, pair of leg segments and abdominal segment to cover the entire body.
3. Should be based on semiconductor polymer foil for precise warming of entire patient body during & after surgery.
4. Size                      Abdominal Segment                      :                      (40-45) cm x (85-90) cm  
                                    Arm & Shoulder Section                      :                      (170-175) cm x (30-35) cm  
                                    Leg Segment                      :                      (40-45) cm X (85-90) cm
5. Control unit should be capable of warming minimum four segments at a time.
6. Control unit should have Color TFT touch screen for easy operation.
7. Control unit should have touch screen display to select & display temperature of all segments at a time.
8. Control unit should automatically detect the number of segments which are connected to the unit and display the same on the screen.
9. Should offer precise digital temperature control with selectable temperature range of 37 to 40° C in steps of 0.1°C
10. Arm cum shoulder segment should be divided in two sections capable of being switched ON or OFF independently depending upon the nature of surgery and condition of patient.
11. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen.
12. Should also have on screen graphical display of patient body temperature for the entire duration of surgery.
13. Should have facility to independently adjust the temperature of individual segment.
14. Should have a provision to connect whole body blanket, pediatric size blanket, jelly based warming mattress / pad to the same control unit for future requirement.
15. Should have safety features such as Automatic check, Precise temperature control between warming system and patient, Autostop on detecting any problem
16. Should have non latex anti-bacterially coated, blood and fluid Resistant, washable and replaceable covers
17. The control unit should be light weight and small in size, easily attachable to IV rod/OT table with fixing claw.
18. Should have low energy consumption and noiseless operation

**The system should be USA FDA / European CE approved**

## Item No. 105 Patient Shifting

1. Should have three sectional mattress base made of X Ray translucent high pressure laminate
2. Should have facility to insert X Ray Cassette from either sides & ends of the trolley.
3. Should be able to X Ray the patient from positions along the entire length and width of the trolley.
4. Should have pneumatic stepless adjustment for back section, Trendelenburg, reverse trendelenburg and foot section.
5. Should have hydraulic height adjustment with a foot pedal on either side of the trolley
6. Should be convertible to chair position.
7. High pressure laminate mattress base should be lift-able for easy cleaning and disinfection of the x-ray platform.
8. Frame should be made up of epoxy powder coated steel.
9. Should have Central braking system with steering facility, heavy duty castors diameter 150 mm or more.
10. Should have facility to fix IV rod at all the four corners and middle of mattress base frame.
11. Should have place for fixing 'B' Type Oxygen Cylinder.
12. Should meet international quality directives such as CE, ISO 9001 & ISO 14001.
13. Should be supplied with standard accessories such as
  - Anti static Hygienic Mattress (80mm) with pull straps, 01 pc
  - Collapsible Side Rails, (detachable) 01 pair
  - I.V. Rod (height adjustable with self locking facility) 01 pc
  - Cylinder Holder for 'B' Type Oxygen Cylinder. 01 pc

### Dimensions :

Max. Length	:	205 cm or better
Max. Width	:	75 cm or better
Height	:	Min. 54 cm or less Max. 90 cm or better
Trendelenburg	:	14 deg or better
Anti Trendelenburg	:	6 deg or better
X ray viewing area	:	entire length

**The system should be USA FDA / European CE approved**

**Item No. 106 Plasmapheresis**

Quality Based

The system should be USA FDA / European CE approved

## Item No. 107 Patient Transfer System

- Should have flat sheet design with pull straps for optimum supports for safe & smooth patient transfer To & From OT Table, Beds, Trolley, Stretcher without need for lifting the patient
- Should be made up of long – life, low friction fabric and should be suitable for even heavy patient transfer.
- Should be washable.
- Patient transfer sheet for lateral transfer and safe repositioning of patient.
- Easy to put in place & remove from underneath the patient.
- Should be supplied with following
  - a) Slide sheet - Size 725mm X2000mm - 1No.
  - b) Slide sheet - Size 725mm X1725mm - 1No
  - c) Transfer Roll – Size1960mm Ø 433mm – 1No
  - d) Pull straps – 650mm (L) – 08No.

e)

**The system should be USA FDA / European CE approved**



## Item No. 108 Portable X-ray machines with DICOM system

- 1 High frequency microprocessor controlled Portable X Ray system with Computed Radiography system having following features:
  - 2 Compact, lightweight, easily transportable mobile High Frequency X-Ray unit with integrated CR system suitable for bedside x-rays, trauma, Intensive care units, Operations theatres and Radiology department.
  - 3 The unit should be fully counterbalanced and can be positioned to suit different bed heights. The unit should have facility of vertical swing and horizontal rotation of the tube head to ensure X - Ray of any anatomy even within limited space.
  - 4 The unit must have an effective braking system for parking and transport.
  - 5 The exposure release switch should be detachable with a cord of sufficient length (at least 3 m)
  - 6 The unit should have integrated cassette box of size 542 mm (W) x 420 mm(H)
  - 7 The Generator:
  - 8 Microprocessor controlled high frequency / inverter type of high frequency (40 KHz or more) for constant output.
  - 9 It should have power rating of at least 4 kW or more
  - 10 It should have a digital display of mAs and kV.
  - 11 KV range : 40 kv to 100kV or more
  - 12 mA range: 10 mA to 100 mA or more
  - 13 KV selection: 40 kV to 100 kv, selectable in 1 kV steps
  - 14 mAS selection: 0.1 to 250 mAS
  - 15 Exposure time of 10 ms to 5 sec
  - 16 It should have over loading protection.
- X-Ray Tube and Collimator:
- 17 Stationary anode and focal spot size should be less than 2mm.
  - 18 Output of tube should match with that of generator.
  - 19 Light Beam diaphragm Collimator of multi leaf type with auto cut off switch. The light intensity shall be at least 160 lux at 1 mtr distance from focal spot.
  - 20 The unit should operate on single phase power supply and should have plug in facility to any standard Indian wall outlet with automatic adaptation to line voltage 200 to 240 volts, 15 Amp plug.
  - 21 The Systems should be fully safe with respect to
    - Over current
    - Over Voltage
    - Maximum loading of tube
  - 22 The System should be supplied with Computed Radiography system having following features:
  - 23 High resolution CR system should be completely integrated with the main mobile X Ray unit.
  - 24 CR should be mounted on the main Mobile X-Ray unit & the total combined weight of unit should be less than 130 kgs

- 25 Should have imaging plates fixed to rigid back panel and nothing touching the active area of phosphor plate to ensure superior image quality and durability of the system.
- 26 Should have comprehensive software with facility of smart search, sort, filter options, full set of annotations, measurement tools and user preferred settings.
- 27 Gray scale resolution: 16 bits/Pixel source file or more, 65536 shades of Grey
- 28 Data acquisition process should be True Flat Scan Path
- 29 Image access time: 40 seconds or less
- 30 The system should be DICOM & PACS compatible
- 31 Provision to attach laptop
- 32 Manufacturer / supplier should have ISO certification.
- 33 Should be an AERB approved product
- 34 Essential Accessories: The following essential accessories to be provided with the unit.
- 35 Online UPS of required capacity, compatible with the unit, to take care of the power failure, for at least 30 Minutes back up for the whole system, the capacity of the UPS should be specified
- 36 Lateral cassette holder – One.
- 37 CR compatible Cassettes - one each of size 10” X 12” (25X30cm) and 14” X 17” (35X43cm)
- 38 Optional accessories: Dry Laser (photo thermo graphic) Printer with 100 Micron printing with Automatic density correction.
- 39 Should comply with AERB or BIS or ICRP Guidelines for radiation leakage and X-Ray equipment's.

**The system should be USA FDA / European CE approved**

## Item No. 109 - Radiofrequency Generator

- 1 Pain management RF Generator should be suitable for treatment of chronic spinal pain including discogenic, sacroiliac joint, thoracic & lumbar Z joint pain.
- 2 Should be able to perform standard RF & pulsed RF Lesioning while maintaining nonlethal temperatures
- 3 Should have automatically adjusted power to attain set temperature and ramp rate to set temperature in standard RF Mode.
- 4 Should have manually adjustable power to obtain desired temperature in both the standard and Pulsed modes.
- 5 Should give visual confirmation of stimulation output and user friendly descriptive messaging.
- 6 Should have facility to perform Cooled R F procedures without using additional temperature sensing probes, providing large volume spherical lesions without tissue charring
7. Should be complete including the cooling unit, disposable probe kit for performing cooled RF Transdiscal & Intradiscal procedures.
8. Should be upgradable in future to perform multiple RF treatment by providing lesions simultaneously at 4 different site with independent impedance monitoring of all 4 probes during procedure
- 9 Should have touch screen LCD display to view and select the various parameters like temperature, power, voltage impedance values and online graphs of temperature and power with respect to procedure time.
- 10 The RF treatment should automatically cut off when the high impedance or low impedance is detected and give error signals with possible rectification of error.
- 11 Should verify cannula placement before lesioning using sensory and motor stimulation frequencies.
- 12 Radio frequency output should be 460.8 KHz+/-1% Quasi sinusoidal with maximum output power of 50W.
- 13 Should have Stimulation Amplitude from 0.0-10 V, 0.1V increments in voltage mode and 0.0-10mA in increments of 0.1 mA. In Current mode
- 14 The frequency of stimulation rate should be variable from 1 shot-200 Hz in 10 steps. Pulse duration of stimulation should be variable from 0.1ms-1.0 ms.
- 15 The supplier need to provide the individual prices of all the consumables/disposables required for operation of the system.
- 16 There should be provision of maintaining the complete record of patient and the software for keeping the database of each patient on a notebook PC (to be provided with system).
- 17 System should be supplied with the following
  - Pump unit for cooled RF - 01 No.
  - Transdiscal Cooled Probe kit 17gx 150 mm – 05 Nos.
  - SIJ Cooled RF Probe kit 17g x 150 mm - 05 Nos.
  - Thoracic Pain Cooled RF Probe Kit 17gx 75 mm -05 Nos.
  - RF Probes Length 54mm, 100mm and 145mm - 01 no. Each
  - RF Cannula 54mm, 100mm and 145 mm - 10 nos. Each

**The system should be USA FDA / European CE approved**

## Item No. 110 - Recovery Room Trolley

1. Should have three sectional mattress base made of X Ray translucent high pressure
  2. Should have facility to insert X Ray Cassette from either sides & ends of the trolley.
  3. Should be able to X Ray the patient from positions along the entire length and width of
  4. Should have pneumatic stepless adjustment for back section, Trendelenburg, reverse
  5. Should have hydraulic height adjustment with a foot pedal on either side of the trolley
  6. Should be convertible to chair position.
  7. High pressure laminate mattress base should be lift-able for easy cleaning and disinfection of the x-ray platform.
  8. Frame should be made up of epoxy powder coated steel.
  9. Should have Central braking system with steering facility, heavy duty castors diameter
  10. Should have facility to fix IV rod at all the four corners and middle of mattress base
  11. Should have place for fixing 'B' Type Oxygen Cylinder.
  12. Should meet international quality directives such as CE, ISO 9001 & ISO 14001.
  13. Should be supplied with standard accessories such as Anti static Hygienic Mattress (80mm) with pull straps, 01 pc  
Collapsible Side Rails, (detachable) 01 pair  
I.V. Rod (height adjustable with self locking facility) 01 pc  
Cylinder Holder for 'B' Type Oxygen Cylinder. 01 pc  
Max. Length : 205 cm or better  
Max. Width : 75 cm or better  
Height : Min. 54 cm or less  
Trendelenburg : 14 deg or better  
Anti Trendelenburg : 6 deg or better  
X ray viewing area : entire length  
Max. 90 cm or better
- The system should be USA FDA / European CE approved**

**Item No. 111 - Ripple mattresses  
(To prevent pressure sores)**

1. The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
2. Power input to be 220-240VAC, 50Hz fitted with Indian plug
3. Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms .(OR EQUIVALENT BIS Standard)
4. User Manual in English
5. Service manual in English
6. List of important spare parts and accessories with their part number and costing
7. Certificate of calibration and inspection.
8. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
9. The job description of the hospital technician and company service engineer should be clearly spelt out
10. List of Equipment's available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

**The system be European CE approved/ISO/ISI Certified**

## Item No. 112 - Scoop Stretchers

1. Scoop Stretcher made of lightweight
2. High-impact composite materials.
3. Featuring two hinged.
4. Inter locking pieces that can be used to gently scoop us a patient without having to roll them.
- 5.
6. **The system should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 113 - Sterile Store Cabinet**

Sterile Storage Cabinet should have the following Essential Specifications

- A unit suitable for storage of Sterile Products
- Should be suitable for storage of sterile instrument and product used in operating theatre.
- It should have glazed door
- It should have four ultra violet generators emitting radiations in germicidal band of 2537 A for Sterilization.
- It should be equipped with tangential flow turbine ventilation system to create vertical and horizontal air circulation over Ultra Violet Sources.
- The sterilization cycle should start automatically, each time the doors are opened and it should have a timer switch to select the sterilization time from 1-6 hrs.
- Should have a safety switch to automatically turn off the system when door of cabinet are opened.
- It should have an elapsed time counter to monitor the operating time of the UV Sources.
- It should be usable in the presence of personnel and equipped with an external indicator lamp to show the functioning of cabinet
- Power Consumption of UV Sources – 30 W.
- Should meet international quality directives such as CE, ISO 9001 & ISO 14001.

**The system should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 114 - Temporary pacemaker set**

Quality Based

The system be European CE approved/ISO/ISI Certified



## Item No. 115 - Thromboelastograph

### Device Specification

- Two (2) independent measuring channels per analyzer, up to eight (8) channels per
- Full Hemostasis review in 10-15 min.
- Cables included, software sold separately
- Cup drive – Line synchronized, with synchronous motor
- Temperature control – Individual temperature control for each channel
- Measuring technique – shear elasticity of a coagulating sample, determined by motion of
- Transducer – Electrical-mechanical transducer of movement of torsion wire connected to the suspended pin
- Sample volume - 360µl
- Power – External power supply, CSA listed, 120V model @ 60 Hz or 220 model @ 50
- Initial warm-up time – Less than five (5) minutes to warm sample
- Operating position – Setting verified with spirit level
- Dimensions – 11.4in. x 8.6 in. x7.0 in. (29cmx22cmx18cm)
- Weight – 12 lbs (5.4kg)
- Computer & software – Computer & software compatible with A/D box, cable & software  
The system should be USA FDA

**Item No. 116 - Transoesophageal ECHO**

Quality Based

The system should be USA FDA

**Item No. 117 - Transtracheal jet ventilation system**

Quality Based

The system should be USA FDA

## Item No. 118 - Video Bronchoscope

### **SPECIFICATIONS OF ADULT FLEXIBLE INTUBATION FIBERSCOPE**

- It should be light weight , high resolution flexible scope
- It should have bending mechanism knob without lock
- It should be fully immersible in disinfectant solution
- The fiberscope can be connected to Endoscopic camera to visualize image on the monitor
- Airway Guide (cum Bite block) for Oral intubation should be provided with the set (at least 10 airways)
- TUBE HOLDER should be a part of standard accessory
- Set should include- Suction Adaptors (Disposable), Cleaning brush & Leakage tester as standard accessories
- The product should be ISO, CE & US-FDA approved
- Suitable Biopsy and Grasping should be provided

### **TECHNICAL SPECIFICATIONS ADULT SET**

- Field of view- 110 degrees or more
- Distal End Dia- 5.2mm
- Insertion tube dia- 6 mm or more
- Bending range- UP 140<sup>0</sup> & DOWN 140<sup>0</sup>
- Working length- 650 mm or more
- Total length- 900 mm or more
- Channel Diameter- 2.2 mm

### **Part 2. Specification for Portable Camera system , Display & light source that should be attached with above Adult Intubation Scope**

A compact and portable system that is suitable for a variety of endoscopic applications.

Compatible to be used anywhere from physician's offices to operating rooms in a variety of specialties.

The powerful all-in-one unit should consist of everything needed for endoscopic imaging, Video recording, and viewing of saved Videos, the monitor, camera, and light source.

Compatible with latest HD Medical Grade monitors.

Through integrated data management, the device should facilitate the comprehensive documentation of procedures.

Should have Six USB ports and an SD card slot for documentation purpose.

## DISPLAY

Crystal clear display

- 15" LCD display
- Image rotation
- 24 bit color depth for lifelike color display
- DVI video output for brilliant transmission quality

Flexible storage options

- SD slot for high storage capacity
- USB ports for external hard drives and USB sticks

Easy, extremely reliable control

- Membrane keyboard included, suitable for wipe-down disinfection
- Hot keys for rapid and direct manipulation
- Arrow buttons for intuitive control
- Connection socket for pedal control without lag time

Natural illumination

- Metal halide Hi-Lux 50 Watt high-performance light source
- Color temperature of 5700 K - similar to daylight - guarantees color fidelity
- Long lamp life

## Technical Specification of Camera Head

Image sensor:	1/4" CCD-Chip.
Resolution:	> 450 lines (horizontal).
Pixels	752(H) x 582(V)
Signal-to-noise ratio:	>= 60 dB.
AGC:	Microprocessor controlled
LENSE	25-50mm
Min. sensitivity:	3 Lux (f 1.4).

Should be provided with a fiberoptic light cable dia 3.5mm and length 180cm approx.

**The Items should be USA FDA**

## **Item No. 119 - Video laryngoscope (Adult & Pediatric)**

Laryngoscope required with video illumination to visualize and document the operational area on screen. It should consist of following features:

- Required is Macintosh blades with closed European Metal finish size 2, 3 and 4 with integrated camera chip and LED light illumination for obtaining more than 50000 Lux of brightness.
- Screen 7inch in size for display with feature control buttons on the screen with composite output for connecting to a big screen.
- Automatic/ manual white balance facility should be available
- Documentation of Video & still images should be possible on data card or USB drive with JPEG and MPEG4 format which can be easily transferred to the computer/laptop. Documented videos & still images should be easily recalled on the monitor
- IV clamp for positioning the monitor on IV pole should be provided.
- Protection cap for cleaning blades should be provided.
- Blades and connection cable should be fully immersible in disinfecting solution.
- Suitable stand and standard carrying bag to be part of the set.
- Electronic Module Monitor suitable for manual and mechanical disinfection up to 60 °C; Steris®; Sterrad®; High Level Disinfection (HLD) acc. to US standards, for use with video laryngoscope

**The Items should be USA FDA**

## Item No. 120 - X-Ray Machine with Diacom system

Items to be included:-

### 1. Radiography Table

- Type of table Remote table type
- Table height Height adjustable (automatic)
- Table tilting angle -30deg. to +90deg.
- Table tilting safety Equipped with soft start/stop
- Lateral slide of tabletop Slidable
- Dimension of tabletop Larger than 210 x 65cm
- SID 110cm, 150cm
- Patient coverage without moving
- Patient load More than 150kg  
133cm or higher
- Table side control

Control of;

Imaging unit

Tilting tabletop

Lateral slide of tabletop

Tabletop elevation

- Oblique angle of imaging unit -30deg. to +30deg.
- Compression cone More than 80N
- Foot rest Motorized Rolling type
- Removability Should be Available
- Ratio 10:1
- Density 40lpc
- Focusing distance 120cm
- Method of adjusting exposure field Automatic
- Beam hardening fliter Equipped with Beam hardening filter like

### 4) Operation in examination room

- Local console Available as standard

Cu0.1mm, Cu0.2mm, Cu0.3mm

Items Required specifications

### 2. High Voltage Generator

- Type Inverter control
- Output 80kW or more
- Frequency 50kHz or higher

Equipped with;

Pulsed fluoroscopy

Image brightness stabilizer

- Automatic exposure setting Should be Available
- Capacity 600kHU or more
- Focus size 0.6/1.2 or Smaller
- Tube Mount rotation (90deg. and 180deg.)
- Type Flat Panel Detector 2 numbers

- Portability Portable(Removable) 14x17 ,two numbers
- Clinical availability

Fluoroscopy at table (atleast for onedetector) Radiographyat table, wall stand, on the tabletop, beneath the stretcher and on the ground

- Scintillator CsI
- FOV 17 x 14 inches (43 x 35 cm)
- Available FOV
  - 17 x 14 inches
  - 14 x 14 inches
  - 12 x 12 inches
  - 9 x 9 inches
- Pixel pitch Less than 160µm
- Matrix 2688 x 2208 or Better

#### 5. Digital Imaging System

- OS Windows 7 , 64bit or better
- Data storage More than 1 TB
- Number of image stored More than 80000
- F=>R time within 1.4 sec.
- R=>F time within 2.3 sec.
- R=>R time within 3.2 sec.
- Preview time within 3 sec.
- Serial radiography Max. 15fps
- Fluoroscopy Recording atleast 1000 frames

#### 3) Image processing

- Inversion Available (H/V, R/L)
- Rotation Available (R/L 90deg.)
- Edge enhancement Available
- Noise reduction
- Zoom Available
- Multiple image display More than 9
- Measurement Distance and Angle
- Last image hold Should be Available

#### 4) Output to network

- Tag RF, DX, CR
- DICOM Print, Storage, MWM
- Down scan converter

Equipped with;

Recursive filter

Multi frequency processing Should be Available for Video livebroadcasting

- Type LCD Medical Grade
- Size 19 inches or Higher 2 nos

#### 6. Chest X-ray Stand

- 1) Detector Same/similar type of Detector of Table
  - Type Flat Panel Detector

- Scintillator CsI

- FOV Larger than 17 x 14 inches (43 x 35 cm)
- Pixel pitch 160µm or less
- Matrix 2688 x 2208 or higher
- Type of Stand Counterbalanced with Electromagnetic
- Vertical Movement 150cm or more
- Automatic exposure control More than 4 fields
- Grid Removable Bucky grid Removable type
- Hand grip Should be Available

#### 7. Second Tube Stand

TUBE MOUNT TYPE Ceiling suspended

Longitudinal travel: 4,000mm or more

Transversal travel: 2,500mm or more

Vertical travel (floor to focus): 400mm to 2,000mm or more

Electromagnetic locks For All Movements

Rotation of tube: Horizontal axis, +/- 120 degrees or more

Horizontal axis, +/- 120 degrees or

SID: Maximum SID, more than 250cm

Panel Display Digital display of SID and tube angle

Locking

Vertical axis of column, +/- 180 degree

In the vertical position, the angle should be converted to the vertical angle mod

Lock Release switches on panel

Proposal for Tender Specification

Items Required specifications

Lock Release switch and collimator lamp switch on rear side

Available

Items Required specifications

#### 8. Second Tube Collimator

COLLIMATOR Multi Leaf Type

Field: Field Shape, Rectangular

Maximum field, not less than 400x400mm

Minimum field, not larger than 0.1x0.1mm

Rotation of exposure field by Collimator

Rotation

Light: Halogen type with Timer On

Average illumination intensity should not be less than 160Lx.

Filtration: Inherent filtration, not less than 0.9mm Al<sub>eq</sub>

Average illumination intensity should not be less than 160Lx.

Added filter should be available.

External dimension (WxDxH): Not larger than 220x220x220mm

Proposal for Tender Specification

Items Required specifications

Anode: Anode should be rotating anode



Rotation speed should be approximately 9000 rpm.  
Maximum anode heat content Not less than 400kHu  
Maximum anode heat dissipation rate Not less than 2000HU/s  
- Focus size 0.6/1.2 or Smaller  
Pure Sine wave 125 KVA with 10 mts back  
up and isolation transformer of Reputed  
Stablizer 100KVA Servo Stablizer  
Lead Apron 5  
Thyroid Shield 5  
Proposal for Tender Specification  
Items Required specifications  
Gonad Shield 5  
Lead Goggles 5  
Laser Imager 500 dpi or better wth Multi film tray  
Celng Mounted lead Acrylic 1  
One Print and Review Workstation Intel Xe0n Processor based System of  
Reputed Make, Min 1TB of Hard Disk  
32GB ram , 19 inch Medical Grade 2 MP  
Dual Monitor Display of Multi modality  
images . Print of images Ability to receive  
images through LAN from other Modalities and existing one  
Certificaltion AERB ; IEC 3rd edition ;CE /US-FDA  
,Generator, X-Ray Tube ,Tube  
Stand,Table , Chest stand should be  
from the same manufacturer  
To ensure long term Service Reliability

**The Items should be USA FDA**

## Item No. 121 - I.T. Streaming

### GENERAL INSTRUCTIONS FOR BIDDERS

This section describes the requirement for the equipment that needs to be procured, supplied, installed, and completed including testing, calibration and handing over for the construction of the integrated operating room.

The successful bidder should design and equip operating rooms:

All equipment and software shall be of the current production at the time of delivery to the hospital

The successful bidder shall provide all necessary works, install new hardware, software and implement services to complete the works all in accordance with the standard practice and norms:

- The system provided shall include all equipment and features necessary for a complete installation.
- All equipment and software shall be of the current production at the time of delivery to the hospital.
- All software shall be validated by prior clinical use in hospital applications and shall be of the latest versions at the time of installation.

The successful bidder shall be deemed to have visited the site and acquainted himself with the available equipment and installed fixtures and have studied all working conditions that surround the work site.

The successful bidder shall ensure that all new fixtures (such as electrical sockets, gas outlets etc.) are identical to the existing installed fixtures (Manufacturer and model).

Prior to any construction or erection on site, the successful bidder shall submit complete details on the works to be executed, this shall include but not limited to: material submittals (catalogues, samples, diagrams), Shop drawing submittals (modifications of existing works, detailed drawings, calculation notes etc.), testing results and adjustments.

The specifications that follows describes the requirement that the hospital has established in order to improve the efficiency, provide ergonomic solution and increase the productivity in the surgical suite.

### SECTION 1 – IMAGE/VIDEO RECORDING AND DATA ARCHIVING SYSTEM

Item #	Product Description	OR #	Qty
1	<b>HD IMAGE/VIDEO RECORDING AND DATA ARCHIVING SYSTEM</b>	1,2,3	1each
	<ul style="list-style-type: none"> <li>- User friendly software designed specifically for medical purposes</li> <li>- Captures still HD images, video sequences (from 3 sources), and audio files</li> <li>- Resolution of still images and videos should be 1920x1080</li> <li>- Supports network storage on file servers</li> <li>- USB support for storage on USB drives</li> <li>- HIPAA compliant</li> <li>- Medical grade unit with CE mark</li> </ul>		

	- Harddisk: 320 GB SATA 3.5"		
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## SECTION 2 – COMMUNICATION SYSTEM

In each OR Suite, a Communication System shall be designed and installed to allow distribution of different images to various monitors inside the OR and to remote locations such as the Lecture Room, Doctors Room, etc...The Communication System should also be able to:

- Control Audio levels within the OR as well as signals leaving the OR.
- route any image source to any destination via the the unit itself
- Broadcast real time images from any source from the OR to the conference room & doctor’s room or any location of choice inside or outside the OR through a the LAN of the hospital.

The System’s code is required to function in a manner that considers HIPPA Compliance Regulations for patient confidentiality.

End user control of the System shall be possible via the camera head or via the communication unit itself. Located inside the sterile field, the control needs to be done in an intuitive manner requiring the least number of steps possible to have the System perform a given function.

Item	Product Description	Qty
1	<b>COMMUNICATION UNIT</b>	1 each
	<p>-The Communication Unit shall be a standalone product to be placed on a boom arm.</p> <p>-The Communication unit shall be able to stream video sequences out of the OR across the hospital network with the ability of having a bidirectional Audio communication through an integrated audio talkback function. with an unlimited access. System should have integrated hands free Table microphone and speaker</p> <p>-Activation/Deactivation of streaming can be easily done via the accessory buttons on the endoscopic camera head and via the communication unit itself.</p> <p>-The Communication unit shall be able to provide on a separated monitor, a preview of the signal which is routed to the network.</p> <p>-The Communication Unit shall be able to route the selected signal on three video displays simultaneously.</p> <p>-The Communication Unit shall be able of transmitting the selected OR images directly onto the computers in the offices, thus giving an instantaneous view of procedures in the operating or the examination room.</p> <p>-The Communication Unit should have a built in record</p>	

	<p>function allowing the user to record any procedure at anytime.</p> <p>-The communication Unite should be very easy to use</p> <p>The OR shall integrate at least the following Video Sources and Destinations:</p> <p><b>System should have the following inputs,</b>  <b>1 DVI to connect Endoscopic Camera</b>  <b>1 DVI to connect Robot</b>  <b>1 DVI for any other DVI input</b>  <b>1 Svideo to connect C Arm</b>  <b>1 RGB to connect patient vital signs</b>  <b>1HDSDI- to connect HD camera of OT light</b></p> <p>Outputs shall got to existing HD monitor mounted at springarm of OT light  Another ouput shall go to Monitor provided by Hospital  Third output shall go to Recording system  Fourt out put shall go to Streamer</p>	
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Item	Product Description	Qty
2	<b>ROOM CAMERA on Tripod</b>	1
	<p>A full HD Room Camera shall be installed on a selected wall in the OR.  The Room Camera's position, zoom, and tilt shall be controllable via remote control.</p>	

Item	Product Description	Qty
3	<b>1-WAY VIDEO 2-WAY AUDIO STREAMER</b>	1 each
	<p>The Audio/Video Streamer shall provide independent streaming channels offering real time image and sound that can be accessed from any networked station provided with authorisation key.</p> <p>Therefore, an Audio/Video Encoder shall be installed in the Communication Centre. The Encoder shall be capable of accepting S-video and Audio signals and shall streams these signals over the hospital's LAN in MPEG2 compressed Data. Furthermore, the encoder shall be capable of 2-way audio communication between the OR and the remote location.</p>	

	<p>A high speed LAN should be available in the hospital.</p> <p>Furthermore, the Streamer shall be provided with an intuitive user interface that offers the user the capability to watch, from any networked station, the desired Video Source (i.e. HD Endoscopic Camera, Room Camera, etc...) from the selected OR.</p>	
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**The Items should be USA FDA**

## **ITEM NO. 122 - ICU VENTILATOR**

### **ICU VENTILATOR specs**

1. Advanced Multi-Microprocessor Controlled Ventilator with integrated facility for Ventilation & monitoring suitable for New born to Adult category patient.
2. Screen should be minimum of 12" inch or more and inbuilt, no separate display
3. Machine should be working on wall high pressure gas outlet for Air & Oxygen, not on turbine / blower technology or any modification thereof.

#### **4. Should have the following modes.**

- a. Volume and Pressure Controlled modes with assist mode
- b. SIMV (Pressure controlled and volume controlled) with pressure support
- c. Spontaneous modes like CPAP / PEEP
- d. Bilevel / BiPAP
- e. Advanced mode like Pressure Regulated volume guarantee mode
- g. Non-invasive ventilation. & SBT

#### **5. Should have the facility for following settings:**

- a. Tidal Volume: Minimum 20ml and maximum of 2000 ml or more in Volume control
- b. PEEP upto 50 cmH<sub>2</sub>O or more
- c. Pressure support upto 60 cmH<sub>2</sub>O
- d. Flow Pattern: Square, Decelerating
- e. Respiratory Rate upto 150 bpm with 200LPM or more peak Flow
- f. Inspiratory Plateau upto 60% of Inspiratory time
- g. SIMV Rate upto 60 cycles/min

h. FIO<sub>2</sub>: 21% - 100%

i. Flow and pressure Trigger Sensitivity

j. Manual Cycle, Inspiratory Pause, Expiratory Pause

6. Should be able to monitor and measure the following parameters

Tidal Volume

Plaetau

Mean Airway Pressure

Peak Airway Pressure

Intrinsic PEEP with PEEPi Volume

RSBI (Rapid Shallow Breathing Index)

Resistance and Compliance , P<sub>01</sub>, NIF, vital capacity , RSBI & spirometry

7. In-line disposable vibrating Mesh technology Nebuliser with capability of producing < 3 micron drug particle.

8. Compiled trend analysis at least for 72 hours for all measured & Setting parameters.

9. Should have the facility to record atleast 6 loops for comparison

10. Should have facility to measure:

i. Pressure / Volume loops

ii. Flow/ volume loops

iii. Aux Pressure

11. Should display minimum 3curves/graphs & 2loops simultaneously on the screen

12.Should have audio-visual alarms for the following parameters:

a. Peak inspiratory pressure – High & Low

b. FiO<sub>2</sub> – high & low

c. Respiratory rate – high & low

d. Tidal volume – high & low

e. Minute volume – high & low

f. Apnea

g. Gas supply failure

13. Should have the facility for inbuilt ETCO<sub>2</sub> measurement & parameter must display on ventilator screen.

14. Should have battery back up atleast for 90 min for ventilator.

15. Event log: 100 Alarm History .

16. Demonstration is must

17. Should be supplied with 1 no Reusable adult & heated active humidifier with reusable adult chamber

19. Should be US F.D.A. approved

21. Expiratory valve/cassette including flow sensor should be autoclavable and supply 2 nos.

22. Ventilator should be with non-consumable oxygen sensor . For ventilators with oxygen sensor needing periodic replacement, the cost of the sensors for 10 years should also be included in the price quote.

1. Should provide ET-tube Resistance & leak compensation .

3. Hinged arm and ventilator trolley should be OEM make.

4. Should have high pressure O<sub>2</sub> & air line filters with the ventilator.

5. One test lung should be supplied with each ventilator

6. One multiuse NIV mask should supplied with each ventilator

7. Should have high pressure line filter for Air & Oxygen

### **19 Environmental factors**

The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%

Shall meet IEC-60601-1-2: 2001(Or Equivalent BIS) General Requirements of Safety for



Electromagnetic Compatibility.

The unit shall be capable of operating continuously in ambient temperature of 10 - 40deg C and relative humidity of 15-90%

## **20 Power Supply**

Power input to be 220-240VAC, 50Hz

## **21 Standards, Safety and Training**

Certified to be compliant with ANS/IEC60601.2.12-01 Medical Electrical Equipment—Part 2-12; Particular Requirements for the Safety of Lung Ventilators—Critical Care Ventilators

Ventilator should be US FDA approved

Certified to be compliant with ISO-7767 for Oxygen monitoring.

Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection, water ingress.

Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

Should cover standard Five year comprehensive warranty.

## **22 Documentation**

8.3 User Manual in English

# **6- Department of Physiotherapy**

## **Technical Specifications of Physiotherapy**

### **Item No. 123 - 1 MHZ Ultrasound therapy**

**Features**

- CONTINUOUS AND PULSED** – Modes of operation. The user can easily switch between continuous and pulsed mode. The set pulse frequency is visually displayed with bright LED indicators.
- DIGITAL TREATMENT TIMER** – 0-20 minutes treatment timer with digital display. The machine switches off the output automatically after the treatment is over.
- TOUCH BUTTON DIGITAL CONTROLS** – for easy selection of patient parameters. Continuous and Pulsed mode can be easily selected.
- BARGRAPH DISPLAY OF OUTPUT POWER** – in Watts/cm<sup>2</sup> is easy to read.
- SAFETY CUTOFF CIRCUIT** – Transducer safety mechanism ensures long life for the crystal by switching off the ultrasonic power when the transducer is kept in its holder and when not in use.
- WATERPROOF LIGHTWEIGHT HANDLE** – Ergonomically designed light weight waterproof moulded handle is comfortable to hold and can be used for underwater treatment.
- The entire Handle can be tilted instead of head tilting**

Sr.No	Particulars	Details
1	Ultrasound Frequency	1 Mhz +/- 0.1%
2	Maximum Output	12 Acoustic Watts Max
3	Ultrasound Power Density	3 Watts/Cm <sup>2</sup>
4	Treatment Time	0 – 20 minutes
5	Mode of Operation	Continuous & Pulsed
6	Diameter of Transducer Head	35 MM
7	Alarms	Audio alarm at the end of treatment with auto cutoff
8	Pulse Duration	1:1 - 2 msec ON 2 msec OFF 1:2 - 2 msec ON 4 msec OFF 1:4 - 2 msec ON 8 msec OFF 1:8 - 2 msec ON 16 msec OFF
9	Operating Voltage	230 V AC, 50 Hz
10	Output power	15 W in continuous mode and 21 W in pulsed mode
11	Max Power Consumption	25 A

**The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 124 - Advanced compact 4-Channel TENS**

- 1 Channel TENS
- 2 10 Programs (Cont., Sweep 1, pwm, Sweep 2, Hammering, Body shape, Body tone, Weight, Inch loss)
- 3 10 Frequency Control
- 4 Micro Processor based model
- 5 Digital timer
- 6 Feather Touch
- 7 A.B.S. Shock proof cabinet
- 8 Compact & Light weight
- 9 With all accessories approx.
- 10 The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 125 - Advanced Scanning LASER Therapy Machine with 650 nm visible red scanner -24mW.**

TECH LASER SS is a sophisticated microprocessor based scanning LASER machine. Simple controls

and bright LCD display enables the user to set treatment parameters in less than a minute.

### **KEY FEATURES**

- The unit is highly durable and result oriented. It uses Semi Conductor based laser technology.
- The unit is Microprocessor based.
- Tech Laser has both Scanning and Probe Mode. Scanning mode can be used to cover a

larger area whereas Probe mode can be used for a pointed area.

- LASER OUTPUT AS PER INTERNATIONAL STANDARDS – Visible Red 650 nm 40 milli

Watts and Infrared 808 nm 200 milli Watts.

- DELIVERS EVEN POWER DOSE AND PROMOTES FASTER HEALING – Unlike probe

based LASER this scanning laser machine scans the area of treatment automatically and delivers even dose to the treatment area thereby promoting faster healing.

- MERIDIAN POINT DETECTOR –Very useful to detect Acupuncture points, meridian points &

point of maximum inflammation and then deliver LASER dose precisely.

- EASY TO USE – Computerized control panel with independent controls for X and Y axis

enables user to set treatment parameters easily and quickly. Automatic Electronic treatment timer.

- EASY TO MOVE – The machine is mounted on castor wheels stand for easy mobility.

- KEY OPERATED SWITCH – Prevents unauthorized operation.

- LASER GOGGLES FOR PATIENT AND OPERATOR – supplied with the machine.

### **Technical Specifications**

Sr.No Particulars Specifications

1 LASER Output Visible Red through Scanner- 650 nm,

40mw (Continuous) ,

Infra Red Probe - 808 nm, 200 mw

(Continuous)

2 Modes of Operation Continuous & Pulsed

3 Pulse Frequency 0 - 99 HZ

4 Laser Beam Width X - Axis - Upto 2 Feet

Y - Axis - Upto 2 Feet

5 Duty Cycle 50 Degrees

6 Treatment Time 0 - 99 Min

7 Operating Voltage 220 V AC , 50 HZ

8 Power Consumption 50 Watts

9 LxBxH 180 x 47 x 90 cms

10 Weight 30 Kgs

Standard Accessories

- Protective Goggles – 2 Nos
  - Meridian Point Detector
  - Inactive Electrode
  - Infra Red Probe only for Model SS 100
  - Visible Red and Infra Red Probes for Model SS 500
- The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 126 - Advanced scanning LASER therapy machine with 655 nm Visible red Scanner – 40 mW.**

TECH LASER SS is a sophisticated microprocessor based scanning LASER machine. Simple controls and bright LCD display enables the user to set treatment parameters in less than a minute.

<b>Sr.No</b>	<b>Particulars</b>	<b>Specifications</b>
1	LASER Output	Visible Red through Scanner- 650 nm, 40mw (Continuous) , Infra Red Probe - 808 nm, 200 mw (Continuous)
2	Modes of Operation	Continuous & Pulsed
3	Pulse Frequency	0 - 99 HZ
4	Laser Beam Width	X - Axis - Upto 2 Feet Y - Axis - Upto 2 Feet
5	Duty Cycle	50 Degrees
6	Treatment Time	0 - 99 Min
7	Operating Voltage	220 V AC , 50 HZ
8	Power Consumption	50 Watts
9	LxBxH	180 x 47 x 90 cms
10	Weight	30 gs

**The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 127 - Computerised Compact Muscle Stimulator With Tens**

### **FEATURES:**

- Compact computerized muscle stimulator with TENS machine with 73 programs of muscle stimulation and TENS.
- SMART FEATURES** – Computerized programs ensure that the machine produces output only after Intensity is set to Zero with audio alarm. This prevents a patient from accidentally receiving a high intensity that was set for the previous patient.
- 73 PROGRAMS** - Enables user to select accurate pulses with pulse width for treatment in fraction of seconds.
- DIGITAL DISPLAY OF OUTPUT CURRENT** – SD curves can be plotted. Output current can be set accurately.
- SURGE PROTECTION** – Surge protection safety feature circuit protects the machine and the patient if high surge is sensed in the input current.
- DIGITAL TREATMENT TIME** – Microprocessor controlled digital display of treatment time. The output is switched off automatically after the treatment is over.

Sr.No	Particulars	Specifications
1	Mains Supply	240 V AC/50 Hz
2	Power consumption	46 Watts
3	Mains Fuse	1 amps
4	Weight	1.3 Kgs

**The Items should be USA FDA / European CE approved/ ISO Certified**

## Item No. 128 - Computerised Interferential Therapy

### TECHNICAL SPECIFICATIONS –

#### COMPUTERISED INTERFERENTIAL THERAPY MACHINE

1. IFT Programs – 29 IFT programs with 2 Electrode & 4 Electrode modes
  - a) 4EL Mode with - 2 pole, 4 pole, 4 pole vector scan modes
  - b) Sweep Patterns - Triangle, Trapezoidal & Square
  - c) Ability to change base and spectrum during treatment with 1 HZ accuracy .
2. 10 User Programs can be saved and re-called
3. Patient Safety Features - to produce output only after Intensity is set to Zero , if not should be audio alarm. This prevents a patient from accidentally receiving a high intensity that was set for the previous patient.
4. Output will come in IFT only if the machine is properly connected to patient to avoid shock.
5. Portable, compact and light weight.
6. Light Blue colour LCD Display & Soft Touch buttons.
7. Easy Selection using Rotate and Select Encoder Knob
8. Light Weight ABS Plastic Body

#### Technical Specifications

Operating Voltage : 220 V AC, 50 Hz.

#### IFT

Number of Channels : 2 Channels

Maximum Output Current : 0-75mA

Operating Frequency : 2000Hz & 4000 Hz

Base : 0 -150 Hz

Spectrum : 0 -150 Hz

Modes : 2EL/4EL/4EL45 VECTOR/4EL90 VECTOR

Sweep Patterns : Triangle/Square/Trapezoidal

Weight : 3.5 Kgs

Max Power Consumption : 50 Watts.

#### Accessories

Patient Cables - 2 Red, 2 Black

Rubber Electrodes – 5cm x3.5cm - 4 Nos

Velcro Straps - Small , Medium & Large Sizes

**The Items should be USA FDA / European CE approved/ ISO Certified**



## **Item No. 129 - Computerised Interferential Therapy with MST and TENS ( 3 in 1)**

### **TECHNICAL SPECIFICATIONS –**

1. IFT Programs – 29 IFT programs with 2 Electrode & 4 Electrode modes
  - a) 4EL Mode with - 2 pole, 4 pole, 4 pole vector scan modes
  - b) Sweep Patterns - Triangle, Trapezoidal & Square
  - c) Ability to change base and spectrum during treatment.
2. 10 User Programs can be saved and re-called
3. Muscle Stimulator with 2 Channel Output - Plain Galvanic, Pulsed Galvanic, Plain Faradic, Surged Faradic & S-D curve programs
4. TENS Programs with 2 Channel Output
5. Patient Safety Features - to produce output only after Intensity is set to Zero , if not should be audio alarm. This prevents a patient from accidentally receiving a high intensity that was set for the previous patient.
6. Output will come in IFT only if the machine is properly connected to patient to avoid shock.
7. Portable, compact and light weight.
8. Light Blue colour LCD Display & Soft Touch buttons.
9. Easy Rotate and Select Encoder Knob
10. Diadynamic Currents & Russian current
11. Light Weight ABS Plastic Body

### **Technical Specifications**

Operating Voltage : 220 V AC, 50 Hz.

### **IFT**

Number of Channels : 2 Channels

Maximum Output Current : 0-75mA

Operating Frequency : 2000Hz & 4000 Hz

Base : 0 -150 Hz

Spectrum : 0 -150 Hz

Modes : 2EL/4EL/4EL45 VECTOR/4EL90 VECTOR

Sweep Patterns : Triangle/Square/Trapezoidal

### **MST**

Number of Channels : 2 Channels

Maximum Output Current : 0-60mA

Modes : Plain Galvanic, Pulsed Galvanic, Plain Faradic, Surged Faradic programs

### **MST & TENS**

Number of Channels : 2 Channels

Maximum Output Current : 0-60mA

Modes - MST : Plain Galvanic, Pulsed Galvanic, Plain Faradic, Surged Faradic programs, s-d curve programs

Modes - TENS : Plain Galvanic, Pulsed Galvanic, Plain Faradic, Surged Faradic programs, s-d curve programs,

Ionto, Plain TENS, Surged TENS

Additional currents : Dia Dynamic current & Russian Current

Weight : 3.5 Kgs

Max Power Consumption : 50 Watts.

Light Weight ABS Plastic Body

Accessories

Patient Cables - 2 Red, 2 Black

Silicon Rubber Electrodes – 5cm x3.5cm - 4 Nos

Velcro Straps - Small , Medium & Large Sizes

MST Handle - 1 No

MST Ball & Plate Electrodes – 3 sizes

**The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 130 - Continuous Passive Motion**

1. It should be microprocessor based
2. It should be adjustable flexion & extension degree form front panel itself.
3. It should be Vairable flexion & extension delays
4. It should be Actual degree status display (Flex. /Ext.)
5. It should be Fully feather touch.
6. It should be Adjustable flexion angle from  $10^0$  to  $110^0$
7. It should be Patient safety switch
8. It should be Weight : 10 kg. approximately
9. It should be Compact & light weight.

**The Items should be USA FDA / European CE approved/ ISO Certified**

**Item No. 131 - Dual Head - 1 MHZ and 3 MHZ Ultrasound therapy**

- (a) Output mode : Continuous and pulsed
- (b) Pulse mode : 1:2, 1:4, 1:8, 1:16
- (c) Transducer : Separate transducer for 1 MHz & 3 MHz indicator for active.
- (d) Transducer : Light will glow in the active transducer
- (e) Parameter selection: Manual & Programmed
- (f) Intensity : Linear adjustment 3-1 w/cm<sup>2</sup>
- (g) Patient safety : Output is 100 isolation
- (h) Pre program : 70 pre programmed for 1 MHz 40 for 3 MHz 30
- (i) Output display : attractive back light Blueish LCD`
- (j) Treatment time : Digital timer pre setable 15 to 1 minute
- (k) Power supply : 110v – 270v AC 50Hz/60Hz.
- (l) SMPS power supply
- (m) compact size
- (n) ABS cabinet

**The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 132 - High Power Shortwave Diathermy**

### **FEATURES:**

- Arms with disc electrodes:** The disc Electrodes are fixed on a flexible multiposition arm. It is easy to adjust the electrodes over the area to be treated on the patient. The angle of the arm and height can also be adjusted.
- PAD ELECTRODES:** The unit is supplied with Pad Electrodes also.
- COOLING SYSTEM:** A special instrument cooling fan is provided inside the equipment to cool the valve from over-heating. It also enables the equipment to be used continuously on patients.

### **TECHNICAL SPECIFICATIONS:**

Max Power Output : 500 Watts

Frequency : 27.12. MHz

Wave length : 11 meters

Power supply : 200-240V 50c/s AC

L x B x H : 49 x 34 x 90 cms

Weight : 54 Kgs

Standard Accessories

- PAD Electrode – Big & Medium
- DISC Electrode – Large & Small
- PAD cables
- Disc Cables

**The Items should be USA FDA / European CE approved/ ISO Certified**

## Item No. 133 - Intermittent Traction machine

### TECHNICAL SPECIFICATIONS –

1. Computerised Traction machine with LCD Display
2. Setting of patient parameters using soft touch buttons
3. Static & Intermittent modes
4. Adjustable Traction force – 5,6,7,8,10,20,25,30,35,40,45 Kgs
5. Maximum Traction force upto 90 Kgs using Doubler
6. Robust motor for long life
7. 12 Volts Patient Control Switch for patient safety

### Technical Specifications

Operating Voltage : 220 V AC, 50 Hz.

Max Traction Force : 45 Kgs ( 90 Kgs with Doubler)

Treatment Time : 0-99 min

Hold Time : 0-99 Sec

Rest Time : 0-99 Sec

Alarms : Treatment time over & Patient Safety Switch

Weight : 15 Kgs

Max Power Consumption : 50 Watts.

### Accessories

Lumbar Belt - 1

Cervical Collar - 1

Thoracic Belt - 1

Doubler - 1

**The Items should be USA FDA / European CE approved/ ISO Certified**

## **Item No. 134 - Vacuum Therapy machine – Used in combination with IFT/MST/TENS for better results**

### TECHNICAL SPECIFICATIONS

#### Vacuum Therapy Machine

1. To be used with Interferential Therapy machine
2. 2 Channels ( totally 4 vacuum cups). Different colour cup and cable for each channel.
3. Vacuum Pressure Adjustment control knob
4. Continuous mode and pulsed mode of operation for massaging effect.
5. Pulse control knob to increase and decrease vacuum pulse duration.
6. Water Trap with alarm for Water trap full to collect excel excess water from Vacuum cups
7. Flexible high quality vacuum electrode cables and silicon cups for smooth effects. Each channel cup & cable of different colour for easy identification

#### Technical Specifications

Operating Voltage : 220 V AC, 50 Hz.

Max Vacuum Pressure : 500 mBar

Number of Channels : 2 ( 4 Cups )

Modes of Operation : Continuous & Pulsed

Controls : Vacuum Adjust & Pulse Adjust

Alarms : Water Trap Full

Weight : 10 Kgs

Max Power Consumption : 50 Watts.

#### Accessories

Vacuum Silicon Cups - 2 Red, 2 Blue

Vacuum Cables - 2 Red, 2 Blue

**The Items should be USA FDA / European CE approved/ ISO Certified**

# **7- Department of Vascular Surgery**

## **Technical Specifications of Vascular Surgery Equipments**

### **Item No. 135 Heart lung machine**

#### a) OVERALL SYSTEM

- Modular or semi-modular console
- Number of Pump should be ~ 5 with one integrated SCP Centrifugal Pump
- Roller pumps should be easily exchangeable and must allow placement of centrifugal pumps.
- Modules should be microprocessor based.
- Circuit should have self diagnostic feature.
- Smooth stainless steel with / or aluminum exteriors with flat surface of pump tables and more than 2 positions for power cables.
- RS 232 computer interface.
- All devices of pump must be operable by UPS and should start from UPS without mains.
- Running time 20 - 130 minutes
- Overall console should be compact with weight less than 100Kg.
- Warranty more than a year with necessary preventive maintenance ~1000 hrs.
- Frontal access to connections, hand-cranks, fuses, cables, battery.
- Flexible and movable mast system.
- Flexibility of pump connection to console.
- 4x additional AC outlet for external equipment.

#### b) ROLLER PUMPS

- Maximum flow rate ~ 3liters with X size tubing.
- Preferably direct drive system with bi-directional movements.
- Raceway diameter of around 15 cm with horseshoe design.
- Dual speed controls (course and fine).
- Precise thumbwheel for which one click correspond to 0.015mm roller movement.
- Double head pump with smaller diameter raceway with separate motor and controls.

#### c) CONTROL AND MONITOR DEVICES

- Signal communication technology should be CAN/BUS with modular touch screens.
- Easily configurable and adjustable by user.

#### d) LEVEL DETECTOR



- 2 or more level detectors should be there with high frequency sensors.
- Capability of regulating and stopping of pump according to level.
- Audio and visual alarm system.

e) BUBBLE DETECTOR

- 4 bubble detectors with ultrasonic sensor system.
- Operator selective sensitivity with capability of stopping the pump.

f) TEMPERATURE MONITOR

- Individual module with at least 4 channels per module.
- 12 or more possible temperature channels.
- Accuracy of 0.1 =C .
- All channels have facility of trend indicator and temperature alarms for both low and high.

g) TIMER

- Minute /seconds display with start/stop and reset controls.
- Different timer modes.

h) TEMPERATURE CONTROL MACHINE

- Compact and rapid cooling mode.
- Cooling and warming speed control unit with display.

i) PRESSURE MONITOR

- Individual modules with 2 monitors per module.
- Maximum number of possible pressure monitors - 8.
- Accuracy of pressure should be within 5mm of Hg.
- Facility of calculating pressure difference.
- Trend indicator with capability of stopping the pump on crossing set limits.

j) CARDIOPLEGIA MONITOR

- Different delivery modes ( with time, volume and continuous modes).
- Air bubble and pressure controlled.
- Selective ante grade and retrograde pressure control.
- Integrated timer with cardioplegia delivery reminder.

k) PERFUSION SOFTWARE

- Notebook or data pad system
- Option for connecting additional monitors.

l) COMPULSARY ACCESSORIES

- Venous occluding clamps, mechanical gas flow meter with electronic gas blender.
- Integrated centrifugal, halogen and LED lamps.
  - Pulsatile flow controller for centrifugal with electronic clamping device.
  - Heater/cooler with 3 water tanks and remote control.
- Hypothermia machine - Blanket Sheet

**Each Items must be US FDA /European CE approved.**

**Item No. 136    ACT MACHINE**

- ACT and Clot rate (Rate of Actual Clot Formation) results.
- Separate results for for Factor Xa and Thrombin (IIa).
- Easily available and cheap Blood loading cartiradges.

**Each Items must be US FDA /European CE approved.**

## **Item No. 137 IABP MACHINE**

- Color display with preferences menu.
- Multiple Operational modes - Auto, Semi-auto, Manual
- Different Trigger modes - ECG, Pressure, Pacer A, Pacer V/A-V, Internal.
- Helium based compressor system.
- Defibrillator Protection.
- Compulsory Accessories - Hand Held Doppler, Saline Pole, Simulator, monitor extension cable, cable storage case.

**•Each Items must be US FDA /European CE approved.**

**Item No. 138    WARM AIR BLOWER - BLANKET SYSTEM**

- Compact size with low weight.
- Advance interface with one touch temperature selection modes - Ambient, 36<sup>0</sup> C, 40<sup>0</sup> C, 44<sup>0</sup> C.
- Fast warm up and high air flow for quick and efficient thermal therapy.
- Easily available and cheap blankets in different sizes.
- Over / under temperature and disconnect audible and visual alarms.
- Hose and blanket connectors must fit securely without air leak.
- Accuracy in temperature delivery within  $\pm 1^{\circ}$  C.

•**Each Items must be US FDA /European CE approved.**

## Item No. 139     **ABG Machine**

- It should measure full blood gas parameters in addition to electrolytes, pH, Base Excess, Hemoglobin, HCT, Blood Sugars, lactates.
  - Should display all results on screen and in print out.
  - Analysis time should not be ~90 seconds.
  - Should have inbuilt printer.
  - System should not be based on cartridge based system.
  - System should have all necessary accessories.
  - Maintenance free electrode and unit should be upgradeability for auto quality control.
  - System should be ISI/CE marked or US FDA approved.
  
  - Any other parts except reagents to be replaced free of cost during warranty period.
  - Analyzer with memory of storing patient data (minimum 200).
- Each Items must be US FDA /European CE approved.**

## **Item No. 140 AUTO-TRANSFUSION SYSTEM**

- Should be FDA Approved.
- Device should be able to process blood cells continuously passing through a separation chamber with distinct compartment for plasma separation and washing; minimal leftover blood.
- Device should have recent generation autologous blood recovery system using latest micro-processor technology.
- Should have automatic sensor for sensing the level in the reservoir to initiate operation and have option for user to re-program.
- Should have dual RBC sensor, air bubble detector.
- Easily available and cheap disposables for all age group patients.
- Should be able to 90 -100% fat elimination.
- Should have integrated hemotocrit sensor.

Device should be able to work under operating conditions of 15 - 30 Degree Cel.

**Each Items must be US FDA /European CE approved.**

## **Item No. 141    TEMPRORY PACEMAKERS (2 Single Chamber and 2 Dual Chamber)**

### a) Single Chamber

- Easy to use.
- Advanced Low battery alarms.
- Increased sensitivity range (0.5 to 20 mV).
- Device should have provision of Rapid Atrial Pacing.
- Cable system should have good protection, easy and leak proof connection with zero chance of loose connection.
- Emergency connection ports.
- Secured auto and manual key locking system.
- FDA approved.

### b) Dual Chamber

- Easy to use.
- Advanced Low battery alarms.
- Increased sensitivity range (0.5 to 20 mV).
- Cable system should have good protection, easy and leak proof connection with zero chance of loose connection.
- Ventricular output ~ 25mA and rapid atrial pacing rate up to 800 ppm.
- Emergency connection ports.
- Secured auto and manual key locking system.
- FDA approved.

**•Each Items must be US FDA /European CE approved.**

## **Item No. 142    ELECTRIC CAUTERY SYSTEM**

- Device should have multiple working modes like, cutting, coagulation and spray
  - Dual control- foot and hand held cautery lead.
  - Changeable technique in terms of uni-polar and bi-polar.
  - Device should be loaded with features like-Adjustable volume, smoke filters, compact size.
  - Device should have feature of minimal or no interference with Pacemakers and other monitors and other ultrasonic machines.
- Each Items must be US FDA /European CE approved.**



### **Item No. 143 HEAD LAMP**

- US- FDA approved.
  - One headlight module mounted on a headband.
  - Optic cable with wolf port end fitting should be more than 250 cm in length.
  - Headlight type - Xenon *i* Halogen.
  - Head light should be lightweight, simple, cool, quiet and comfortable wearing with loops.
  - Adjustable system for Intensity and light beam aperture.
- Each Items must be US FDA /European CE approved.**

### **Item No. 144 SURGICAL MAGNIFYING LOUPES**

- Adjustable loupes mounted on titanium eye glass frame.
- Magnification 4.5X
- Working length 350 - 500mm.
- Field of *view* 56 100mm.
- Soft nose piece and additional mountable vision glass frame
- With 1 year warranty.

**Each Items must be US FDA /European CE approved.**

## **Item No. 145    ELECTRIC SAW SYSTEM**

- One driving unit of 90 watt motor with stand, tool kit and foot control.
- Two auto-clavable well fitting connecting cables.
- Two auto-clavable sternal saw with reloadable cutting blades.
- One auto-clavable re-sternotomy saw with depth support disc.

**•Each Items must be US FDA /European CE approved.**

## **Item No. 146    DE-FIBRILLATORS**

- FDA approved.
- Different size auto-clavable internal peddles in both adult and pediatric sizes.
- Device should have modular external peddles and defibrillator pad system.
- Device should have energy range for-7 Internal de-fibrillation 1-10, 15, 20,30 & 50 and External de-fibrillation 1-10, 15, 20, 30, 50, 70, 100, 120, 150, 170,200.
- Should work on both synchronize and asynchronies modes.
- Capable of working with 3, 5, & 12 Lead Confugurations.
- Less charging time - 0 -100% in 3 hrs.
- Long operating time on battery (less than equal to 5 hrs)
- Compatible for pacing with the range of 40 - 150ppm.

**Each Items must be US FDA /European CE approved.**

## **Item No. 147    FIBRILLATOR**

**ISO/ ISI Approvd**

**Quality Based**

## Item No. 148    **EMERGENCY TROLLEY [Crash Carts]**

- Overall Size: 960mm Lx500mm W x 1545mm H
- The crash cart should have 25.4mm x 18G Stainless steel tubular frame work.
- Two lockable plastic box units with 3 drawers should measure 305 mm L x 380mm D x320mm H.
- The emergency equipment cart should have the following facilities: 6 nos. Hand out bins to keep important supplies easily accessible of size approx. 110mm W x 125 mm D x 75 mm H.
- Light weight 2 nos. plastic box with three drawers each to hold emergency medicines, ambu. Bags, IV solutions, catheters, etc. separately and methodically in boxes of size approx-85 mm W 85 L 50 mm H-6 nos., -85 mm W 175 L50mm H-3 nos. and 85 mm W 255 L 50 mm H-4 nos.
- Facility to carry monitors, ECG, Suction apparatus on open areas at top centre and bottom shelves.
- Stainless steel saline rod made of 12mm dia. 304 grade S.S. approx. 750 mm long and bent at top to have an arm of 400 mm approx. at the end of which of 6 mm dia.
- SS hook shall be welded with TIG process.
- Crash cart with 125 mm dia. non – rusting castor two with brakes and two without brakes. Castor made from high grade non floor staining synthetic materials with integrated thread guards. Wheel centre having precision ball bearing to run smoothly.
- Provided with round buffer, one on each corner.
- Pull-out cardiac massage board made of MDF of minimum size 670 x 330 x 12 mm laminated on top and bottom of laminate of 1 mm and 0.6 mm respectively. MDF shall have water resistance property and it should be made from eco-friendly material.
- Oxygen cylinder stand epoxy powder coated, on one side.
- All MS parts are passed through 8 tanks pre-treated & powder coated process. All SS parts finished with Matt Polish.
- All Process Parameters to be as per documented IMS Procedures for quality assurance (ISO 9001:2008)
- **Each Items must be US FDA /European CE approved.**

## **Item No. 149 PORTABLE X-RAY MACHINE**

Compact, Lightweight easily transportable Portable X-ray machine, suitable for bedside X-ray, trauma, intensive care units, operation theatres and also in the Radiology Department for conventional radiography. Unit should be completely integrated systems with X ray Tube, X ray generator & Collimator should be from same manufacturer.

It should have following features.

8. Mobile Cart with telescopic arm/Articulated arm with electromagnetic lock type tube support.
9. It should have facility to moving forward or backward with handle push/pull without any special switch
10. Additional fine positioning to be possible from collimator side
11. It should have Rotating anode tube
12. It should have battery operated and or exposure can take without connecting power. It should have motorized operated
13. It should be upgradeable to Mobile DR Systems.
14. It should operate in single phase electric connection also

### **D. Mobile Cart**

Telescopic cross arm/Articulated arm for easy positioning at the bedside

Single push button should release all locks. The lock release button should be available on either side of the tube handle.

Rotation of collimator should be possible. At least +90 deg

Width of the unit should be smaller than 590 mm

Length of the unit should be smaller than 1150mm

Height of the unit should be smaller than 1940mm

Weight of the unit should be smaller than 400KG

### **E. X-Ray High Voltage Generator**

Inverter generator with inverter frequency of not less than 60 KHz

- Maximum output: 30 kW or More
- Radiographic kV range: 40 – 125 KV or More.
- mA should be more than 300mA
- Radiographic mAs should be 300 mAs
- LED readout for parameter display
- It should have facility to exposure with remote Control.

### **F. X-Ray Tube**

High speed rotating anode tube

Anode heat capacity – 300KHU or More.

Focal spot size 0.7mm/1.3mm or less

Max. KV – Not less than 125 KV

Collimation – Multi Leaf collimator

There should be cassette storage box to store up to 10 cassette of 14" x 17".

The X-Ray unit should have Type Approval/ NOC from AERB & IEC/CE/FDA for radiation protection. Manufacturing firm should be ISO approved.

Unit should have upgrade to Mobile Flat panel DR systems in Future.

Unit should have IEC 3<sup>rd</sup> edition compliance

**Each Item must be US FDA /European CE approved.**

## **Item No. 150    OPERATING ROOM INSTRUMENTS TROLLEY SYSTEM**

- a) Height adjustable Mayo table (Quantity -2)
  - b) Surgical instrument trolley (Quantity - 4)
  - c) Long BASIN Stand [Quantity -2)
  - d) IV Stand (Quantity - 2)
  - e) Infusion Pump Stands with mono input and multi output electricity Ports  
(Quantity - 6)
- 
- SS tubular frame work made of 25.4 mm OD x18G verticals mounted on 125mm dia. Non rusting castors two with brakes
  - Castors to be made of high grade non floor staining synthetic materials with integrated thread guards. Wheel centres having precision ball bearing to run smoothly
  - Two stainless steel shelves of 20G thickness with protective railings on 3 sides. The railings shall be made of dia. 10mm SS rod
  - Only 304 grade SS should be used for trolley frame work and burr free SS shelves
  - SS parts finished with Matt polish and must be supplied in SKD condition
  - All process parameters to be as per documented IMS procedures for quality assurance must be compliant to ISO 9001:2008

## Item No. 151 Cardio coronary instruments

S.NO	ITEMS	QTY
1	JACOBSON MICRO NEEDLE HOLDER,ROUND HANDLE DIAMOND DUST	2
2	JACOBSON MICRO NEEDLE HOLDER,ROUND HANDLE DIAMOND DUST JAW 8 1/4"21CM	2
3	JACOBSON MICRO NEEDLE HOLDER,ROUND HANDLE DIAMOND DUST JAW 8 1/4"21CM	2
4	MICRO FCPS ,IMM STRAIGHT DIAMOND DUST RING TIPS,ROUND HANDLE LIGHT WEIGHT 8, 1/4"/21CM	4
5	JACOBSON MICRO SCISSORS,ROUND HANDLE 60 DEGREE ANGLE SHARP FINE BLADES	2
6	DIETHRICH pons SCISSORS,RING HANDLE ANGLED FINE BLADES 45 DEGREE ANGLED BLADES	2
7	DIETHRICH pons SCISSORS,RING HANDLE ANGLED FINE BLADES 125 DEGREE ANGLED BLADES	2
8	DIETHRICH pons SCISSORS ,RING HANDLE,ANGLED FINE BLADES 60 DEGREE ANGLED BLADES	2
9	I.M.A HEPARIN CANNULA 1.5MM TIP W/MALLEABLE SHAFT 2.75"(7CM)	3
10	DISSECTOR	2
11	GAREN VASCULAR DILATOR ROUND HANDLE 1.0MM TIP- 5.5"(15.5CM)	2
12	GAREN VASCULAR DILATOR ROUND HANDLE 1.5MM TIP- 5.5"(15.5CM)	2
13	DISPOSABLE ENDARTERECTOMY SET { ENDARSECTOR)	2 SET
14	SS TRAY FOR CORONARY SET	2
15	DEBAKEY NEEDLE PULLING TISSUE FORCEPS	2
16	CUSHING FORCEPS	4
17	PLATFORM TIP MICRO FORCEPS	2
18	BAILEY FORCEPS (RIGHT ANGLE FORCEPS)	2
19	FINE NERVE HOOK	4
20	TENOTOMY SCISSORS	2
21	MAYO SCISSORS STRAIGHT 17CM	4
22	MAYO SCISSOR CVD 17CM	6
23	NELSON METZENBAUM 21CM	8
24	NELSON METZENBAUM 18CM	8
25	SATINSKY SCISSORS F/ VENA-CAVA CVD	2
26	BULLDOG METALIC CLAMP	10
27	RONGEURS	8

S.NO	ITEMS	QTY
28	DE'BAKEY ATR FORCEPS 2.0 MM STR 150 MM	4
29	DE'BAKEY ATR FORCEPS 2.8 MM STR 200 MM	12
30	DE'BAKEY ATR FCPS 3.5 MM STR 300 MM	4
31	RUSSIAN TISSUE FCPS 200 MM	2

32	RIP SPREADER BABY FINOCHIETIO ALUMINIUM	1
33	FINOCHIETIO PEDI RIB SPRDR 18X21 MM-BLDS	1
34	RIP SPREADER FINOCHIETIO -HAIGHT ALUMINIUM FC 041 A	1
35	FINOCHIETIO RIB SPRDR ALUM 31X45-BLDS	1
36	FINOCHIETIO RIB SPRDR ALUM 36X45 MA11-BLDS	1
37	RIP SPREADER FINOCHIEDO -MED SIZED ALUM FC 043 A	1
38	DE'BAKEY STERNUM AND RIB SPREADER COMPLETE SET	2
39	PAIR OF BLADES F/F B 808 30 X 30 MM	2
40	PAIR OF BLADES F/F B 80840 X 40 MM	2
41	PAIR OF BLADES F/F B 808 50X50 MM	2
42	LANGENBECK - MENNERFELT RETR 15X 6MM 152MM	2
43	LANGENBECK - MENNERFELT RETR 20X 6MM 152MM	2
44	KOCHER -LANGENBECK RETR 35X6MM 216 MM	
45	KOCHER RETRACTOR 60X25MM	
46	KOCHER RETRACTOR 40X18MM	
47	KOCHER RETR 4 PRGSEMI-S 16X20222MM	



48	IMA RETRACTOR	
49	DAVIDSON SCAPULA RETRACTOR 90/80MM	1
50	ALLISON LUNG SPATULAS 40MM	1
51	ALLISON LUNG SPATULAS 54MM	1
52	ALLISON LUNG SPATULAS 137MM	1
53	WEITLANER (SELF RETAINING) SEMI SHARP 110MM	2
54	WEITLANER (SELF RETAINING) SEMI SHARP	2
55	WEITLANER (SELF RETAINING) SEMI SHARP	2
56	LA RETRACTOR 25/46MM	1
57	LA RETRACTOR 25/30MM	1
58	RA RETRACTOR 45/48MM	1
59	RA RETRACTOR 45/30MM	1
60	DOUBLE BLADE RETRACTOR EXTRA LARGE	2
61	DOUBLE BLADE RETRACTOR LARGE	2
62	VSD RETRACTOR SET	1
63	SOATULA MALLEEBLA ALL SIZE SET	1

## Item No. 152    General Cardiac Instrument Set

S.NO	ITEMS	QTY
1	TC WIRE TWISTER ,ROUND, STR ,18.5 CM	4
2	TC WIRE TWISTER ,ROUND, 15 CM	2
3	DE BAKEYTC NEEDLE HOLDER 18 CM MAYO HEGAR DELICATE	4
4	DE BAKEY TC NEEDLE HOLDER 26CM	4
5	HEGAR NEEDLE HOLDER W/O GROOVE 21CM	4
6	CRILE MURRAY NEEDLE HOLDER 15CM	6
7	FOERSTER SPONGE HOLDING FCPS SERR STR 25 CM	12
8	BACKHAUS TOWEL FCPS 9CM	30
9	BACKHAUS TOWEL FCPS 11 CM	30
10	MOSQUITO ARTERY FCPS STR. 15 CM	20
11	MOSQUITO ARTERY FCPS CVD 12 CM	30
12	HALSTEAD MOSQUITO FCPS CVD 21 CM	4
13	USA MODEL TUBING CLAMP C/SERR W/CLIP 20 CM	15
14	USA MODEL TUBING CLAMP C/SERR W/CLIP 15 CM	5
15	KELLY HEMOSTATIC FCPS SEMI CVD 19 CM	4
16	KELLY HEMOSTATIC FCPS SEMI CVD 22 CM	4
17	HARTMANN HEMOSTATIC FCPS STR 10 CM	30
18	HARTMANN HEMOSTATIC FCPS CVD 10 CM	30
19	CRILE HEMOSTATIC FCPS STR 14 CM	20
20	CRILE HEMOSTATIC FCPS CVD 14 CM	20
21	MITRAL HOOK	2
22	SCALPEL HANDLE # 3	8
23	SCALPEL HANDLE # 3 LONG	4
24	SCALPEL HANDLE # 7	10
25	SCALPEL HANDLE # 4	8
26	MOCK VESSEL IRR. CANNULA 6 CM	8
27	CUSHING NERVE HOOK 19CM	6
28	CRILE NERVE HOOK 90 DG CVD 20 CM	4
29	YANKAUER SUCTION TUBE 27 CM WITH CENTRAL BORE 2.0 MM	4
30	YANKAUER SUCTION TUBE 27 CM WITH LARGE CENTRAL BORE 3.5 MM	4
31	CARDIOTOMY SUCKER ADULT SIZE	4
32	CARDIOTOMY SUCKER PAED SIZE	4
33	PERFORATED STEEL TRAY SIZE 18X12"	4
34	PERFORATED STEEL TRAY SIZE 10X12"	6
35	KIDNEY TRAY (STEEL) BIG SIZE 10"	4
36	PERFORATED STEEL TRAY SIZE 8X10"	6

37	KIDNEY TRAY (STEEL) MEDIUMSIZE 8"	8
38	KIDNEY TRAY (STEEL) SMALL SIZE 6"	8
39	SS BOWL BIG SIZE 8"	6
40	SS BOWL MEDIUM SIZE 6"	20
41	SS BOWL SMALLSIZE 4"	20
42	TC WIRE CUTTING FCPS ANGLED 22CM HARD 2.2 MM /SOFT 3.0MM	4
43	TC REILL WIRi: CUTTING FCPS ANGLED 17.5CM HARD 1.5 MM /SOFT 2.0 MM	4
44	KOCHER FCPS DELICATE CVD 14 CM	12
45	OCHNER KOCHER FCPS CVD 18 CM	30
46	HEGAR UTERINE DILATOR SET 8 PCS SIZES FROM 3.0/4.0 -17.0 /18.0 MM	1
47	BABCOCK TC TISSUE FCPS STR 16 CM	4
48	ALLIS ATRAUMA FCPS STR 17 CM	12
49	ALLIS ATRAU MA FCPS STR 28 CM	2
50	BABCOCK TC TISSUE FCPS STR 20 CM	2
51	DUVAL TISSUE FCPS SMALLJAW 20 CM	~
52	TROUSSEAU (BOWLBY) TRACHEAL DILATOR 14 CM	2
53	JANSEN CURETIE D/E SHARP STR 15 CM	2
54	CHEST TUBE PASSER	3
55	SS BASIN BIG SIZE 16"	4
56	SS BASIN MEDIUM SIZE 14"	8

### Item No. 153 Coronary Surgery cansum. item

S NO.	ITEM	QTY
1	AORTIC PUNCH 3.5MM (SCANLAN)	4
2	AORTIC PUNCH 4MM (SCANLAN)	4
3	ENDARSECTOR 1001-750 (SCANLAN)	2
4	ENDARSECTOR 1001-752 (SCANLAN)	2
5	ENDARSECTOR 1001-755 (SCANLAN)	2
6	ENDARSECTOR 1001-758 (SCANLAN)	2
7	ENDARSECTOR 1001-751 (SCANLAN)	2

8	ENDARSECTOR 1001-753 (SCANLAN)	2
9	ENDARSECTOR 1001-757 (SCANLAN)	2
10	ENDARSECTOR 1001-759 (SCANLAN)	2
11	SURG+LOOP ALL SIZE (SCANLAN)	1 BOX EACH
12	SURG+LOOP PLUS WITH NEEDLE GREEN (SCANLAN)	1 BOX
13	MARKER PEN BLUE TIP (SCANLAN)	1 BOX
14	VASCU STATI   BULLDOG ALL SIZE (SCANLAN)	1 BOX EACH
15	LIGA CLIP WITH APPLICATOR MEDIUM Vitelitec	2
16	LIGA CLIP WITH APPLICATOR SAMLL Vitelitec	4
17	LIGA CLIP WITH APPLICATOR micro Vitelitec	2

**Item No. 154      SMALL VASCULAR CLAMP SET X 2**

S.NO	ITEMS	QTY
1	Small Cross Clamp	2
2	Vascular St Clamp	2
3	Vascular Ang Clamp	2
4	Vascular Ang Clmap (Med)	2
5	Vascular St Clampp ( Long)	2
6	Vascular Cvd Clamps( Small)	2
7	Small Double Ang Cooley	2
8	Glover Clamp	2

## Item No. 155 THORACOTOMY SET X2

S.NO	ITEMS	QTY
1	Chest Rtr with Two Pair Blades	1
2	Scapula Rtr	1
3	Morris Rtr	1
4	Rib Approximator	1
5	Lung Tr ( Allison)	2
6	Lung Holding Forceps(Duval)	4
7	Bone Cutter	1
8	Bone Cutter	1
9	Devers Rtr	1
10	Devers Rtr	1
11	Mastoi Rtr Cvd	2
12	Czemy Rtr	2
13	Finochito Retractor	1
14	Doubled Blade Rtr	1
15	Malleable Rtr	2
16	Rib Shears	1
17	Bone Nibbler	1
18	Bone Nibbler	1
19	Bone Scoop Double End 10"	1
20	Retractors Sternal Tuffler Fixed Blade	1
21	Retractors Harrington Large	1
22	Retractors Harrington Small	1
23	Periosteal Elevator	1
24	Periosteal Elevator	1
25	Periosteal Elevator Small	1
26	Rib Raspatories Left	1
27	Rib Raspatories Right	1
28	Tissue Forceps Russian 9"	2

**Item No. 156      LARGE VASCULAR CIAMP SET X 2**

S.NO	ITEMS	QTY
1	Aneurysm Clamp	1
2	Multipurpose Clamp	2
3	Patent Ductus Clamp	2
4	Renal Artery Clamp	2
5	Cooley Clamp Big	2
6	Occlusion Clamp	2
7	Stenskey Clamp	1

**Item No. 157      CAROTID FINE SET X 2**

S.NO	ITEMS	QTY
1	Carbide Pickups	2
2	Potts Forwards	1
3	Potts Reverse	1
4	Sharp Scissors	1
5	Metzenbaum Scissors	1
6	Shunt Clamps	1
7	Shunt Clamps	1
8	Vascular Clamp Curved	2
9	Cross Clamp Small	2
10	Fine Rt Angle Forceps	1
11	Dissector Small	1
12	Dissector	1
13	Small Langenbeck	2
14	Cross Clamp Medium	2

**Item No. 158      Endarterectomy Sets**

- Forceps
- Dissectors
- Plaque Remover
- Storage/ Sterilization Tray
- Twisted endarterectomy Instrument



# **PART 3 – Contract**

# Section VII. General Conditions of Contract

## Table of Clauses

1. Definitions.....	283
2. Contract Documents.....	284
3. Fraud and Corruption.....	284
4. Interpretation.....	284
5. Language.....	285
6. Joint Venture, Consortium or Association.....	285
7. Eligibility.....	285
8. Notices.....	286
9. Governing Law.....	286
10. Settlement of Disputes.....	286
11. Obligations During Arbitrations.....	287
12. Scope of Supply.....	287
13. Delivery and Documents.....	287
14. Supplier's Responsibilities.....	287
15. Contract Price.....	287
16. Terms of Payment.....	287
17. Taxes and Duties.....	288
18. Performance Security.....	288
19. Copyright.....	289
20. Confidential Information.....	289
21. Subcontracting.....	290
22. Specifications and Standards.....	290
23. Packing and Documents.....	290
24. Insurance.....	291
25. Transportation and Incidental Services.....	291
26. Inspections and Tests.....	291
27. Liquidated Damages.....	293
28. Warranty.....	293
29. Patent Indemnity.....	294
30. Force Majeure.....	294
31. Change Orders and Contract Amendments.....	294
32. Extensions of Time.....	295
33. Termination.....	295
34. Assignment.....	297

## Section VII. General Conditions of Contract

### 1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “University” means Banaras Hindu University established under Banaras Hindu University Act 1915 .
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “The Project Site,” term where applicable, means the place of work named in the Special Conditions of Contract (SCC).
- (j) “Purchaser” means Banaras Hindu University, institute, faculty, department and other entities of the University competent for purchasing Goods and Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “SCC” means the Special Conditions of Contract.

- (m) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (n) “Supplier” means the person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (o) “The Project Site,” where applicable, means the place named in the SCC.

**2. Contract Documents**

2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

**3. Corrupt and Fraudulent Practices**

3.1 The University requires compliance with its policy against the corrupt and fraudulent practices as set forth Section- V.

3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

**4. Interpretation**

4.1 Unless the context requires otherwise, singular means plural and vice versa.

4.2 The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.3 Amendment

No amendment or other variation of the Contract shall be valid unless it is reduced to writing, dated, expressly refers to the Contract, and is signed by the duly authorized representative of each party thereto.

4.4 Non-waiver

(a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall

prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

#### 4.5 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

### 5. Language

5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the SCC. Supporting documents and printed literature that are part of the Contract may be in any language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, such translation shall govern.

5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.

### 6. Joint Venture, Consortium or Association

6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

### 7. Eligibility

7.1 The Bidder should not have been declared insolvent by the competent court.

7.2 The Bidder should not be disqualified for contract under the law of the land.

7.3 The Bidder should not be adjudged defaulter of Tax Payment under Income Tax Law or any other Law for the time being in-force.

7.4 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in

conformity with the provisions of the laws of that country. Nationality must be disclosed by the supplier

7.5 All Goods and Related Services to be supplied under the Contract shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

## **8. Notices**

8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term “in writing” means communicated in written form with proof of receipt.

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

## **9. Governing Law**

9.1 The Contract shall be governed by and interpreted in accordance with the laws of India, unless otherwise specified in the SCC.

9.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in India when

(a) as a matter of law or official regulations, India prohibits commercial relations with that country; or

(b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, India prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

## **10 Settlement of Disputes**

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

10.2 If the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to settle the issue by arbitration, as hereinafter provided, as to the matter in dispute, no arbitration in respect of the matter be commenced unless such notice is given in accordance with this Clause for the final settlement of the matter. Arbitration may be commenced prior to or after delivery of the Goods under the

Contract.

10.3 All questions, disputes and differences arising shall be referred by the Vice-Chancellor, Banaras Hindu University to the sole arbitrator for arbitration under the provision of the Arbitrations and Conciliation Act, 1996.

**11 Obligations During Arbitrations**

11.1 Notwithstanding any reference to arbitration in Clause 10,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay any amount due to the Supplier.

**12. Scope of Supply**

12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.

**13. Delivery and Documents**

13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the SCC.

**14. Supplier's Responsibilities**

14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.

**15 Contract Price**

15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the SCC.

**16. Terms of Payment**

16.1 Ordinarily, payments for services rendered or supplies made shall be released only after the services have been rendered or supplies appropriate to the requirement made. However in following cases advance payments may be made if specified in SCC:

- (i) Advance payment demanded by firms holding maintenance contracts for servicing of Air-conditioners, computers, other costly equipment, etc.
- (ii) Advance payment demanded by firms against fabrication contracts, turnkey contracts etc.

Such advance payment should not exceed the following limits :-

- (i) Thirty percent of the contract value to private firms;
- (ii) Forty percent of the contract value to a State or central Government agency or a Public Sector Undertaking; or
- (iii) In case of maintenance contract, the amount should not exceed the amount payable for six months under the contract.

16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.

16.3 Payments shall be made promptly by the Purchaser, within ninety (90) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.

16.4 The currencies in which payment shall be made to the supplier under this contract shall be Indian currency unless otherwise agreed.

## **17. Taxes and Duties**

17.1 For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.

17.2 For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.

17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent or country or origin, the supplier shall provide benefit from any such tax saving to the purchaser.

## **18. Performance Security**

18.1 If required as specified in the SCC, the Supplier shall, within twenty-one (21) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.

18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency (ies) of the Contract or in a freely convertible currency acceptable to the Purchaser; and



shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.

18.4 Performance security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligation.

18.5 Bid security shall be refunded to the successful bidder within 30 days of receipt of performance security.

## **19. Copyright**

19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

## **20. Confidential Information**

20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) now or hereafter enters the public domain through no fault of that party;
- (b) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (c) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way

modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

## **21. Subcontracting**

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later on shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

## **22. Specifications and Standards**

22.1 Technical Specifications and Drawings

(a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section-VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin or India.

(b) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

## **23. Packing and Documents**

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

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

- 24. Insurance** 24.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the SCC.
- 25. Transportation and Incidental Services** 25.1 The Supplier is required under the Contract to transport the Goods to a specified place of final destination within India, defined as the Project Site, transport to such place of destination in India, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price”; or any other agreed upon trade terms (specify the respective responsibilities of the Purchaser and the Supplier)
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
  - (e) training of the Purchaser’s personnel, at the Supplier’s plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services otherwise shall be at the cost of suppliers.
- 26. Inspections and Tests** 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the SCC.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods’ final destination, or in another place in India as specified in the SCC. Subject to GCC Sub-Clause 26.3, if

conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier, if permitted by the purchaser, shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall absolve the Supplier from any warranties or other obligations under the Contract.

## **27. Liquidated Damages**

27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the 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 those SCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

## **28. Warranty**

28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

28.2 Subject to Sub-Clause 22.1(b) of GCC, the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.

28.3 Unless otherwise specified in the SCC, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or warranty period mentioned by supplier whichever period concludes later unless mutually agreed.

28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.

28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the SCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the SCC; the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

**29. Patent  
Indemnity**

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered.
- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

**30. Force Majeure**

- 30.1 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- 30.2 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably possible, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 30.3 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.

**31. Change Orders  
and Contract  
Amendments**

- 31.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

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

31.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

31.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

31.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**32. Extensions of Time**

32.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

32.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

**33. Termination**

33.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 35;
  - (ii) if the Supplier fails to perform any other obligation under the Contract; or
  - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 33.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

### 33.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser.

### 33.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
  - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
  - (ii) to cancel the remainder and pay to the Supplier an



agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

**34. Assignment**

- 34.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

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## Section VIII. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC Clause Ref. No.	SCC
<b>GCC 1.1(i)</b>	The Purchaser's country is: <b>India.</b>
<b>GCC 1.1(k)</b>	The Purchaser is: <b>The Director, Institute of Medical Sciences, Banaras Hindu University, Varanasi-221005</b>
<b>GCC 1.1 (j)</b>	The Project Site(s)/Final Destination(s) is/are: <b>Institute of Medical Sciences, BHU, Varanasi-221005</b>
<b>GCC 5.1</b>	The language shall be: <b>Hindi or English</b>
<b>GCC 8.1</b>	<p>For notices, the Purchaser's address shall be:</p> <p>Attention : <b>Prof. R.G. Singh</b></p> <p>Street Address : <b>Office of Director, IMS</b> <b>Banaras Hindu University</b></p> <p>Floor/ Room number :</p> <p>City : <b>Varanasi</b></p> <p>ZIP Code : <b>221005</b></p> <p>Country : <b>India</b></p> <p>Telephone : <b>91-542-2367568</b> <b>91-542-6703248</b> <b>91-542-2309450</b></p> <p>Facsimile number : <b>91-542-2367568</b></p> <p>Electronic mail address: <a href="mailto:directorims@gmail.com"><u>directorims@gmail.com</u></a></p>
<b>GCC 9.1</b>	The governing law shall be <b>the law of India.</b>
<b>GCC 10.2</b>	<p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p style="text-align: center;"><i><b>Contracts with Supplier for arbitral proceeding</b></i></p>

	In the case of a dispute between the Purchaser and a Supplier, the dispute shall be referred to adjudication or arbitration in accordance with the laws of India by the arbitrator appointed by vice-chancellor, BHU, unless otherwise agreed.
<b>GCC 13.1</b>	<p>Details of Shipping and other Documents to be furnished by the Supplier are :</p> <p>(i) An airway bill  (ii) Insurance Certificate,  (iii) Manufacturer's or Supplier's Warranty Certificate,  (iv) Inspection Certificate issued by nominated inspection agency,  (v) Supplier's factory shipping details etc</p> <p>The above documents shall be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
<b>GCC 15.1</b>	The prices charged for the Goods supplied and the related Services performed <b>shall not</b> be adjustable.
<b>GCC 16.1</b>	<p><b>Sample provision</b></p> <p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p><b>Payment for Goods supplied from abroad:</b>  Payment of foreign currency portion shall be made in Indian Rupees in the following manner:</p> <p>(i) <b>On Shipment:</b> Ninety (90%) percent of the Contract Price of the Goods shipped shall be paid through irrevocable confirmed letter of credit opened in favor of the Supplier in a bank in its country, upon receiving equipment in good condition and documents specified in GCC Clause 13.1 under Section-VII.</p> <p>(iii) <b>On Acceptance:</b> Remaining (10%) percent of the Contract Price of Equipment received shall be paid within <b>thirty (30) days</b> of receipt of the equipment upon submission of claim supported by the acceptance certificate issued by the Purchaser by bank draft/wire transfer.</p> <p>Payment of local currency portion shall be made in <b>Indian Rupees</b> within <b>thirty (30) days</b> of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed.</p> <p><b>Payment for Goods and Services supplied from within India:</b></p> <p>Payment for Goods and Services supplied from within India shall be made in <b>Indian Rupees</b>, as follows:</p>

	(i) <b>On Delivery &amp; Acceptance:</b> Hundred (100%) percent of the Contract Price shall be paid on receipt of the Goods in good conditions and acceptance certificate for satisfactory installation and functioning.
<b>GCC 18.1</b>	A Performance Security <b>shall be required @ 5% of contract price.</b>
<b>GCC 18.3</b>	If required, the Performance Security shall be in the form of : <b>Bank Guarantee</b>  If required, the Performance security shall be denominated in <b>Indian Rupees.</b>
<b>GCC 23.2</b>	The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract.
<b>GCC 24.1</b>	The insurance coverage shall be as specified in the <b>Incoterms.</b>  If not in accordance with <b>Incoterms</b> , insurance shall be as follows: <b>NA</b>
<b>GCC 25.1</b>	Responsibility for transportation of the Goods shall be as specified in the <b>Incoterms.</b>  If not in accordance with <b>Incoterms</b> , responsibility for transportations shall be as follows: <b>NA</b>
<b>GCC 25.2</b>	Incidental services to be provided are:  Selected services covered under GCC Clause 25.2 and/or other should be specified with the desired features. The price quoted in the bid price or agreed with the selected Supplier shall be included in the Contract Price.
<b>GCC 26.1</b>	The inspections and tests shall be: Equipment should be installed at site by designated engineer of the firm. Demonstration should be made to the satisfaction of the P.I. At least four free visits should be made by the engineer during the first year after installation to clarify and rectify any doubts or problems as may be faced by the user.
<b>GCC 26.2</b>	The Inspections and tests shall be conducted at the Department where the equipment is installed. For the rest please refer to GCC 26.1.
<b>GCC 27.1</b>	The liquidated damage shall be: <b>1% per week</b>
<b>GCC 27.1</b>	The maximum amount of liquidated damages shall be: <b>10%</b>
<b>GCC 28.3</b>	The period of validity of the Warranty shall be as per conditions specified in technical specification. For purposes of the Warranty, the place(s) of final destination(s) shall be the Department where the equipment is installed.

	<p>The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the Contract (<b>if any</b>). If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:</p> <ul style="list-style-type: none"> <li>(a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4,<b>or</b></li> <li>(b) pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be <b>1% per week</b> of actual value of the equipment (maximum 10%).</li> </ul>
<b>GCC 28.5</b>	The period for repair or replacement shall be: <b>60 days</b>

**Part 4 -Bidding Forms  
And  
Contract Forms**

# Section IX: Bidding Forms

## Table of Forms

1. Tender Form(Techno commercial unpriced Bid) .....	304
2. Tender Form(Price Bid).....	307
3. Bidder Information Form.....	309
4. Manufacturer's Authorization.....	310

## (i) TENDER FORM

### (Techno commercial un-priced Bid)

(On the letter head of the firm submitting the bid)

Tender No.....

To

The \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Sir,

1. I/We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders;
2. I/We meet the eligibility requirements and have no conflict of interest ;
3. I/We have not been suspended nor declared ineligible in India;
4. I/We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods: **insert a brief description of the Goods and Related Services**;
5. I/We offer to supply the items as listed in the schedule to this tender hereto/portion thereof as you may specify in the acceptance of Tender at the price given in the said Schedule and agree to hold this offer open for a period of 90 days from the date of opening of the tender.
6. I/we shall be bound by a communication of acceptance issued by you.
7. I/We have understood the Instruction to bidders and Conditions of Contract in the form as enclosed with the invitation to the tender and have thoroughly examined the specifications quoted in the Schedule hereto and am/are fully aware of the nature of the goods required and my/our offer is to supply the goods strictly in accordance with the specifications and requirements.
8. A crossed Bank Draft in favor of the Registrar, BHU for Rs. (Rupees.....only) as Earnest Money is enclosed. The Draft is drawn on .....Bank payable at Varanasi
9. The following have been added to form part of this tender.
  - (a) Samples of items quoted for, as per instructions provided in the schedule of requirement.



- (b) Schedule of requirements, quoting the make only duly signed and stamped.(without indicating price)
- (c) Income Tax clearance certificate.
- (d) Copy of last audited balance sheet.
- (e) Copy of Valid Central/State sales tax registration certificate.
- (f) Copy of relevant major purchase orders valuing more than Rs. 20000/- executed during last two years for Govt. Depts., PSUs & Central Autonomous bodies..
- (g) Proof of manufacturing Unit, dealership certificate/general order suppliers.
- (h) Statement of deviations from financial terms & conditions, if any.
- (i) Any other enclosure. (Please give details)

10. We undertake to execute all orders which have been placed to meet emergent requirements on priority basis.

11. Certified that the bidder is:

- a) A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor,

**Or**

- b) A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney.

**Or**

- c) A company and the person signing the document is the constituted attorney.

(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document).

12. We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof shall constitute a binding contract between us.

13. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

14. We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process, other than alternative bids submitted;

15. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder\* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder\*\* **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above [insert signature of person whose name and capacity are shown above]

Date signed [insert date of signing] day of [insert month], [insert year]

\*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

\*\* : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Yours faithfully,

(Signature of bidder)

Dated this day of \_\_\_\_\_

Address:.....

.....

.....

Telephone No. : \_\_\_\_\_

FAX \_\_\_\_\_

E-mail \_\_\_\_\_

Company seal

## (ii) TENDER FORM

(Priced Bid)

*(On the letter head of the firm submitting the bid document)*

To,

The \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Ref: Tender No.....Dated: .....

Sir,

Having examined the bidding documents and having submitted the techno commercial unpriced bid for the same, we, the undersigned, hereby submit the priced bid for supply of goods and services as per the schedule of requirements and in conformity with the said bidding documents.

1. We hereby offer to supply the Goods/Services at the prices and rates mentioned in the enclosed schedule of requirement.
2. We do hereby undertake that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule of requirement and that we shall perform all the incidental services.
3. The prices quoted are inclusive of all charges net F.O.R University. We enclose herewith the complete Financial Bid as required by you. This includes:
  - a. Price Schedule(Bill of Quantity- BOQ).
  - b. Statement of deviations from financial terms and conditions.
4. We agree to abide by our offer for a period of **90 days** from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.
5. We have carefully read and understood the terms and conditions of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviations are only those mentioned in the statement of deviations from financial terms and conditions.
6. We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]**

Name of Recipient	Address	Reason	Amount


(If none has been paid or is to be paid, indicate “none.”)

7. We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
8. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Certified that the bidder is:

A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of sole proprietor,

**Or**

A partnership firm, and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney,

**Or**

A company and the person signing the bid document is the constituted attorney.

**(NOTE: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document.)**

We do hereby undertake that, until a formal notification of award, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.

Dated this day of \_\_\_\_\_

Signature of Bidder \_\_\_\_\_

Details of enclosures \_\_\_\_\_

Full Address: \_\_\_\_\_

\_\_\_\_\_

Telephone No. \_\_\_\_\_

Mobile No. : \_\_\_\_\_

Fax No. : \_\_\_\_\_

E-mail : \_\_\_\_\_

**COMPANY SEAL**

# Bidder Information Form

*[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

ADVT. No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page \_\_\_\_\_ of \_\_\_\_\_ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information  Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i>  <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above., <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement., <input type="checkbox"/> In case of Government-owned enterprise or institution, documents establishing: <ul style="list-style-type: none"> <li>• Legal and financial autonomy</li> <li>• Operation under commercial law</li> <li>• Establishing that the Bidder is not dependent agency of the Purchaser</li> </ul>
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

# Manufacturer's Authorization

*[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid, if so indicated in the BDS.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

ADVT. No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

## WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ *[insert date of signing]*

# Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

## Table of Forms

1. Letter of Acceptance .....	312
2. Contract Agreement .....	313
3. Performance Security.....	315
4. Advance Payment Security .....	319

**TENDER ACCEPTANCE LETTER**

(To be given on Company Letter Head)

**Date:**

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**Sub: Acceptance of Terms & Conditions of Tender.**

**Tender Reference No.** \_\_\_\_\_

**Name of Tender/ Work: -**

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Dear Sir,

1. I/We have downloaded/ obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

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as per your advertisement, given in the above mentioned website(s).

2. I/We hereby certify that I/We have read the entire terms and conditions of the tender documents from Page No. \_\_\_\_\_ to \_\_\_\_\_ (including all documents like section(s), schedules(s) etc.), which form part of the contract agreement and I/we shall abide hereby by the terms/conditions/ clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. I/We hereby unconditionally accept the tender conditions of above mentioned tender document(s)/ corrigendum(s) in its totality/entirety.

5. In case any provisions of this tender are found violated, then your department/organisation shall without prejudice to any other right or remedy be at liberty to reject this tender/bid including the forfeiture of the full said earnest money deposit absolutely.

**Yours Faithfully,**

**(Signature of the Bidder, with Official Seal)**



# Contract Agreement

*[The successful Bidder shall fill in this form in accordance with the instructions indicated]*

THIS AGREEMENT made

the *[ insert: **number** ]* day of *[ insert: **month** ]*, *[ insert: **year** ]*.

BETWEEN

- (1) *[ insert complete name of Purchaser ]*, a *[ insert description of type of legal entity, for example, an agency of the Ministry of .... of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser } ]* and having its principal place of business at *[ insert address of Purchaser ]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[ insert name of Supplier ]*, a corporation incorporated under the laws of *[ insert: country of Supplier ]* and having its principal place of business at *[ insert: address of Supplier ]* (hereinafter called “the Supplier”), of the other part :

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
  - (a) the Letter of Acceptance
  - (b) the Tender Forms
  - (c) the Addenda Nos. \_\_\_\_\_ (if any)
  - (d) Special Conditions of Contract
  - (e) General Conditions of Contract
  - (f) the Specification (including Schedule of Requirements and Technical Specifications)
  - (g) the completed Schedules (including Price Schedules(BOQ))
  - (h) any other document listed in GCC as forming part of the Contract

3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*  
in the capacity of *[ insert title or other appropriate designation ]*  
in the presence of *[ insert identification of official witness]*

# Performance Security

## Option 1: (Bank Guarantee)

*[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]*

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[insert name and Address of Purchaser ]*

**Date:** *\_ [Insert date of issue]*

**PERFORMANCE GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *\_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *\_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (\_\_\_\_\_) *[insert amount in words]*,<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at this office indicated above on or before that date.

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<sup>1</sup> *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

<sup>2</sup> *Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

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*[signature(s)]*

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***

## Option 2: Performance Bond

By this Bond *[insert name of Principal]* as Principal (hereinafter called “the Supplier”) and *[insert name of Surety]* as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Purchaser]* as Obligee (hereinafter called “the Supplier”) in the amount of *[insert amount in words and figures]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Supplier and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Contractor has entered into a written Agreement with the Purchaser dated the \_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_, for *[name of contract and brief description of Goods and related Services]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Supplier shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Supplier shall be, and declared by the Purchaser to be, in default under the Contract, the Purchaser having performed the Purchaser’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or bids from qualified Bidders for submission to the Purchaser for completing the Contract in accordance with its terms and conditions, and upon determination by the Purchaser and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Purchaser and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Purchaser to Supplier under the Contract, less the amount properly paid by Purchaser to Contractor; or
- (3) pay the Purchaser the amount required by Purchaser to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Purchaser named herein or the heirs, executors, administrators, successors, and assigns of the Purchaser.

In testimony whereof, the Supplier has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_.

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_

SIGNED ON \_\_\_\_\_ on behalf of \_\_\_\_\_

By \_\_\_\_\_ in the capacity of \_\_\_\_\_

In the presence of \_\_\_\_\_

# Advance Payment Security

*[Guarantor letterhead or SWIFT identifier code]*

**Beneficiary:** *[Insert name and Address of Purchaser]*

**Date:** *[Insert date of issue]*

**ADVANCE PAYMENT GUARANTEE No.:** *[Insert guarantee reference number]*

**Guarantor:** *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (\_\_\_\_\_) *[insert amount in words]*<sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

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<sup>1</sup> *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

\_\_\_\_\_  
*[signature(s)]*

***Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.***



**INVITATION FOR BIDS**  
**Notice Inviting Tender (NIT)**

BANARAS HINDU UNIVERSITY  
OFFICE OF DIRECTOR  
INSTITUTE OF MEDICAL SCIENCES  
VARANASI-221005

**e-Procurement Notice**

**Ref: : BHU/IMS/TC/N-1/2014/02**

**Dated: 04-06-2014**

Online tenders are hereby invited in **two cover system** from reputed **manufacturer/ authorized representative of a manufacture/whole sale dealer/importer** for supply of :-

**1. Surgical and Medical Equipment in Trauma Centre**

Bidders can download complete set of bidding documents from e- procurement Platform <https://eprocure.gov.in/eprocure/app> from 04-06-2014 onwards. Bidders need to submit the bids online for the interested items by uploading all the required documents through <https://eprocure.gov.in/eprocure/app>.

**Last Date/ Time for receipt of bids through e-procurement is:** 25-06-2014 upto 04:00PM. (Server time). Late bids shall not be accepted.

For further details regarding Tender Notification & Specifications please visit website: <https://eprocure.gov.in/eprocure/app> and [www.bhu.ac.in](http://www.bhu.ac.in).

**CRITICAL DATE SHEET**

<b>Published Date</b>	<b>04-06-2014 (06:00 PM)</b>
<b>Bid Document Download Start Date</b>	<b>04-06-2014 (06:00 PM)</b>
<b>Clarification Start Date</b>	<b>04-06-2014 (06:00 PM)</b>
<b>Clarification End Date</b>	<b>11-06-2014(04:00 PM)</b>
<b>Pre bid meeting</b>	<b>NA</b>
<b>Bid Submission Start Date</b>	<b>13-06-2014 (04:00 PM)</b>
<b>Bid Document Download End Date</b>	<b>25-06-2014 (04:00 PM)</b>
<b>Bid Submission End Date</b>	<b>25-06-2014 (04:00 PM)</b>
<b>Bid Opening Date</b>	<b>27-06-2014 (11:00 AM)</b>