KOLLAM DISTRICT CO-OPERATIVE HOSPITAL SOCIETY LTD Q 952

Palathara, Kollam

Pin: 691020

TENDER DOCUMENT

For

Supply & Installation of

MEDICAL EQUIPMENTS & FURNITURE

Tender No: PDT -5/2018-19/- MEDICAL EQUIPMENTS&FURNITURE/NSMIMS

INDEX

SECTION 1

INVITATION FOR TENDER

Sealed Tenders (Two Bid System) are invited for supply and installation of **MEDICAL EQUIPMENTS&FURNITURE**
-For NS Memorial Institute of Medical Sciences (NSMIMS) under Kollam District Cooperative Hospital Society Ltd Q 952.

DATE OF RELEASE OF TENDER : 29.10.2018

LAST DATE FOR PURCHASE OF TENDER DOCUMENTS : 09.11.2018 11 am

TENDER SUBMISSION END DATE : 09.11.2018 3 pm

DATE OF TENDER BID OPENING : 09.11.2018 4 pm

Brief schedule

Sl No	Description	EMD	Completion period	Tender fees
1	**MEDICAL EQUIPMENTS AND FURNITURE**	**Rs 100000/-**	**3weeks**	**Rs 3000/-**

Tender documents are available for sale at NSMIMS from 29.10.2018 till closing date of receipt of tender against a payment of non-refundable fee of Rs 3000/-(Rupees Three Thousand Only)) in the form of crossed Demand Draft drawn in favour of the Secretary, Kollam District Cooperative Hospital Society Ltd, Q 952 payable at Kollam. The tender document can also be downloaded from the website www.nshospital.org . In the case of bid documents downloaded from the website mentioned above, the required fees as mentioned above has to be deposited at the time of submission of tender and non-submission of sufficient tender document cost as mentioned in Section III shall be one of the primary reasons for rejection of the offer in the first round.

In case of any disparity between the printed version of the tender documents sold through the Tender Inviting Authority and the downloaded version, the printed version will prevail.

SECTION II

SCOPE & DESCRIPTION OF CONTRACT

2.1 General Definitions

2.1.1 *Society* means Kollam District Cooperative Hospital Society Ltd Q 952, represented by the Secretary

2.1.2 *Purchase Committee* is a Sub Committee of the Board of Directors authorized to decide on the purchase of the drugs, equipments and other stores procured by the Society

2.1.3 *Tender Inviting Authority* is the Secretary, Kollam District Cooperative Hospital Society Ltd, Q 952 who calls for tenders and ensures supply, installation and after sales service of the items procured under this tender document.

2.1.4 *Blacklisting/debarring* – the event of violation of any conditions of the tender document, more specifically those mentioned in the Specific Conditions of Contract (Section V) and General Conditions OfContract

(Section VI) of this tender document, the tenderers will be prevented for a period of 1 to 5 years from participating in the future tenders of Tender Inviting Authority, the period of debarring being decided on the basis of the number of violations in the tender conditions and the loss/hardship caused to the Tender Inviting Authority on account of such violations.

2.2 Scope

2.2.1 The tenders are invited for the supply, installation and commissioning of the MEDICAL EQUIPMENTS&FURNITURE, the details of which are mentioned in Section IV, needed for Kollam District Cooperative Hospital Society Ltd, Q 952.

The tender can be withdrawn at any point of time, after the minimum price firmness period of 180 days, but not after accepting the Letter of Intent or entering into agreement with Kollam District Cooperative Hospital Society Ltd, Q 952 or without giving a one month's prior notice.

SECTION III

TENDER SCHEDULE

3.1. Tender Details

1.	Tender No.	**Tender No: PDT -5/2018-19/- MEDICALEQUIPMENTSAND FURNITURE/ NSMIMS**
2.	Cost of Tender Document	Rs 3000/-
3	Earnest Money Deposit	Rs 100000/-
4.	Performance Security	5% of the offered price (for successful tenders)
5.	Validity of Performance Security	Up to 90 days after the date of completion of the contractual obligations

3.2. Important Dates

Sl. No.	Particulars	Date and time
1.	Date of release of tender	29.10.2018 10am
2	Tender submission Start Date	29.10.2018 10am
3	Tender submission End Date	09.11.2018 3pm
4	Date of technical bid opening	09.11.2018 4pm.
5	Date of demonstration of the machine/equipments	To be informed to qualified tenderers qualifying after opening of technical bids
6	Date of opening of the price bid	To be informed to the qualifying tenders qualifying after demonstration

SECTION IV

DETAILS OF EQUIPMENT TENDERED

4.1

SL. NO	Description	Quantity
1	Patient Bed 5 –Fun Motorized	64
2	Over Bed Table	64
3	Dressing Trolley	08
4	Bedside Cabinet	64
5	Medicine Trolley	08
6	ECG Machine 12 Channel with cart	06
7	Multiparamonitor –Medium Acuity	36
8	Multiparamonitor –High Acuity	09
9	Defibrillator with AED & Pacing	06
10	Ventilator	10
11	Syringe Pump	52
12	Infusion Pump	47
13	Patient Warmer	10
14	Fluid Warmer	12
15	Enteral Feeding Pump	02
16	Crash Cart	08
17	Portable Suction Machine	07
18	Central Station Monitoring	03

19	**BIPAP Machine**	**02**
20	**ECHO Machine**	**01**
21	**Ultrasound 4D**	**01**
22	**ETO**	**01**
23	**Digital X-ray Machine -30 KW**	**01**
24	**Digital Mammography**	**01**
25	**TMT**	**01**
26	**Portable Ultrasound**	**03**
27	**IABP**	**01**
28	**ACT Machine**	**01**
29	**Portable ECHO Machine**	**01**
30	**Stretcher Trolley**	**10**
31	**Wheel Chair**	**20**
32	**Patient Transfer Stretcher**	**04**
33	**Examination Couch with foot step**	**05**
34	**Spot Light**	**03**
35	**Patient Bed 5 Function Manual**	**03**
36	**Patient Bed 3Function Manual**	**09**
37	**IV Hanger**	**30**

4.2

The detailed technical specifications and other quality parameters of the above equipment may be seen at the Appendix in Section VII- Technical Specifications

SECTION V

SPECIFIC CONDITIONS OF CONTRACT

5.1

Sl. No	Activity	Time Limit
5.1.1	*Installation / Delivery period*	2weeks from date of confirmation of delivery from Tender Inviting Authority
5.1.2	*Completion of installation*	2 weeks from the date of supply order
5.1.3	*Comprehensive warranty period*	3 years for all items supplied
5.1.4	*Frequency of visits to NSMIMS during Warranty*	One visit every 3 months (4 visits in a year) for periodic/preventive maintenance and any time for attending repairs/break down calls.
5.1.5	*Submission of Performance Security and entering into contract*	10 days from the date of issuance of Letter of Intent
5.1.6	*Payment Installments of Price of equipments and ratio*	2 Installments and in the ratio 80: 20
5.1.7	*Time for making payments by Tender Inviting Authority*	Within 30 days from the date of submission of proper documents

5.1.8	*Maximum time to attend any Repair call*	Within 48 hours during warranty period
5.1.9	*Uptime in a year*	95 %

5.2. Pre qualification of tenderers:

5.2.1 Manufacturers or their authorized dealers/Indian subsidiaries/direct importers having a place of business in any of the States of India are eligible to participate in this tender. [Original Equipment Manufacturers shall submit the 'Manufacturer's Offer Form' (as per Annexure- I).The Letter of Authorization (as per Annexure-2) from the Original Equipment Manufacturer (OEM) shall be submitted in the case of a tenderer who is not the manufacturer of the equipment offered].

5.2.2 The tenderer or manufacturer of the equipment offered who is in the business of the supply and installation of the equipment for the last three calendar years.

5.2.3 Tenderers who submit all the necessary documents as prescribed for inclusion in the technical bid under cl.6.1 without any ambiguity and errors and who submit the requisite cost of the tender document and also the EMD prescribed.

5.2.4 The Tenderers who have an average annual turnover of Rs. 1crore for the last three completed financial years. The tenderer shall submit proof of the same (Notary attested copy of audited accounts, balance sheet, annual report etc.)

5.2.5 Tenderers who submit notary attested copy of IT returns filed for the last three years.

5.2.6 Tenderers who have the capability to attend repairs of the product within the time prescribed and who are willing to provide standby equipment or replace the faulty equipment if the repair/down time extends beyond 72 hours from the time of reporting of the fault within the next 48 hours (total down time should not exceed 5 days in one instance). The tenderers who have the capability to ensure the uptime mentioned in clause 5.1.10 (Documentary proof shall be submitted on the after sales facilities and expertise of the tenderer.)

5.2.7 Tenderers who have been blacklisted/ debarred by Tender Inviting Authority

or blacklisted / debarred by any State Government or Central Government department/Organization or Cooperative Society should not participate in the tender during the period of such blacklisting.

5.3 Format and signing of bid.

5.3.1 The Tenderer shall prepare two copies of the bid, clearly making each "Original Bid" and "Copy of Bid" as appropriate. In the event of any discrepancy between them, the original shall govern.

5.3.2 The original and copy of the bid shall be typed or written in indelible ink and shall be signed by the bidder or a person or persons duly authorized to bind the bidder to the contract. Written power-of-attorney accompanying the bid shall indicate the letter of authorization. The person or persons signing the bid shall initial all pages of the bid, except for unlamented printed literature.

5.3.3 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the bidder, in which case the person or persons signing the bid shall initial such corrections.

5.4 Submission of Bids

5.4.1 Sealing and marking of bids.

The bidders shall seal the original and the copy of the bid in an inner and an outer envelope, duly marking the envelopes as 'Original Bid' and 'Copy of Bid'.

5.4.2 The Inner and outer envelopes shall be:

(a) Addressed to the purchaser at the following address: -

"The Secretary,

Kollam District Cooperative Hospital Society Ltd Q 952,

NS Memorial Institute of Medical Sciences (NSMIMS),

Palathara

Kollam,

Kerala

Pin: 691020

(b) Bear the Invitation for Tender number and the words "DO NOT OPEN BEFORE……..." (Here insert the time and date of Bid opening).

5.4.3 The inner envelopes shall indicate the name and address of the bidder.

5.4.4 If the outer envelope is not sealed and marked as required herein, the purchaser will assume no responsibility for the bid's misplacement or premature opening.

5.4.5 Tenderers shall submit their bids in two parts as under:

(a) **Technical bid***, in duplicate*, consisting of technical details bringing out clearly in a separate sheet, the deviations in specifications, if any, from that of 'Technical Specifications' and also clause-by-clause compliance of specifications along with the commercial terms and conditions and bid security.

b) **Price bid** showing only item wise prices in a separate sealed cover inside the main cover.

c) It may be noted that when the main cover is opened on the date and time scheduled for tender opening, only the technical bids will be opened.

d) Only those tenderers whose technical bids are found to be substantially responsive and demonstration of the functioning of the equipment found satisfactory will be informed of the date and time of opening of their price bids. Price bids of others will not be opened.

5.5 **Deadline for submission of bids**.

5.5.1 Bids must be received by the purchaser at the address specified at para 5.4.2 not later than the time and date specified in the invitation for bids. In the event of the specified date for the submission of bids being declared a holiday for the purchaser, the bids will be received up to the appointed time on the next working day.

5.5.2 The purchaser may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents, in which case all rights and obligations of the purchaser and bidders which were subject to the previous deadline will thereafter be subject to the deadline as extended.

5.5.3 It is the responsibility of the bidders to ensure that the completed bidding documents are delivered to the Tender Inviting Authority before the closing date and time stipulated above for receipt of bid, failing which the bid would be considered late and rejected.

5.6 **Late bids**

5.6.1 Any bid received by the purchaser after the deadline for submission of bids prescribed by the purchaser, will be summarily rejected.

5.7 Single bid

Any bid received by the purchaser in the form of a single bid incorporating both technical details and quoted price will be summarily rejected.

SECTION VI

GENERAL CONDITIONS OF CONTRACT

6.1 Contents of the Tender Document:

This '**Tender Document'** contains the following:

6.1.1 Invitation for Tender (Section I)

6.1.2 Scope and Description of Contract (Section II)

6.1.3 Tender Schedule (Section III)

6.1.4 Details of Equipments Tendered (Section IV)

6.1.5 Specific Conditions of Contract (Section V)

6.1.6 General Conditions of Contract (Section VI)

6.1.7 Appendix: Documents Supplied by the Tender Inviting Authority

6.1.8 Annexures: Formats for submission of tenders by the tenderers

6.2 Tender Document

6.2.1 The detailed technical specifications and terms and conditions governing the supply, installation, commissioning and the after sales service of the products tendered are contained in this "Tender Document".

6.2.2 Tender documents are available for sale at NSMIMS from -29/10/2018 till a closing date of receipt of tender against a payment of non-refundable fee of Rs3000/-(Rupees Three thousand only only)in the form of crossed Demand Draft drawn in favour of the Secretary, Kollam

District Cooperative Hospital Society Ltd Q 952 payable at Kollam. The tender document can also be downloaded from website www.nshospital.org. In the case of any discrepancy between the printed version and downloaded version, the printed version shall prevail. In case the Tender Document is downloaded, Tenderer shall submit Tender Document cost along with tender documents and non- submission of sufficient Tender document cost shall be one of the primary reasons for rejection of the offer in the first round.

6.2.3 The general guidelines on the tender process are as below;

6.3 Responsibility for Verification of Contents of Tender Document:

6.3.1 The purchasers of the tender form shall examine all instructions, forms, terms and conditions and specifications in the Tender Document and verify that all the contents mentioned under clause 6.1, are contained in the 'Tender Document'.

6.3.2 Failure to furnish any information required by the tender documents and submission of an offer not substantially responsive to it in every respect shall be at the tenderer's risk and may result in the rejection of the bids, without any further notice.

6.4 Guidelines for Preparation of Tender

6.4.1 The Tenderer shall bear all costs associated with the preparation and submission of its bid and the Kollam District Cooperative Hospital Society Ltd, Q 952, hereinafter referred to as the "Tender Inviting Authority", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

6.4.2 In the event of documentary proof as required not being enclosed, the Tender shall be liable to be rejected. All pages of the bid, except for unamendable printed literature, shall be signed by the authorized person or persons signing the bid along with the stamp of the tenderer.

6.4.3 Language of Bid:- The Bid prepared by the tenderer and all correspondence and documents relating to the bid exchanged by the Tenderer and the Tender Inviting Authority, shall be in English language only. Supporting documents and printed literature furnished by the Tenderer may be written in another language provided that they are accompanied by an authenticated accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the English translation shall govern.

6.4.4 The tender (in English Language only) for the supply of equipments mentioned in Section IV shall be submitted along with detailed specifications. A technical leaflet /brochure / literature in original shall be enclosed along with list of names of organizations to which the equipment with the same specifications have been supplied in India during the last three years. In case of copy of earlier work orders and the performance certificates supporting the claim of past performance of the tenderer, it shall be attested by the organization where the same has been supplied and installed.

6.4.5 The documentary evidence (other than those regarding supply and past performance) submitted along with the Tender shall be produced duly attested by the tenderer on every page and serially numbered. Any interlineations, erasures or overwriting shall be valid only if they are initialed by the person (s) signing the offer.

6.4.6 Tenderer shall submit a declaration letter as per the format given as Annexure 10 and copy of amendments published, if any, signed by the tenderer or the authorized representative shall be enclosed as part of the technical bid as a proof of having read and accepted the terms and conditions of the tender document.

6.4.7 An offer submitted in vague /ambiguous financial terms and the like, shall be deemed to be non-responsive and shall be summarily rejected.

6.4.8 Clarifications to specific requests shall be responded through e-mail and general clarifications, affecting all the tenderers shall be published in the official website of the Tender Inviting Authority.

6.5 Earnest Money Deposit (EMD):

6.5.1 EMD of unsuccessful tenderers will be discharged /returned promptly.

6.5.2 The successful tenderer's EMD will be discharged upon the tenderer signing the contract and furnishing the performance security.

6.5.3 No interest will be paid for the EMD submitted.

6.5.4 The EMD will be forfeited, if a tenderer,

(a) Misrepresents facts or submits fabricated / forged / tampered / altered / manipulated documents.

(b) Withdraws its bid after the opening of technical bid;

(c) Fails to sign the contract after issuance of Letter of Intent

(d) Fails to furnish performance security after issuance of Letter of Intent

6.6 Deadline for Submission of Tender

6.6.1 Tenders shall be submitted before the last date & time prescribed and the Tender Inviting Authority shall not be held liable for any delay whatsoever.

6.6.2 The Tender Inviting Authority may, at its discretion, extend the deadline for submission of tender by amending the Tender Document, in which case, all rights and obligations of the Tender Inviting Authority and the tenderers previously subjected to the deadline shall thereafter be subjected to the deadline so extended.

6.7 Modification and Withdrawal of Bids

6.7.1 The tenderer can modify or withdraw bids submitted before the last date & time for submission.

6.8 Period of Validity of Tender

6.8.1 The tender must remain valid for minimum 180 days (six months) from the date of opening of price bid. A bid valid for a shorter period shall be rejected by the Tender Inviting Authority as non-responsive.

6.8.2 Withdrawal or non-compliance of agreed terms and conditions after the execution of agreement or issuance of Supply Order will lead to invoking of penal provisions and may also lead to black listing/debarring of the successful tenderer.

6.9 Acceptance / Rejection of Tenders:

6.9.1 It is not necessary that the offer of the firm quoting the lowest rates shall be accepted.

6.9.2 At any point of time, the Tender Inviting Authority reserves the right to cancel or modify the supply order even after it is awarded to the successful tenderer, in the event of the firm deviating from the agreed terms and conditions or as mutually agreed.

6.10 Notices

6.10.1 The Tender Inviting Authority shall publish the following information on its website at the appropriate time as part of ensuring transparency in the tender process;

a. The tender notices, documents, corrigendum, addendum etc, if any.

b. Amendments to the tender conditions, if any

c. Results of the responsiveness of the technical bids and minor infirmities/clarifications sought.

d. List of tenderers qualified for demonstration of equipment

e. Results of the demonstration of the equipment and provisional list of tenderers qualified for price bid opening.

f. Final List of technically qualified bidders.

g. Accurate Quantity will be finalized during the time of negotiation

6.10.2 Notice, if any, relating to the contract, given by one party to the other shall be sent in writing or by email and confirmed by post. The procedure will also provide the sender of the notice, the proof of receipt of the notice by the receiver. The addresses of the parties for exchanging such notices will be the addresses as incorporated in the contract.

6.10.3 The effective date of a notice shall be either the date when delivered to the recipient or the effective date specifically mentioned in the notice, whichever is later.

6.11 Other Terms and Conditions

6.11.1 All the terms and conditions in respect of warranty/guarantee, Training of Staff etc mentioned herein shall be complied with.

6.11.2 Technical Specifications and Standards: - The Goods & Services to be provided by the successful tenderer under this contract shall conform to the technical specifications and quality control parameters mentioned in this document.

6.11.3 The tenderer shall be responsible for payment of any charges due to any statutory authorities such as Income Tax, Sales Tax, and Customs Duties etc.

6.11.4 If at any point of time it is found out that there is a responsibility to effect some statutory deduction at the source, the Tender Inviting Authority will have the authority to do so.

6.12 Tendering System

6.12.1 The tenders / bids are to be submitted in two covers.

6.12.2 PART-I is titled as TECHNICAL BID. The technical bid shall contain the complete technical specification, details on competency and financial stability of the tenderer, delivery and after sales conditions.

6.12.3 PART II is titled as PRICE BID (BOQ) has to be submitted.

6.14 Amendment of tender documents:

6.14.1 At any time prior to the deadline for submission of tender, the Tender Inviting Authority may, for any reason, modify the tender document by amendment.

6.14.2 The amendments shall be published in the website, and the tenderer shall submit copy of amendments published, if any, signed by the tenderer or the authorized representative as part of the technical bid as a proof of having read and accepted the terms and conditions of the tender document.

6.14.3 The Tender Inviting Authority shall not be responsible for failure to inform the prospective tenderers for any notices published related to each tender. Tenderers are requested to browse website of the Tender Inviting Authority for information/general notices/amendments to tender document etc on a day to day basis till the tender is concluded

6.15 Contents of Bid submission.

6.15.1 Tender Document

6.15.2 Tender Document cost (in case Tender document is downloaded from the website)

6.15.3Earnest Money Deposit

6.15.4General information about the tenderer as per Annexure V

6.15.5 Annual turnover statement for last three years certified by the auditor as per Annexure IX.

6.15.6Offer form as prescribed in the Annexure-VI.

6.15.7 The documents proving that the tenderer is an Original Equipment Manufacturer or their principal dealer/importer for Kerala/ South India/India (Annexure I/II)

6.15.8 Declaration Letter as per Annexure X and copy of amendments, if any, duly signed in all pages by the tenderer or the authorized signatory.

6.15.9Price Bid

6.15.10 Power of Attorney as per format in Annexure VIII.

6.15.11 Notary attested documents such as articles of association/partnership deed etc, proof of incorporation, proving the registration of place of business and showing the details of partners/promoters/board of directors etc.

6.15.12 Notarized audited copies of the P& L Accounts, Balance Sheet, and annual report for the last three completed years certified by the auditors.

6.15.13 Notary attested copy of IT returns filed for the last three completed years.

6.15.14 Details of Service centers as per Annexure VII

6.15.15 Documents showing service centre facilities in Kerala/South India.

6.15.16 Technical literature, product data sheet. (Original brochure and other documents proving that the equipment tendered meets all the technical parameters laid down herein).

6.15.17 Comparative statement of the technical specifications and compliance with the supplier’s offered model, deviations and justifications.

6.15.18 The documents such as supply orders, performance reports showing that the tenderer and manufacturer is having previous experience in the business of the supply and installation of the equipment offered.

6.15.19 List of Installations of the offered model in Kerala and South India (institutions with name/designation of the contact person, phone number/email)

6.15.20 Copy of Quality Certificate requested as per the technical specification (if applicable) for the offered model.

6.16 Opening of Tender

6.16.1 The date of technical bid opening is published in advance. However, the date of opening of price bid will be decided only after demonstration / obtaining clarification(s) from those who qualify in the technical bid and shall be conveyed to the qualified tenderers from time to time.

6.16.2 The opening of the technical bid and the price bid shall be done by the Tender Inviting Authority or his authorized representatives. The prospective tenderers or his/her representative who choose to attend the bid opening can attend the office of the Tender Inviting Authority for the opening of the bids.

6.16.3 In the event of the specified date for opening of Tender being declared holiday, the Tender shall be opened at the appointed time and venue on the next working day.

6.16.4 In the event of a tender (a) wherein the claims in the documents are materially missing or (b) if there is substantial error or (c) if the tenderer is unqualified for want of required qualifications, the tender shall stand disqualified and rejected. However, minor infirmities in the submission of documents will be allowed to be rectified so as to ensure qualification of maximum number of competitive offers to the final round.

6.16.5 The tenderer shall be responsible for properly uploading the relevant documents in the formats specified in the specific location and the Tender Inviting Authority shall not be held liable for errors or mistakes done while submitting the bid.

6.16.6 The date and time of opening the Price Bid will be announced only after the opening of the Technical Bid and demonstration of the features, operation etc of the equipment by the tenderers.

6.17 Evaluation of tender

6.17.1 Bid Evaluation Committee:

6.17.1.1 The commercial terms and documents submitted as part of the technical bid shall be scrutinized by a Bid Evaluation Committee constituted by the Tender Inviting Authority.

6.17.1.2 The Bid Evaluation Committee may also verify the veracity of claims in respect of the known performance of the equipment offered, the experience and reputation of tenderer in the field, the financial solvency etc.

6.17.2Technical Committee:

6.17.2.1Evaluation of the technical bid shall be conducted by a Committee called the 'Technical Committee'. The demonstration of the machinery / equipment shall be conducted before the technical committee.

6.17.3Purchase Committee:

6.17.3.1 The recommendations of the Bid Evaluation Committee/Technical Committee will be further scrutinized by the Purchase Committee.

6.17.4 A tenderer, at any stage of tender process or thereafter, in the event of being found after verification by the Tender Inviting Authority, to indulge in concealment or misrepresentation of facts, in respect of the claims of the offer, shall be debarred/black listed.

6.17.5 The Tender Inviting Authority's decisions on the tender submitted shall be based on the decisions taken by the various committees and otherwise as per the clauses as mentioned above.

6.17.6 Arithmetical errors shall be rectified on the following basis: If a

Discrepancy occurs between words and figures, the amount in words shall prevail and the offer shall stand corrected to that effect. If the tenderer does not accept the correction of errors, his offer shall be rejected. The Tender Inviting Authority may waive any minor infirmity or non-conformity or irregularity in an offer, which does not constitute a material deviation, provided that the same shall not prejudicially affect the interest of the other tenderers.

6.18 Clarification of Bids

6. 18.1 During evaluation of bids, the Tender Inviting Authority may, at its discretion, give opportunity to the tenderer(s) for clarification of points raised by the bid evaluation committee or technical committee, as the case may be, on its bids submitted

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6.18.2 The request for clarification and the response shall be in writing, either through email or by post.

6.19 Demonstration of technical specifications and performance:

6.19.1 Before the opening of the Price Bid, immediately after the opening of Technical Bid, the tenderer shall arrange for demonstration of the machine at own cost, either directly or through authorized Dealer /Distributors, as the case may be, for verification by the Tender Inviting Authority.

6.19.2 If it is not possible for the successful tenderer to provide the model offered which conforms to the exact specifications as per section IV, then it shall be open to the tenderer to submit a model with similar specifications for the demonstration, if agreed by the Tender Inviting Authority. The purpose of this exercise is to satisfy the Tender Inviting Authority about the ability of the tenderer to manufacture and supply those items of specified specifications of good quality. However, the successful tenderer will have to satisfy the Tender Inviting Authority during the installation of the first piece of accessories at any location specified that it conforms to the requirements of the Section IV and failure to supply the equipments as per the requirements will lead to forfeiture of performance security and may also lead to blacklisting/debarring the tenderer for a period of 3 to 5 years.

6.19.2 Failure to demonstrate the technical specification or performance of the items to the satisfaction of the technical committee or the Tender Inviting Authority will lead to automatic rejection of the tender and the price bid of such tenderers shall not be considered for opening of Price bids.

6.19.3 The Tender Inviting Authority's contractual right to inspect, test and, if necessary, reject the goods after the goods' arrival at the final destination shall have no bearing of the fact that the goods have previously been inspected and cleared by Tender Inviting Authority's inspector during demonstration as mentioned above.

6.19.4 Goods accepted by the Tender Inviting Authority at initial inspection and in final inspection in terms of the contract shall in no way dilute Tender Inviting Authority's right to reject the same later, if found deficient in terms of the warranty clause of the contract.

6.20 Price Bids

6.20.1 The Price bids (BOQ) of the short-listed technically qualified tenderer(s) will be opened only after evaluation of Technical Bids. The short-listing of the tenderer(s) will be carried out on the basis of the technical evaluation and demonstration.

6.20.2 The opening of the price bid shall be done by the Tender Inviting Authority or his authorized representative and only the Price Bids of those firms qualified in the detailed scrutiny and evaluation of the Technical bid and successful pre delivery inspection /demonstration, conducted by the Technical Committee/Tender Inviting Authority shall be opened in the second round.

6.20.3 Price offered shall be all inclusive and in Indian Rupees. Price should be quoted for the supply, installation, training and successful commissioning of the accessories and fulfilment of warranty and aftersales service to the satisfaction of the NSMIMS.

6.20.4 Fixed price: Prices quoted by the Tenderer shall be fixed during the period of the contract and not subject to variation on any account.

6.20.5 Price variation due to statutory changes including excise/customs duty or GST may be considered during contract period before releasing the Letter of Intent/supply order on receipt of proper documents.

6.20.6 There shall be no hidden costs.

6.20.7 Basic Price: The price of the equipment, accessories quoted shall be inclusive of ex-factory, ex-show-room, ex-warehouse, or off-the-shelf, or delivered, as applicable, all accessories / additional accessories / spares mentioned in the technical specification section IV, safe storage, on site assembly if any of the supplied goods, installation, testing and commissioning of the equipment, accessories, furnishing of detailed operations manual, service manual with circuit diagram and maintenance manual for each appropriate unit of supplied goods. Basic price shall also include loading unloading & stacking, all other taxes, duties & levies and incidental services if applicable.

6.20.8 Customs duty payable on the goods, if applicable, shall be indicated separately. The tenderer shall indicate the value of import items on which customs duty is payable

6.20.9 Tax (GST): Applicable Tax (GST) shall be quoted in numeric values and in Rupees

6.20.10 The packing, forwarding freight and insurance charges applicable shall be quoted separately in numeric values and in Rupees

6.20.11 The total amount will be calculated and will be taken for evaluation and bid ranking.

6.20.12 The tenderers shall offer prices of the accessories inclusive of all the accessories mentioned in the technical specification under and under no circumstances offer the essential equipments, without which the accessories cannot function properly, as optional or left un-quoted.

6.22 Award of Contract

6.21.1 Criteria: The contract will be awarded to the lowest evaluated responsive tenderer qualifying to the final round after scrutiny of the technical bids and demonstration of the accessories, i.e. after price bid opening. However the Tender Inviting Authority reserves the right to reject the claims of the lowest evaluated tenderer for sufficient reasons.

6.21.2 The details such as rates, the model of the accessories selected for award of the contract and the details of successful tenderers etc will be published during the period of price firmness on the website of the Tender Inviting Authority

6.23 Notification of Award/Letter of Intent (LOI)

6.23.1Before expiry of the tender validity period, the Tender Inviting Authority will notify the successful tenderer(s) in writing, by registered / speed post or by email (to be confirmed by registered / speed post immediately afterwards) that its tender for accessories, which have been selected by the Tender Inviting Authority, has been accepted, also briefly indicating therein the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. This notification is undertaken by issuing a Letter of Intent (LOI) by the Tender Inviting Authority.

6.23.2The successful tenderer, upon receipt of the LOI, shall furnish the required performance security and submit an agreement in the prescribed format within ten days, failing which the EMD will forfeited and the award will be cancelled.

6.23.3The Notification of Award shall constitute the conclusion of the Contract.

6.24 Signing of Contract

6.24.1 The successful tender shall execute an agreement in the format as given under Annexure III for ensuring satisfactory supply, installation, commissioning and the aftersales service/support during the warranty period.

6.24.2The successful tenderer shall submit bank guarantee in the format as per Annexure IV as performance security.

6.24.3 Promptly after notification of award, within ten days from the date of the letter of intent, the successful tenderer shall return two copies of the contract (as

per agreement Annexure III), both on ` Rs 200/- stamp paper purchased in the name of the successful tenderer, duly signed and dated, to the Tender Inviting Authority by registered / speed post or in person.

6.24.4 The successful tenderer shall later extend the contract converting it as Comprehensive Maintenance Contract/Annual Maintenance Contract with the Tender Inviting Authority/three months prior to the completion of Warranty Period, if the Tender Inviting Authority desires so. The CMC will commence from the date of expiry of the Warranty Period.

6.24.5Assignment:-The successful tenderer shall not assign, either in whole or in part, its contractual duties, responsibilities and obligations to perform the contract, except with the Tender Inviting Authority's prior written permission.

6.24.6Subcontracts: - The successful tenderer shall not subcontract the execution of the contract. Such action, if done without the knowledge of the Tender Inviting Authority prior to the entering of the contract, shall not relieve the successful tenderer from any of its liability or obligation under the terms and conditions of the contract.

6.24.7Modification of contract:- If necessary, the Tender Inviting Authority may, by a written order given to the successful tenderer at any time during the currency of the contract, amend the contract by making alterations and modifications within the general scope of contract in any one or more of the following:

6.24.7.1Specifications, drawings, designs etc. where goods to be supplied under the contract are to be specifically manufactured for the Tender Inviting Authority,

6.24.7.2Mode of Demonstration

6.24.7.3Incidental services to be provided by the successful tenderer 6.24.7.4Mode of Installation

6.24.7.5 In the event of any such modification/alteration causing increase or decrease in the cost of goods and services to be supplied and provided, or in the time required by the successful tenderer to perform any obligation under the contract, an equitable adjustment shall be made in the contract price and/or contract delivery schedule, as the case may be, and the contract amended accordingly.

6.24.7.6 If the successful tenderer does not agree to the adjustment made by the Tender Inviting Authority, the successful tenderer shall convey its views to the Tender Inviting Authority within ten days from the date of the successful tenderer's receipt of the Tender Inviting Authority's amendment / modification of terms of the contract.

6.25 Performance Security

6.25.1There will be a performance security deposit amounting to the total value as mentioned in Section III excluding taxes, which shall be submitted by the successful tenderer to the Tender Inviting Authority within 10 days from the date of issuance of 'Letter of Intent'.

6.25.2The contract duly signed and returned to the Tender Inviting Authority shall be accompanied by a demand Draft or Bank Guarantee in the prescribed format.

6.25.3Upon receipt of such contract and the performance security, the Tender Inviting Authority shall issue the Supply Orders containing the terms and conditions for the execution of the order.

6.25.4Failure of the successful tenderer in providing performance security mentioned in Section III and/or in returning contract copy duly signed in time shall make the tenderer liable for forfeiture of its EMD.

6.25.5The Performance security shall be denominated in Indian Rupees as detailed below:

6.25.5.1 It shall be in any one of the forms namely Account Payee Demand Draft or Bank Guarantee issued by a Scheduled bank in India, endorsed in favour of the Tender Inviting Authority.

6.25.5.2In the event of any failure /default of the successful tenderer with or without any quantifiable loss to the Society including furnishing Bank Guarantee for CMC security, the amount of the performance security is liable to be forfeited.

6.25.5.3In the event of any amendment issued to the contract, the successful tenderer shall, within ten (10) days of issue of the amendment, furnish the corresponding amendment to the Performance Security (as necessary), rendering the same valid in all respects in terms of the contract, as amended.

6.25.5.4Tender Inviting Authority will release the Performance Security without any interest to the successful tenderer on completion of the successful tenderer's all contractual obligations including the warranty obligations and after confirming that all the contractual obligations have been successfully complied with.

6. 25.5.5The Bank Guarantee submitted in the place of EMD/Security deposit shall be in the prescribed format; Bank Guarantee in no other form will be accepted and will lead to rejection of tenders.

6.26 Delivery and Installation

6.26.1The successful tenderer shall visit the NSMIMS and recommend preinstallation requirements. If the supplier fails to communicate any of such instances before delivery of equipment and cannot complete the installation within the stipulate period, Tender Inviting Authority shall deduct liquidated damages as per the tender conditions.

6.26.2The successful tenderer will have to arrange transportation of the ordered goods as per its own procedure and pay necessary insurance against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery and pay all necessary charges incidental till it is installed in the NSMIMS. It shall be ensured that the equipments arrive at the destination in good condition within the delivery period mentioned and as per the other requirements of the Tender Document.

6.26.3If at any time during the currency of the contract, the successful tenderer encounters conditions hindering timely delivery of the goods and performance of services, the successful tenderer shall inform the Tender Inviting Authority in writing within a week about the same and its likely duration and make a request to the Tender Inviting Authority for extension of the delivery schedule accordingly. On receiving the successful tenderer's communication, the Tender Inviting Authority shall examine the situation as soon as possible and, at its discretion, may agree to extend the delivery schedule, with or without liquidated damages for completion of successful tenderer's contractual obligations by issuing an amendment to the contract.

6.26.4The successful tenderer is required to deliver the equipments and install the equipments at the site within time specified from the date of issue of the 'Supply Order' and demonstrate the specification/features as well as operation / performance of the product to the satisfaction of the Tender Inviting Authority.

6.27 Payment

6.27.1 The payment of the first installment of the price agreed will be made within thirty days from the date of installation of the equipment with its all necessary accessories specified in the supply order.

6.27.2 The original invoice submitted shall be in the name of the Tender Inviting Authority and the name of the consignee shall also be mentioned in it.

6.27.3 Requests for advance payment, payment against delivery or payment Through Bank against dispatched documents will not be considered. Part Payment at the agreed rate as per cl.5.1. Shall be considered in respect of equipments installed and the necessary Installation Certificate obtained.

6.27.4 The retained remaining (second) installment will be released on submission of the 'One month performance certificate' subject to recoveries, if any, either on account of non-rectification of defects/ deficiencies by the successful tenderer .

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6.27.5 The successful tenderer shall not claim any interest on payments under the contract.

6.27.6 Where there is a statutory requirement for tax deduction at source, such deduction towards income tax and other taxes as applicable will be made from the bills payable to the successful tenderer at rates as notified from time to time.

6.27.7 The successful tenderer shall send its claim for payment in writing, when contractually due, along with relevant documents etc., duly signed with date, to the Tender Inviting Authority.

6.27.8 While claiming reimbursement of duties, taxes etc. (like sales tax, excise duty, custom duty) from the Tender Inviting Authority, as and if permitted under the contract, the successful tenderer shall also certify that, in case it gets any refund out of such taxes and duties from the authorities

Concerned at a later date, it (the successful tenderer) shall refund the same to the Tender Inviting Authority forthwith.

6.28 After Sales Service conditions:

6.28.1The Tender Inviting Authority gives paramount importance to the aftersales service of the machinery/equipments installed to ensure smooth operation afterwards. The successful tenderer is required to undertake preventive maintenance and attend all repairs, if any, that may arise during the warranty period free of cost .

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6.28.2The aftersales terms and conditions will be strictly enforced and those tenderers who are willing to support the Tender Inviting Authority in its endeavor to provide trouble free operation/performance of the equipments for the prescribed period need only participate in the tender.

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6.28.3Failure to provide satisfactory after sales services during or after the warranty period and CMC/AMC will lead to blacklisting/debarring of the tenderers, but after issuing due notice and provide opportunity for being heard.

6.29 Guarantee/Warranty terms:

6.29.1The successful tenderer has to warrant that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the

Contract.

6.29.2The successful tenderer further has to warrant that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the successful tenderer that may develop under normal use of the supplied goods.

6.29.3All the equipments including the accessories supplied as per the technical specification in clause 4.2 should carry comprehensive warranty for a period mentioned under cl.5.1 in the first instance. During this period, the successful tenderer shall replace all defective parts and attend to all repairs/breakdowns and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful tenderer during the period of comprehensive warranty.

6.29.4The prospective tenderers, who are manufacturers, shall submit an undertaking from the Original Equipment Manufacturers (OEM) that they are willing to provide spare parts for the period of warranty as mentioned d, if awarded. The OEM shall also assure continuity of service to their product, in the event of change in dealership of the tenderers – their existing dealers – could not provide service during the warranty period. The undertaking from OEM is an essential document forming part of the Technical Bid, without which the tenders will be rejected summarily in the first round itself.

6.29.5After sales service centre in Kerala preferably or at least in South India should be available as part of the pre-qualification criteria under cl.5.2.6 and the tenderer shall provide proof of their capability to undertake such maintenance/repair within the stipulated time.

6.29.6Site Visits: The successful tenderer shall visit the Institution as part of preventive maintenance as per the frequency mentioned under cl.5.1. during the warranty period. The tenderer shall attend any number of break down/repair calls as and when informed by the Tender Inviting Authority.

6.29.7Complaints should be attended properly, maximum within the time mentioned in clause 5.1.9. In case, the repair/fault duration is likely to exceed 72 hours, the successful tenderer shall arrange a standby equipment of the same make and model within next 48 hours (total down time should not exceed 5 days) as a stop-gap arrangement till the repair/fault is rectified and the stand by equipment shall perform in the same manner as regards a new equipment.

6.29.8Upon receipt of such notice for repair/breakdown from the TenderInviting Authority, the successful tenderer shall, within the period specified under cl.5.1.9, and with all reasonable speed, repair or replace the defective goods or parts thereof, without cost to the Tender Inviting Authority.

6.29.9 If the successful tenderer, having been notified, fails to rectify the defect(s) within the period specified in cl.5.1.9, the Tender Inviting Authority may proceed to take such remedial action as may be deemed necessary at the successful tenderer's risk and cost and without prejudice to any other rights which the Tender Inviting Authority may have against the successful tenderer under the contract.

6.29.10 Failure to attend the repairs in time or failure to attend the stipulated preventive maintenance visit or failure to replace the defective equipments or to provide standby equipment if the fault/down time exceeds the stipulated period or to ensure the stipulated up-time in an year shall lead to imposition of a fine of Rs.500 for each day exceeding the stipulated period and/or forfeiture of the performance security and/or may lead to blacklisting/debarring of the defaulting tenderer.

6.29.11 A warranty certificate duly signed and with proper stamp of the institution concerned and also signed by the authorized signatory with the stamp of the successful tenderer shall be submitted to the Tender Inviting Authority for keeping it under safe custody along with the Installation Certificate.

6.29.12The equipment which requires quality assurance test shall be so tested free of cost immediately after installation, during the comprehensive warranty period, during the CMC / AMC period, by the demand of the Tender Inviting Authority and also when major spares are replaced.

6.29.13 Any mandatory approval required for installation shall be obtained by the successful tenderer in liaison with the respective authorities.

6.29.14The tenderer shall submit the activities to be carried out during the preventive maintenance visit.

6.29.15 The tenderer shall submit the parameters which require calibration and the

frequency of calibration required

6.29.16The tenderer shall submit the details of all major spares in the price bid cover.

6.29.17The tenderer shall undertake on-site calibration of the equipment every year as part of the aftersales service during the period of comprehensive warranty, and submit a 'calibration certificate' to the Tender Inviting Authority afterwards

6.29.18 The offered warranty includes

6.29.18.1 Visits to NSMIMS at frequencies prescribed under cl.5.1. as part of preventive maintenance.

6.29.18.2Testing & calibration as per technical/service/operation manual of the manufacturer or as per the period specified or as per the demand of the Tender Inviting Authority.

6.29.18.3Quality Assurance tests (if applicable).

6.29.18.4The cost of labour for all repairs/ and all spares required

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The exclusion of warranty of any vital equipment parts will be compared

with offers of other tenderers during evaluation of the bids and this may be taken into consideration in deciding the successful tenderer on the basis of expert advice.

6.29.19.5 The tenderer shall provide up-time warranty of complete equipment as mentioned in clause 5.1.10, the uptime being calculated on 24 (hrs) X 7 (days) basis failing which the extension of Warranty period will be extended by double the downtime period.

6.30 Spare parts

6. 30.1 The tenders shall offer prices for all the spares/reagents mentioned in the technical specifications separately in the price bid form.

6.30.2 Successful tenderer shall carry sufficient inventories to assure ex-stock supply of consumable spares for the goods so that the same are supplied to the Tender Inviting Authority promptly on receipt of order from the Tender Inviting Authority.

6.30.3The successful tenderer shall take over the replaced parts/goods after providing their replacements and no claim, whatsoever shall lie on the Tender Inviting Authority for such replaced parts/goods thereafter.

6.30.4The Tender Inviting Authority may place orders for additional spares/consumables/reagents which are needed for the smooth performance/operation of the equipment and the successful tenderer shall be willing to supply the same in time at the cost offered in the price bid forms, failing which, such instances will be construed as a breach of tender conditions and lead to penal provisions.

6.30.5 The method of evaluation and comparison of prices will take into consideration the cost of the reagents as well.

6.321Training

6.31.1 The successful tenderer has to impart on-site training to Doctors/ Technicians/Para-medical staff on the operation and preventive maintenance of the equipment at the time of installation and anytime during warranty period to the satisfaction of the Tender Inviting Authority.

6.31.2 The training details shall be recorded in the installation certificate for enabling the Tender Inviting Authority to make the first 60% payment.

6.33 Imported Equipments

6.33.1 The Tender Inviting Authority shall in no way involve in the import of the equipments from foreign countries, if such equipments are manufactured outside the country. It shall be the solemn duty of the tenderer to import the equipments offered by paying the requisite consideration in foreign currency and following the stipulations issued by the Government of India, from time to time, in the import of equipments.

6.33.2The tenderers shall inform any advantages in prices to the Tender Inviting Authority because of reductions/exemptions in customs duty in case of imported

Equipments at the time of pre-tender meeting and the tender document shall be modified by amendment to that extent.

6.33.3The Tender Inviting Authority will not interfere in any manner with the import process and the successful tenderer shall be solely responsible for supply and installation of any equipment at the time and locations stipulated/agreed to in the bids.

6.33.4Successful tenderer shall carry sufficient inventories to assure ex-stock supply of consumable spares for the goods so that the same are supplied to the Tender Inviting Authority promptly on receipt of order from the Tender Inviting Authority.

6. 34 Intellectual Property Rights (IPR)

6.34.1 The successful tenderer shall, at all times, indemnify and keep indemnified the Tender Inviting Authority, free of cost, against all claims which may arise in respect of goods & services to be provided by the successful tenderer under the contract for infringement of any intellectual property rights or any other right protected by patent, registration of designs or trademarks.

6. 35 Corrupt or Fraudulent Practices

6.35.1. It is required by all concerned to observe the highest standard of ethics during the procurement process. In pursuance of this policy, the Tender Inviting Authority prescribes the following conditions:

6.35.2“Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence in the procurement process or in contract execution; and

6.35.3 “fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Tender Inviting Authority, and includes collusive practice among Tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial non-competitive levels and to deprive the Tender Inviting Authority of the benefits of free and open competition;

6.35.4 Tender Inviting Authority will reject a proposal for award if it determines that the Tenderer recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question; will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract by the Tender Inviting Authority if it at any time determines that the firm has engaged in

corrupt or fraudulent practices in competing for, or in executing the contract.

6.35.5 No tenderer shall contact the Tender Inviting Authority or any of its officerson any matter relating to its bid, other than communications for clarifications and requirements under this tender in writing, with an intention to influence the members of various committees or officials of Tender Inviting Authority. Any such effort by a tenderer to influence the Tender Inviting Authority in the Tender Inviting Authority's bid evaluation committee, bid comparison or contract award decisions may result in rejection of the tenderers bid.

6.36 Force Majeure

6.36.1 For purposes of this clause, Force Majeure means an event beyond the control of the successful tenderer and not involving the successful tenderer's fault or negligence and which is not foreseeable and not brought about at the instance of the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, acts, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees , lockouts excluding by its management, and freight embargoes.

6.36.2 If a Force Majeure situation arises, the successful tenderer shall promptly notify the Tender Inviting Authority in writing of such conditions and the cause thereof within twenty one days of occurrence of such event. Unless otherwise directed by the Tender Inviting Authority in writing, the successful tenderer shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

6.36.3 If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

6.36.4In case due to a Force Majeure event the Tender Inviting Authority is unable to fulfill its contractual commitment and responsibility, the Tender Inviting Authority will notify the successful tenderer accordingly and subsequent actions taken on similar lines described in the above sub-paragraphs.

6.37 Resolution of disputes

6.37.1 If dispute or difference of any kind shall arise between the Tender Inviting Authority and the successful tenderer in connection with or relating to the contract, the parties shall make every effort to resolve the same amicably by mutual consultations.

6.37.2 If the parties fail to resolve their dispute or difference by such mutual consultation within twenty-one days of its occurrence, then, unless otherwise provided in the tender document, either the Tender Inviting Authority or the successful tenderer may give notice to the other party of its intention to commence arbitration, as provided the applicable arbitration procedure will be as per the Arbitration and Conciliation Act, 1996 of India.

6.37.3 In the case of a dispute or difference arising between the Tender Inviting Authority and a domestic Successful tenderer relating to any matter arising out of or connected with the contract, such dispute or difference shall be referred to the sole arbitration of the Board of Directors whose decision shall be final.

6.37.4 Venue of Arbitration: The venue of arbitration shall be the place from where the contract has been issued, i.e., Kollam, Kerala State, India.

6.38 Applicable Law & Jurisdiction of Courts

6.38.1 The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.

6.38.2 All disputes arising out of this tender will be subject to the jurisdiction of courts of law in Kollam

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6.39 General/ Miscellaneous Clauses

6.39.1 Nothing contained in this Contract shall be construed as establishing or creating between the parties, i.e. the successful tenderer/its Indian Agent/CMC Provider on the one side and the Tender Inviting Authority on the other side, a relationship of master and servant or principal and agent.

6.39.2 Any failure on the part of any Party to exercise right or power under this

Contract shall not operate as waiver thereof.

6.39.3The Successful tenderer shall notify the Tender Inviting Authority of any material change that would impact on performance of its obligations under this Contract.

6.39.4 Each member/constituent of the Successful tenderer in case of consortium shall be jointly and severally liable to and responsible for all obligations towards the Tender Inviting Authority for performance of contract/services including that of its Associates/ Sub Contractors under the Contract.

6.39.5The Successful tenderer shall, at all times, indemnify and keep indemnified the Tender Inviting Authority against any claims in respect of any damages or compensation payable in consequences of any accident or injury sustained or suffered by its employees or agents or by any other third party resulting from or by any action, omission or operation conducted by or on behalf of the successful tenderer/its associate/affiliate etc.

6.39.6 All claims regarding indemnity shall survive the termination or expiry of the contract.

6.40 Penalties for non-performance

6.40.1The penalties to be imposed, at any stage, under this tender are;

6.40.1.1 Imposition of liquidated damages,

6.40.1.2 forfeiture of EMD/performance security

6.40.1.3 Termination of the contract

6.40.1.4 blacklisting/debarring of the tenderer

6.40.2Failure to produce the requisite certificates after claiming to possess such certificates or concealment or misrepresentation of facts will not only lead to rejection of tenders in the first round itself and/or may lead to forfeiture of EMD or performance security as well as result in black listing/debarring of the tenderer.

6.40.3The penalties to be imposed on the tenderer, at any stage, will be decided on the basis of the violations of number of tender conditions specifically mentioned in the tender document as that leading to forfeiture or EMD/ Performance Security or leading to black-listing/ debarring .

6.40.4Any unexcused delay by the successful tenderer in maintaining its contractual obligations towards delivery of goods and performance of services shall render the successful tenderer liable to any or all of the following sanctions:

6.40.5 Liquidated damages:- If the successful tenderer fails to deliver any or all of the goods or fails to perform the services within the time frame(s) prescribed in the contract, the Tender Inviting Authority shall, without prejudice to other rights and remedies available to the Tender Inviting Authority under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% of the equipment to be supplied per week of delay or part thereof on delayed supply of goods and/or services until actual delivery or performance subject to a maximum of 15% of the contract price. Once the delivery period is exceeded, Tender Inviting Authority may consider termination of the contract. During the above-mentioned delayed period of supply and / or performance, the conditions incorporated shall also apply and Tender Inviting Authority shall seek alternate measures at the risk and cost of the successful tenderers.

6.40.5.1 The penalties imposed by the Tender Inviting Authority will be published on the website of the Tender Inviting Authority for a period as decided as appropriate by it.

6.40.5.2 The decision to impose penalties and finally to black list the defaulting firm will be final and shall be binding on all tenderers participating in this tender.

6.41 Termination of Contract

6.41.1 Termination for default:- The Tender Inviting Authority, without prejudice to any other contractual rights and remedies available to it (the Tender Inviting Authority), may, by written notice of default sent to the successful tenderer, terminate the contract in whole or in part, if the successful tenderer fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Tender Inviting Authority.

6. 41.2 In the event of the Tender Inviting Authority terminating the contract in whole or in part, the Tender Inviting Authority may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the successful tenderer shall be liable to the Tender Inviting Authority for the extra expenditure, if any, incurred by the Tender Inviting Authority for arranging such procurement.

6.41.3 Unless otherwise instructed by the Tender Inviting Authority, the successful

tenderer shall continue to perform the contract to the extent not terminated.

6.41.4 Termination for insolvency: If the successful tenderer becomes bankrupt or otherwise insolvent, the Tender Inviting Authority reserves the right to terminate the contract at any time, by serving written notice to the successful tenderer without any compensation, whatsoever, to the successful tenderer, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Tender Inviting Authority.

6.41.5 Termination for convenience:- The Tender Inviting Authority reserves the right to terminate the contract, in whole or in part for its (Tender Inviting Authority's) convenience, by serving written notice on the successful tenderer at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Tender Inviting Authority. The notice shall also indicate inter alia, the extent to which the successful tenderer's performance under the contract is terminated, and the date with effect from which such termination will become effective. Further details could be obtained from the office of the Secretary, Kollam District Cooperative Hospital Society Ltd Q 952

6.42 Fall Clause

6.42.1 The prices charged for the equipment supplies under the contract by successful tenderer shall in no event exceed the lowest price at which the successful tenderer sells the equipments of identical description to any other persons during the period of contract. If any time, during the contract, the tenderer reduces the sales price chargeable under the contract, he shall forthwith notify such reduction to the Tender Inviting Authority and the price payable under the contract of the equipments supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

Annexure -1

MANUFACTURERS OFFER FORM

(To be submitted by manufacturers)

No. Dated:

To

The Secretary,
Kollam District Cooperative Hospital Society Ltd Q 952

Sir,

Tender No :

Equipment Name :

1. We …… (name of the OEM) declare that we are the original manufacturers of the above equipment having registered office at …….. (Full address with telephone number/fax number & email ID and website), and having factories at _____

2. No company or firm or individual has been authorized to bid, negotiate and conclude the contract in regard to this business against this specific tender.

3. We hereby declare that we are willing to provide guarantee /warranty and after sales service during the period of

Warranty as per the above tender.

4. We also hereby declare that we have the capacity to manufacture and supply, install and commission the quantity of the equipments tendered within the stipulated time.

(Name) for and on behalf of M/s._____

Date: (Name of manufacturers) Place:

Note: *This letter of authority should be on the letter head of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.*

Annexure-2

MANUFACTURER'S AUTHORISATION FORM

(to be submitted by authorized dealers/representatives/importers)

No. Dated:

To

The Secretary
(Tender Inviting Authority)
Kollam District Cooperative Hospital Society Ltd Q 952

Sir,

Tender No :

Equipment Name :

1. We …… (Name of the OEM) are the original manufacturers of the above equipment having registered office at …….. (Full address with telephone number/fax number & email ID and website), having factories at

   _____ and_____, do hereby authorize M/s._____ (Name and address of tenderer) to submit tenders, and subsequently negotiate and sign the contract with you against the above tender no. _____

2. No company or firm or individual other than M/s._____ are authorized to bid, negotiate and conclude the contract in regard to this business against this specific tender.

3. We also hereby undertake to provide full guarantee/warrantee /CMC/AMC as agreed by the tenderer in the event the tenderer is changed as the dealers or the tenderer fails to provide satisfactory after sales and service during such period of Comprehensive warranty/CMC/AMC and to supply all the spares/reagents during the said period.

4. We also hereby declare that we have the capacity to manufacture and supply, install and commission the quantity of the equipments tendered within the stipulated time.

(Name) for and on behalf of

M/s._____

Date: (Name of manufacturers) Place:

Note: *This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the*

Annexure-3

AGREEMENT

THIS AGREEMENT made on the…..... Day of …..... 2017 between …..... (Name and Address of *Purchaser*) represented by the Secretary (Hereinafter "the *Purchaser*") on the one part and …..... (Name and Address of Supplier) …..... (Hereinafter "the Supplier") represented by …… (Name of the Authorized Signatory and Designation), Aged …….. years, residing at …… (Full Residential Address of the Signatory) on the other part:

WHEREAS the *Purchaser* has invited tenders for the supply of ……(brief description of goods and services vide tender no ……dated …….The supplier has submitted technical and price bids and also demonstrated the technical specifications / features / other quality requirements as contained in the tender document. The *Purchaser* has finalized the tender in favor of the Supplier for the supply of the said goods and services for a total cost of Rs…… (Contract Price in Words and Figures) (Hereinafter "the Contract Price") and issued Letter of Intent / Supply Order No. …… dated ……..

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the tender document referred to.

2. The following documents shall be deemed to form and be read and constructed as part of this Agreement, viz.:

   a. all the documents submitted by the tenderer as part of technical bid and price bid;

   b. the Schedule of Requirements;

c. the Technical Specifications and other quality parameters;

d. the clarifications and amendments issued / received as part of the tender document

e. the General Conditions of Contract;

f. the Specific Conditions of Contract; and

g. the *Purchaser*'s Letter of Intent

3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to supply, install and commission 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.

BRIEF PARTICULARS OF THE GOODS AND SERVICES WHICH SHALL BE SUPPORTED / PROVIDED BY THE SUPPLIER ARE:

Sl. no	Brief description of goods	Quantity to be installed	Unit price (Rs)	Total Amount(3*4) (Rs)	Sales tax and other Taxes Payable(Rs)
1	2	3	4	5	6

Total value: 5+6

Delivery Schedule:

IN WITNESS where of the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the said ..... (For the Purchaser) in the presence of ..... Signed, Sealed and Delivered by the said..... (For the Supplier)

(Signature, Name, Designation and Address with Office seal) in the presence of.....

1. (Signature, Name and Address of witness)

2. (Signature, Name and Address of witness)

Annexure -4

BANK GUARANTEE FORM

To

The Secretary
Kollam District Cooperative
Hospital Society Ltd Q 952

WHEREAS _____ (Name and address of the supplier) (Hereinafter called "the supplier") has undertaken, in pursuance of Tender / Contract no_____ dated _____ (herein after called "the contract") to supply the Kollam District Cooperative Hospital Ltd with ……..……. (Description of goods and supplies).

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total amount of Rs_____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of

guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We undertake to pay you any money so demanded notwithstanding any dispute or disputes raised by the supplier(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under these presents being absolute and unequivocal.

We agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

No action, event, or condition that by any applicable law should operate to discharge us from liability, hereunder shall have any effect and we hereby waive any right we may have to apply such law, so that in all respects our liability hereunder shall be irrevocable and except as stated herein, unconditional in all respects.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Supplier(s).

We, _____ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent, in writing, of Kollam District Cooperative Hospital Society Ltd Q 952

This Guarantee will remain in force up to (Date) unless a claim or a demand in writing is made against the bank in terms of this guarantee on or before the expiry of (Date) all your rights in the said guarantee shall be forfeited and we shall be relieved and discharged from all the liability there under irrespective of whether the original guarantee is received by

us or not.

(Signature with date of the authorized officer of the Bank)

……

Name and designation of the officer
……..

Seal, name & address of the Bank and address of the Branch

Annexure-5

GENERAL INFORMATION ABOUT THE TENDERER

1	Name of the Tenderer			
	Registered address of the firm			
	State		District	
	Telephone No.		Fax	
	Email		Website	
	Contact Person Details			
2	Name		Designation	
	Telephone No.		Mobile No.	
	Communication Address			
	Address			

3	State		District	
	Telephone No.		Fax	
	Email		Website	

Type of the Firm (Please √ relevant box)					
4	Private Ltd.		Public Ltd.		Proprietorship	
	Partnership		Society		Others, specify	
	Registration No. & Date of Registration.					

Nature of Business (Please √ relevant box)				
5	Original Equipment Manufacturer		Authorized Dealer /Representative	
	Direct Importer		Others, specify.	

Key Personnel Details (Chairman, CEO, Directors, Managing Partners etc.)

6	in case of Directors, DIN Nos. are required				
	Name		Designation		
	Name		Designation		
7	*Whether any criminal case was registered against the company or any of its* *promoters in the past?*				Yes / No
8	*Other relevant Information provided ** *(here enclose the details such as presentation on the details of the tenderer in a CD preferably, please avoid submission of detailed leaflets/brochures etc, if possible.)*				
Date		*Office* *Seal*		*Signature of the tenderer /* *Authorized* ***signatory***	

Annexure-6

OFFER FORM

Having examined and accepting the conditions of the tender document no……. we here by submit this offer for the supply & installation of ……

……. conforming the detailed technical specification mentioned in section IV of the tender document. The details of the equipment offered are as follows.

Sl. No.	Name of the Equipment	Model	Original Equipment Manufacturer
1			

Date: Office seal Signature of the tenderer/Authorized Signatory

Annexure-7

SERVICE CENTRE DETAILS

Toll free number, if any			
Sl. No	Name and address of the service center (s)	Contact Details	
1		Telephone No:	
		Fax No:	
		Email ID.	
		Name of the Service Engineer	
		Mobile No.	
		Telephone No:	

2		Fax No:	
		Email ID.	
		Name of the Service Engr.	
		Mobile No.	
3		Telephone No:	
		Fax No:	
		Email ID.	
		Name of the Service Engr.	
		Mobile No.	

Date: Office seal Signature Of the Tenderer/Authorized signatory

Annexure-8

POWER OF ATTORNEY

(On a Stamp Paper of relevant value)

I/ We……. (Name and address of the registered office) do hereby constitute, appoint and authorize Sri/Smt……..…(name and address) who is presently employed with us and holding the position of ……. as our attorney, to act and sign on my/our behalf to participate in the tender no……for…… (Equipment name).

I/ We hereby also undertake that I/we will be responsible for all action of Sri/Smt…….. Undertaken by him/her during the tender process and thereafter on award of the contract. His / her signature is attested below.

Dated this the ___day of 201_
For_____

(Name, Designation and Address)

Accepted

_____(Signature)

(Name, Title and Address of the Attorney) Date: _____

Annexure-9

ANNUAL TURN OVER STATEMENT

The Annual Turnover of
M/s_____for
the past three years are given below and certified that the statement is true and correct.

Sl. No.	Year	Turnover in Lakhs (Rs)
1	2013 – 2014	
2	2015 – 2016	
3	2016 – 2017	
	Total	`
	Average Turnover per year	

Date:

Signature of Auditor/ Chartered Accountant

(Name in Capital)
Seal:

Annexure-10

DECLARATION FORM

I/We M/s._____ represented by its Proprietor / Managing Partner / Managing Director having its Registered Office at _____

do hereby declare that I/We have carefully read all the conditions of tender dated ……. for supply of MRI COMPATIBLE EQUIPMENTS AND ACCESSORIES floated by the Kollam District Cooperative Hospital Society Ltd Q 952 and accepts all conditions of Tender.

Signature of the Tenderer

Name in capital letters with Designation

Annexure-11

WARRANTY CERTIFICATE

Name of the Supplier: ***Signature:*** ***Seal:***	***Name of the Secretary*** ***Signature:*** ***Seal:***

(to be filled jointly by the Tenderer, & Representative of the Tender Inviting Authority individually for every equipment)

Date:

Supply order No : …… dated……..

The instrument ……..…….……. (*Item Name*) Model No……..…….. Bearing serial no ……. was installed successfully at NSMIMS ……..…….is offered with a comprehensive warranty for a period of ……. Years starting from ……..…….. to ……. including all the following accessories;

Sl.	Name of the accessory	Manufacturer's name		
No				
Item				

Annexure :12

TECHNICAL SPECIFICATION

	TECHNICAL COMPLIANCE SHEET		
Item	**Patient bed - Motorized-5 Function**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be designed to use in Critical Care units		
2	Shall have fully electrically motorized movements		
3	Frame shall be constructed of rust free heavy-gauge steel or equivalent material (Relevant certifications mandatory) with all metal part shall be treated by epoxy powder coating		
4	Shall be capable for accommodating patients with weight 150 kg (or better)		
5	Over all dimensions shall be approximately (L x W) 220-230 cm x 98-105 cm		
6	Shall have height adjustable feature with maximum height ≥ 84 cm		
8	Polymer molded side rails shall be foldable or retractable type		
9	Shall have upper and lower section polymer molded side rails		
10	Side rails shall meet FDA guidelines to prevent entrapment.		
11	Height of the side rail (in upper position) shall be: 30 cm (approximately)		
12	Shall have removable polymer molded head & foot board		

13	Foot board shall be capable for accommodating active mattress control systems		
14	Shall have swivel conductive castors with at least 2 castors with breaks diagonally		
15	Heavy duty castors shall have diameter not less than 12.5 cm (or better)		
16	Shall have central break system to control movement and swiveling from both sides of the bed		
17	Shall have durable protective bumpers on all corners		
18	Shall have patient and caregiver control panel with clearly visible symbols		
19	Patient control panels shall be integrated in both side rails with limited positioning including (but not limited to) head up/down, knee up/down, Hi/Low		
20	Nurse control panel shall be capable for positioning and control including (but not limited to) Hi/Low adjustment, backrest elevation, trend/reverse trend,foot & knee elevations, Patient control lockouts (Preferred)		
21	Shall have backrest elevation with angle indication in the range of 0-70° (or better)		
22	Shall have knee elevation in the range of 0- 20° (or better)		
23	Shall have Trendelenburg /Reverse trendelenburg: ±12° (or better)		
24	Shall include low air loss, full body pressure-reducing, fire retardant, conductive & disinfectable layer mattress		
25	Thickness of the mattress shall be approximately 20cm		
26	Shall have traction frame holders		
27	Shall have IV pole receptacles at least one on each side		
28	Shall have manual CPR levers on both sides		
29	Shall supply IV pole with dual hooks, Collection bags hooks on both sides, and oxygen cylinder holder		

30	Shall be CE marked (Preferred) and meets FDA bed safety guidelines.		
31	**Quality Standards**		
	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
32	**Aesthetic Appeal:**		
	Color schemes shall match with the bedside cabinet, over bed table, Bedhead unit & room furnishing colors		
	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		
	Supplier is required to submit color scheme for approval prior to shipment and delivery of Beds to the site		
33	**Power Supply:**		
	Unit shall be suitable to operate on 230V±6%, 50Hz AC single phase power supply. Supplier to provide the current (ampere) requirement, Shall include long power cord		
34	**Accessories & Consumables**: All Standard accessories & consumables required for the smooth operation of the unit shall be included		
35	**The following items to be proposed and supplied from same vendor/manufacturer :**		
	1.Patient bed		
	2. Cabinet Bedside		
	3. Over bed table		
36	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
37	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**OVER BED TABLE**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Constructed of mild steel frame		
2	Top surface to be constructed of high quality ABS		
3	Pneumatically assisted variable height: 75cm – 120cm		
4	Shall be “C or H “ shaped base frame with four castors		
5	The patient over bed table shall have a storage compartment attached to the stand		

6	The table shall have slide out work surface in addition to the top surface		
7	Base frame of the over bed table shall go to the patient bed without any obstruction (Approx. base height of 2")		
8	**Aesthetic Appeal:**		
	Color schemes shall match with the bedside cabinet, over bed table, Bedhead unit & room furnishing colors		
	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		
	Supplier is required to submit color scheme for approval prior to shipment and delivery of Beds to the site		
9	**Assembly :**All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
10	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Dressing Trolley**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be durable and high quality finishing dressing trolley to be used in various procedure rooms / Wards		
2	Disinfectable, heavy duty and impact resistant		
3	The whole unit shall be constructed of 18-gauge 304 stainless steel (Specify specification for the SS used to manufacture the proposed item)		
4	Shall have two shelves , At least 40 cm between shelves		
5	Shall have guard rails on three sides		
6	Shall have SS bowl and bucket		
7	Legs and reinforcement braces shall be with fully welded joints		
8	Shall not have sharp edges		
9	With four conductive, lockable , swiveling and noise free castors		

10	Casters diameter: 7.5 cm approximately		
11	Dimensions (LxWxH): 65 x 45 x 85 cm approximately		
12	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
13	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		
14	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
15	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Bedside Cabinet**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall have ABS construction		
2	Shall have one top drawer and bottom storage cabinet		
3	Shall have pullout tray facility		
4	Shall have towel holders on each side		
5	Mounted on four castors for easy movement		
6	Approximate dimensions (H x W x D): 750 x 480 x 480 mm		
7	**Aesthetic Appeal:**		
	Color schemes shall match with the bedside cabinet, over bed table, Bedhead unit & room furnishing colors		
	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		

	Supplier is required to submit color scheme for approval prior to shipment and delivery of Beds to the site		
8	The following items to be proposed and supplied preferably from same vendor/manufacturer : Patient bed, Bed side cabinet, Over bed table		
9	**Assembly :**All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
10	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Medicine Trolley**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Fully SS construction / double-wall steel body with powder coated finish that is resistant to flaking, chemicals dents and chipping		
2	Cart shall have minimum capacity of twelve (16) full extension patient drawers with divider kits in addition to the bottom level large drawer		
3	Shall have pull out / flip up side tray for additional work /Writing space		
7	Shall have sharp container, waste bin, accessory holder,IV pole		
8	Whole cart shall be lockable with one key		
9	Shall have protective bumper & integrated push handle for transportation		
10	Shall have minimum noise free 12.5 cm four swivel casters including two with brakes		
11	Approximate dimensions (H x W x D): 110 x 80 x 60 cm		

12	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants .		
13	**Assembly :**All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
14	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Patient Monitor - Medium Acuity**		

	Equipment Description	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The unit required to be fully functional for **Neonatal, Pediatric and Adult patients**		
2	**Pre-configured Medium Acuity Monitor** system with compact and light weight design		
3	The unit shall be capable (software ready/enabled) to **monitor the following parameters**: ECG ,Heart Rate & Respiration,SpO2 and Pulse Rate,Invasive & Non invasive Blood Pressure,Temperature		
4	**ECG & Heart Rate** features:		
A	Five (5) leads monitoring (I, II, III, aVR, aVF and aVL) & 12 leads monitoring		
B	The number of waveforms displayed shall be user selectable		
C	Heart rate measuring range: 15 – 300 bpm with accuracy of < 5% or 5bpm		
D	ECG bandwidth: 0.05 - 100 Hz diagnostic and 0.05 - 40 Hz monitoring (indicative)		
E	Adjustable gain: 5 to 40 mm/mV		
F	Filtration of power line frequency (50 Hz), muscle artifacts and baseline wander		
5	**SpO2** and **Pulse** Rate:		
A	SpO2 measuring range: 1 – 100%		
B	SpO2 accuracy: ± 3 digits ; Supplier to specify		
C	Pulse rate: 25 – 250 bpm		

D	Pulse rate accuracy: ± 3 digits ; Supplier to specify		
E	Adjustable alarm limits		
F	High accuracy even during motion artifacts and low perfusion rates, Supplier to specify the artifact suspression technique incorporated		
G	Durable and accurate SpO2 sensor probes suitable for adult and pediatric shall be provided with the monitor. Only one type of manufacturer's Spo2 sensor probes shall be supplied universally for all physiologic monitors and pulse oximeters (Preferably Nellcore or Masimo)		
5	**Non Invasive Blood Pressure (NIBP) features:**		
A	Oscillometric method		
B	Systolic, diastolic and mean pressure monitoring and display		
C	Manual and automatic activation		
D	Adjustable interval between measurements (for automatic activation): 1 min to 2 hours		
E	Inflation pressure range shall be according to patient category (adult & pediatric)		
F	Inflation pressure (approximately): Adults: 270 mmHg; Pediatric: 180 mmHg		
G	Accuracy: ± 3 mmHg ; Supplier to specify		
H	Automatic cuff deflation if measurement is not obtained after: 120 – 170 sec		
I	Adjustable alarm limits		
6	**Temperature measuring features:**		
A	Measurement and display of 2 channel		
B	Measuring range: 0 – 45° C		

C	Accuracy: ± 0.1° C ; Supplier to specify		
D	Adjustable alarm limits		
7	**Arrhythmia** monitoring features:		
A	Advanced detection and classification of different types of arrhythmias for all patient catagories		
B	Shall detect and classify arrhythmias including (but not limited to):		
	1. Ventricular Fibrillation		
	2. Ventricular Tachycardia		
	3. Supraventricular Tachycardia		
	4. Ventricular bigeminy		
	5. Sinus Bradycardia		
	6. Sinus Tachycardia		
	7. Asystole		
8	**Respiration** monitoring features:		
A	Respiration monitoring via impedance calculation, through ECG lead		
B	Measuring range: 1 – 150 bpm		
C	Accuracy: ± 1 bpm ; Supplier to specify		
D	Adjustable apnea time		
E	Adjustable alarm limits		
9	**ST segment** analysis features:		

A	Advanced monitoring and analysis of ST segment deviation for adults and pediatrics		
B	Continuous ST analysis for 5 leads		
C	Adjustable ISO and ST points for each lead		
D	Adjustable alarm limits		
10	**Display / screen**		
A	LCD color touch screen with better resolution (newer LED screens are acceptable); Supplier to spcify		
B	Operation and navigation shall be via an optical over capacitive touch screen (simple & intuitive to use) and **rotary trim knob** (preferable)		
C	Screen size: 12" (or better)		
D	Adjustable waveforms sweep speed: 6.25, 12.5, 25 and 50 mm/sec		
E	Preset and configurable interfaces/layouts		
F	Simultaneous display of 6 channels / waveforms		
G	The order and color of waveforms and numerical parameters shall be user selectable		
H	Shall have user friendly GUI (Graphical User Interface) with User-configurable display pages		
I	Shall be capable for adjusting brightness control of screen.Automatic brightness control of screen based on ambient light conditions is preferred.		
11	The required **warnings/alarms** (but not limited to):		
A	Monitored parameters out of set limits		
B	Arrhythmia detection		
C	Disconnected leads, senor, probes		

D	Power supply failure		
E	System faults with error coding system		
12	The required **Alarm/self-test** system features:		
A	Advanced automatic self-test at switch on		
B	Alarm history for 24 hours		
C	Alarm silence for 2 min		
D	Adjustable alarm volume (alarm volume cannot be turned off or reduced to inaudible level)		
E	Prioritized (three alarm levels)		
F	Audio (tone coded) and visual (color coded) alarming system according to alarm level		
13	**Networking** and **connectivity**:		
A	*Shall be networkable to share data with hospital networks (bidirectional) such as Hospital Information System (HIS) (HL7 compliant), Clinical Information System (CIS), Laboratory (LIS)* ***Bidder to list the data that can be networked/sent to the CIS)***		
B	Remote monitoring of other patient monitors on the network		
C	Compatible with the central station		
D	Networkable to central station via Local area Network (LAN) or wireless, All patient data shall be available at the central station monitor		
E	Shall have Appropriate Data communication port compatible with central Station/ EMR facility (Ethernet, RS-232 I/O Inteface (for numeric, wave, and alarm data export) / Wireless / USB) (For OR, Critical care areas), All necessary driver softwares, hardwares and cables shall be preconfigured for future connectivity options		
F	Capable for Connection to other slave monitors		

G	Facilitate multi format report generation via networked printer and recorder		
H	Defibrillation synchronizing capability		
14	**Trending /Events** storage:		
A	Numerical and graphical trending		
B	Trending capacity: 48 hours (or more) for user selectable parameters		
C	Trend resolution: 1 min		
D	Events storage: 50 events (or more)		
E	Event storage duration: 10 sec before and 10 sec after the event trigger (indicative)		
F	Shall store all monitored parameters for each event		
15	**Mounting** features**:**		
A	Wall mounted configuration;The unit shall be with mounting brackets . Successful Bidder to coordinate with end user to ensure the monitors are professionally fixed		
B	Supplier shall provide all required adapters, interfaces between the monitor and bracket		
C	All brackets used should enable the devices quick and simple removal, preferably without the need for any tools		
D	Weight of the monitor in kg shall be stated		
16	**General** features required:		
A	The unit shall include all required accessories, modules, cables, software, licenses for full functionality		
B	All surfaces of the unit required to be resistant to common disinfectants		
C	The unit shall be flexible and upgradable		

D	The unit **accessories** and **modules** applied parts shall be:		
E	BF type for noninvasive applied parts		
F	CF type for invasive applied parts		
G	Defibrillation protected		
H	Internal rechargeable batteries shall be included, Battery run time:Supplier to specify) ;Visual and audible low batteries alarm indications		
17	**Required Specific Accessories**		
A	Accessories for **ECG/respiration**:		
	All ECG leads to be color coded as per AHA standards		
	Reusable 5 lead ECG cables for adult and pediatric (x1 each)		
	Reusable 12 lead ECG cables for adult and pediatric (x1 each)		
	Disposable electrodes for adult and pediatric (x50 each)		
B	Accessories for **SpO2**:		
	Reusable SpO2 finger sensor for adult and pediatric (x1 each) and a SpO2 extension cable.		
C	Accessories **NIBP**:		
	Reusable NIBP hoses for Adult and pediatric (x1)		
	Reusable NIBP cuff for adult and pediatric (4 sizes)		
D	Accessories for **Temperature:**		
	Reusable skin temperature sensor for adult and pediatric (x2 each)		

	Reusable rectal temperature sensor for adult and pediatric (x2 each)		
18	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare **Monitoring systems** 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
19	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
20	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated (in Watts)		
	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal		
21	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Patient Monitor - High Acuity**		
	Equipment Description	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The unit required to be fully functional for **Neonatal, Pediatric and Adult patients**		

2	**Fully Modular Monitor** system with compact and light weight design with pinless plug and play modules. All modules shall be with data storage including patient details. Supplier to specify the data storage in Hrs. Also supplier to clearly state how the seamless data transfer is enabled in OR-ICU-CCU environment with the proposed monitors/ Modules.		
3	The unit shall be capable (software ready/enabled) to monitor the following parameters: ECG ,Heart Rate & Respiration,SpO2 and Pulse Rate,Invasive & Non invasive Blood Pressure,Temperature,Etco2, Electroencephalograph (EEG),Spirometry and Cardiac Output with CCO		
4	**ECG & Heart Rate** features:		
A	Five (5) leads monitoring (I, II, III, aVR, aVF and aVL) & 12 leads monitoring		
B	The number of waveforms displayed shall be user selectable		
C	Heart rate measuring range: 15 – 300 bpm with accuracy of < 5% or 5bpm		
D	ECG bandwidth: 0.05 - 100 Hz diagnostic and 0.05 - 40 Hz monitoring (indicative)		
E	Adjustable gain: 5 to 40 mm/mV		
F	Filtration of power line frequency (50 Hz), muscle artifacts and baseline wander		
5	**SpO2** and **Pulse** Rate:		
A	SpO2 measuring range: 1 – 100%		
B	SpO2 accuracy: ± 3 digits ; Supplier to specify		
C	Pulse rate: 25 – 250 bpm		
D	Pulse rate accuracy: ± 3 digits ; Supplier to specify		
E	Adjustable alarm limits		

F	High accuracy even during motion artifacts and low perfusion rates, Supplier to specify the artifact suspression technique incorporated		
G	Durable and accurate SpO2 sensor probes suitable for adult and pediatric shall be provided with the monitor. Only one type of manufacturer's Spo2 sensor probes shall be supplied universally for all physiologic monitors and pulse oximeters (Preferably Nellcore or Masimo)		
6	**Invasive Blood Pressure**		
A	Simultaneous measurement and display of a minimum of 4 channels, such as (ART, CVP, ICP, LA) - 4 Qty shall be supplied with 4 IBP Channels and all remaining will be supplied with 2 IBP Channels only.		
B	Systolic, diastolic and mean pressure monitoring (according to IBP type)		
C	Pulmonary Wedge Pressure monitoring capability		
D	Measuring range: -25 to 360 mmHg		
E	Accuracy (excluding transducer): ± 3 % ; Supplier to specify		
F	Zero balance range: ± 200 mmHg		
G	With adjustable alarm limits		
H	Appropriate interface cables/adapters between the monitor and transducer shall be included		
7	**Non Invasive Blood Pressure (NIBP) features:**		
A	Oscillometric method		
B	Systolic, diastolic and mean pressure monitoring and display		
C	Manual and automatic activation		
D	Adjustable interval between measurements (for automatic activation): 1 min to 2 hours		

E	Inflation pressure range shall be according to patient category (adult & pediatric)		
F	Inflation pressure (approximately): Adults: 270 mmHg; Pediatric: 180 mmHg		
G	Accuracy: ± 3 mmHg; Supplier to specify		
H	Automatic cuff deflation if measurement is not obtained after: 120 – 170 sec		
I	Adjustable alarm limits		
8	**Temperature measuring features:**		
A	Measurement and display of 2 channel		
B	Measuring range: 0 – 45° C		
C	Accuracy: ± 0.1° C ; Supplier to specify		
D	Adjustable alarm limits		
9	**Arrhythmia** monitoring features:		
A	Advanced detection and classification of different types of arrhythmias for all patient catagories		
B	Shall detect and classify arrhythmias including (but not limited to):		
	1. Ventricular Fibrillation		
	2. Ventricular Tachycardia		
	3. Supraventricular Tachycardia		
	4. Ventricular bigeminy		
	5. Sinus Bradycardia		
	6. Sinus Tachycardia		

	7. Asystole		
10	**Respiration** monitoring features:		
A	Respiration monitoring via impedance calculation, through ECG lead		
B	Measuring range: 1 – 150 bpm		
C	Accuracy: ± 1 bpm ; Supplier to specify		
D	Adjustable apnea time		
E	Adjustable alarm limits		
11	**ST segment** analysis features:		
A	Advanced monitoring and analysis of ST segment deviation for adults and pediatrics		
B	Continuous ST analysis for 5 leads		
C	Adjustable ISO and ST points for each lead		
D	Adjustable alarm limits		
12	**EtCO2** Module features:		
A	Non-dispersive infrared method		
B	Main stream and side stream capability		
C	Inspired and expired CO2 concentration values and waveforms		
D	Measuring range: 0 to 100 mmHg		
E	Accuracy: ± 5% ; Supplier to specify		
F	With adjustable alarm limits		

13	**Display / screen**		
A	LCD color touch screen with better resolution (newer LED screens are acceptable); Supplier to spcify		
B	Operation and navigation shall be via an optical over capacitive touch screen (simple & intuitive to use) and **rotary trim knob** (preferable)		
C	Screen size: 15" (or better)		
D	Adjustable waveforms sweep speed: 6.25, 12.5, 25 and 50 mm/sec		
E	Preset and configurable interfaces/layouts		
F	Simultaneous display of 8 channels / waveforms		
G	The order and color of waveforms and numerical parameters shall be user selectable		
H	Shall have user friendly GUI (Graphical User Interface) with User-configurable display pages		
I	Shall be capable for adjusting brightness control of screen.Automatic brightness control of screen based on ambient light conditions is preferred.		
14	The required **warnings/alarms** (but not limited to):		
A	Monitored parameters out of set limits		
B	Arrhythmia detection		
C	Disconnected leads, senor, probes		
D	Power supply failure		
E	System faults with error coding system		
15	The required **Alarm/self-test** system features:		
A	Advanced automatic self-test at switch on		

B	Alarm history for 24 hours		
C	Alarm silence for 2 min		
D	Adjustable alarm volume (alarm volume cannot be turned off or reduced to inaudible level)		
E	Prioritized (three alarm levels)		
F	Audio (tone coded) and visual (color coded) alarming system according to alarm level		
16	**Networking** and **connectivity**:		
A	*Shall be networkable to share data with hospital networks (bidirectional) such as Hospital Information System (HIS) (HL7 compliant), Clinical Information System (CIS), Laboratory (LIS) and PACS (DICOM/latest)**(Bidder to list the data that can be networked/sent to the CIS)***		
B	Remote monitoring of other patient monitors on the network		
C	Compatible with the central station		
D	Networkable to central station via Local area Network (LAN) or wireless, All patient data shall be available at the central station monitor		
E	Shall have Appropriate Data communication port compatible with central Station/ EMR facility (Ethernet, RS-232 I/O Inteface (for numeric, wave, and alarm data export) / Wireless / USB) (For OR, Critical care areas), All necessary driver softwares, hardwares and cables shall be preconfigured for future connectivity options		
F	Capable for Connection to other slave monitors		
G	Facilitate multi format report generation via networked printer and recorder		
H	Defibrillation synchronizing capability		
17	**Trending /Events** storage:		
A	Numerical and graphical trending		

B	Trending capacity: 48 hours (or more) for user selectable parameters		
C	Trend resolution: 1 min		
D	Events storage: 50 events (or more)		
E	Event storage duration: 10 sec before and 10 sec after the event trigger (indicative)		
F	Shall store all monitored parameters for each event		
G	Shall be capable with configurable Drug list ,Drug Calculations,Hemodynamic calculations,Oxygenation calculations and Ventilation calculations		
H	Shall be capable to provide graphical representation to end user to detect patient current clinical status at a glance as summary		
I	Shall have built in tool to identify early signs of patient deterioration based on the trends recorded		
18	**Mounting** features**:**		
A	Wall mounted configuration;The unit shall be with mounting brackets for both screen and module server. Successful Bidder to coordinate with end user to ensure the monitors are professionally fixed		
B	Supplier shall provide all required adapters, interfaces between the monitor and bracket		
C	All brackets used should enable the devices quick and simple removal, preferably without the need for any tools		
D	Weight of the monitor in kg shall be stated		
19	**General** features required:		
A	The unit shall include all required accessories, modules, cables, software, licenses for full functionality		
B	All surfaces of the unit required to be resistant to common disinfectants		
C	The unit shall be flexible and upgradable		

D	The unit **accessories** and **modules** applied parts shall be:		
E	BF type for noninvasive applied parts		
F	CF type for invasive applied parts		
G	Defibrillation protected		
H	Internal rechargeable batteries shall be included, Battery run time:Supplier to specify) ;Visual and audible low batteries alarm indications		
20	**Required Specific Accessories**		
A	Accessories for **ECG/respiration**:		
	All ECG leads to be color coded as per AHA standards		
	Reusable 5 lead ECG cables for adult and pediatric (x1 each)		
	Reusable 12 lead ECG cables for adult and pediatric (x1 each)		
	Disposable electrodes for adult and pediatric (x50 each)		
B	Accessories for **SpO2**:		
	Reusable SpO2 finger sensor for adult and pediatric (x1 each) and a SpO2 extension cable.		
C	Accessories for **IBP:**		
	Reusable IBP interface cables: Two (2) IBP cables that are compatible with the manufacturer(s) of the selected IBP transducers (as chosen by and at the sole discretion of the end-user) shall be provided with each high-acuity monitor.		
D	Accessories **NIBP**:		
	Reusable NIBP hoses for Adult and pediatric (x1)		

	Reusable NIBP cuff for adult and pediatric (4 sizes)		
E	Accessories for **EtCO2:**		
	Capnostat sensor (x1)		
	Reusable airway adapter for adult and pediatric		
	Disposable S-cannula (x20)		
	Calibration kit (x1)		
F	Accessories for **Temperature:**		
	Reusable skin temperature sensor for adult and pediatric (x2 each)		
	Reusable rectal temperature sensor for adult and pediatric (x2 each)		
21	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare **Monitoring systems** 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
22	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
23	**GENERIC POINTS**		

	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated (in Watts)		
	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal;		
24	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Defibrillator with pacing and AED**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Light weight and portable: less than 10 kg		
2	Energy waveform shape : Biphasic		
3	Unit shall facilitate semi-automatic defibrillation (AED mode)		
4	The unit shall operate in manual mode and has a CPR function with audible and visual cues to aid CPR		
5	The unit shall be designed to withstand dust/water, shock, drops and vibration		
6	Built-in large, color high resolution display that includes a post-shock summary feature		
7	Shall be designed as a flexible and upgradeable platform		
8	Automatic paddle impedance measurement		
9	Built-in printer		
10	Ability to download event information		
11	Ability to print reports and add patient details to report/event		
12	All cables and accessories required for fully functional system shall be included		
13	The required **Energy** features**:**		

A	Minimum energy range for adult: 50 – 200J (or more)		
B	Energy range for pediatric and neonatal: 2 – 20J (or better)		
C	The 200 Joule recharging time: < 7 seconds (or better)		
D	Programmable auto energy level selection		
E	Synchronized and asynchronized operation		
F	Capability to synchronize with patient monitors		
14	The required **ECG & Heart Rate** features:		
A	Through 3-lead or 5-lead (both adult lead wire sets to be provided together with the ECG cable for each defibrillator)		
B	All ECG cables shall be per the AHA/AAMI standards.		
C	Through paddles		
D	Sweep speed: 25mm/sec		
E	HR display and HR alarms		
F	Frequency response: 0.67-40 Hz		
15	The required **External Pacing** features:		
A	+Modes: Demand, fixed rate		

B	Adjustable amplitude: 0 to 140 mA		
C	Rate: 50 to 150 ppm		
D	Using disposable electrodes		
16	The required **Battery/Power** features:		
A	Operate on Single phase 230 VAC±6 %, 50 Hz ±2% (direct AC operation)		
B	Internal rechargeable batteries, minimum of 20 shocks at maximum energy or monitoring time: 2 hours (or better)		
C	Full batteries charging time: 4-6 Hours		
D	Battery status indicator		
17	The required **Alarms/self-test** features:		
A	Advanced automatic self-test at switch on		
B	Audiovisual warning in case of errors and measured parameters out of limit		
18	**Required Specific Accessories**		
A	Hands-free external cable(s) suitable for use with disposable adult pads and pediatric disposable pads.		
B	*Reusable 3/5 lead ECG cable (Qty 1)* *Disposable defibrillator/pacing pads for both adult and pediatric (x20 each)* *Thermal paper roll for recorder (x20 each)* *All ECG leads to be color coded as per AHA /AAMI standards* *Calibration kit (x1)* *Testing accessory for external pacing function and defibrillator energy output.*		

19	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;* *1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify* *2) However Supplier to specify all other quality Control standards followed by the proposed model*		
B	Should be FDA / CE approved product with 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) (Supplier to provide relevant data sheets)		
20	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
21	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		
22	**Assembly**		
	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
23	**Electro-Mechanical**		
	All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations		
24	**PRODUCT HIGHLIGHTS FOR THE PROPOSED MODEL**		
	List ten (10) main product highlights for the proposed model apart from the base technical features		

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	TECHNICAL COMPLIANCE SHEET		
Item	**ECG Machine (12 Channel) with Cart**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The unit must be a 12 channel, recording electrocardiograph capable of simultaneously acquiring 12 leads		
2	Quality control alarm messages must be available for the following: disconnected leads, artifacts, lead failure, excessive AC noise, baseline wander, and muscle tremor		
3	The unit must be capable to **measure** the following:		
A	Intervals between the components of the ECG waveform		
B	Waveform amplitudes		
C	Waveform widths		
D	Electrical axes		
E	Heart rate		
4	The unit must be able to measure the following minimum parameters: PR, PQ, QT, P, QRS, T, heart rate and all basic axes.		
5	The **Display/User** features:		
A	3, 6, 12 user selectable and programmable traces.		

B	The displayed data shall include:		
	1.Heart rate		
	2.Patient Name		
	3.Patient identification number		
	4.Patient gender		
	5.Time		
	6.Writer speed		
	7.Writer gain		
	8.Warning messages		
C	Supplier to Specify the Screen Size & Resolution		
D	Help messages		
6	**The required Lead features:**		
A	The unit should support automatic and manual lead switching		
B	The user should be able to select lead signal sensitivity of at least 2.5, 5, 10 and 20 mm/mV		
C	A calibration signal manually or automatically activated at the start of each lead shall be used to verify signal sensitivity and to be used as a reference		

D	Diagnostic frequency response range recommended by the AAMI of 0.67 to 150 Hz (or better)		
E	To reduce interference created by muscle movement or line-frequency noise, the unit should have 25 to 35 Hz muscle tremor filter to reduce artifacts as a result of these interferences		
F	The unit should have an input impedance ≥ 2.5 MΩ at 10Hz		
G	Sampling rate: 500 Samples Per Second (Or better)		
H	Shall have integrated defibrillation protection		
I	The unit should have a CMRR > 86dB at 60 Hz		
J	Lead sensitivity: 5, 10 and 20 mm/mV		
7	**Writer/Printer features**		
A	Chart speeds of at least 25 and 50 mm/sec		
B	The number of traces must be configurable and programmable for 3, 6, 12 channel report formats.		
C	Shall have several markers including lead identification, timing and events		
D	The writer/printer must be able to accommodate 100 pages of thermal paper		
E	The writer/printer design shall have a minimum thermal dot resolution of 1000 dots per inch at 25 mm/second (horizontal and 200 dots/inch vertical)		
8	Shall have facility to interface with LAN/**Wireless LAN(Preferred)** Supplier to specify the available interfacing methods for the proposed model		
9	Internal rechargeable batteries shall be included, Battery run time:Supplier to specify) ;Visual and audible low batteries alarm indications		

10	Shall have basic interpretation feature		
11	**Required Specific Accessories**		
A	Mobile cart with at least one drawer and all standard accessories (patient cable, reusable electrodes kit, disposable electrodes, gel and printer paper) shall be included.		
B	*Reusable 12 lead ECG cable (Qty 1)* *All ECG leads to be color coded as per AHA /AAMI standards*		
C	*Disposable electrodes (x50 each)* *Printer paper (x50 each)*		
12	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare ***Monitoring systems ; CE*** *Certification mandatory;* *1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify* *2) However Supplier to specify all other quality Control standards followed by the proposed model*		
B	Should be FDA / CE approved product with 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) (Supplier to provide relevant data sheets)		
13	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
14	**GENERIC POINTS**		

	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		
	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal		
15	**Assembly**		
	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
16	**Electro-Mechanical**		
	All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations		
17	**PRODUCT HIGHLIGHTS FOR THE PROPOSED MODEL**		
	List ten (10) main product highlights for the proposed model apart from the base technical features		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Ventilator**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Capable for adult as well as Pediatric applications		
2	Mobile unit with lockable castors		
3	Centralized medical air & O2 connectivity (BS Standards) the required probes & High pressure flexible tubes shall be supplied		
4	Tidal volume range 20-2000mL, Respiratory rate 0-120 breaths/min		
5	Inspiratory flow range 3-180 L/min , Inspiratory pressure range 0-60 cm H2O		
6	Inspiratory & expiratory hold: 0-3 sec (or better)		

7	Automatic leakage and hose compliance compensation		
8	I:E ratio 1:4 to 4:1(or better)		
9	Shall be equipped with selectable trigger mechanism (Flow, pressure)		
10	Shall include Inbuilt Nebulizer (Preferred) & External Humidifier		
11	O2 Sensor type (disposible / Permanent (Preferred))		
12	Pressure support range :0-45 cm H2O (or better)		
13	FiO2 adjustable range :21-100 %, CPAP/PEEP Range : 0-40 cm H2O		
14	Shall have both pressure & Flow trigger mechanism; Supplier to specify the Trigger levels		
15	Shall have vital capacity tool to evaluate patients weaning progress		
16	**Ventilation Modes**		
	Ventilation modes required (But not limited to) Assist/control, SIMV (Both volume and Pressure mode),Pressure support (Spontaneous / CPAP), CPAP , Bi level, Apnea-backup & NIV (non-invasive mask ventilation). Supplier to specify the modes available with the unit		
17	**Display & Controls**		
A	The controls (touch screen, rotatory knob, Membrane switches) should be clearly identifiable and their functions shall be self-evident		
B	There shall be 15 " color LCD display (or better)		
C	There shall be control panel lockout feature		

D	The front panel shall be sealed to prevent fluid penetration		
E	Shall be capable up to analyze/display up to 4 curves (or better)		
F	Shall have user configurable GUI with easily accessable menus		
18	**Monitoring features**		
	Shall monitor (but not limited to) PIP, MAP, PEEP, Tidal Volume, Minute volume, FiO2, Respiration rate, I: E ratio, Inspiration time, Expiration time, pressure support, and trigger sensitivity, Lung mechanics, Pressure-Volume/Flow Loop, Trends up to 72 hours		
19	**Alarm features**		
A	Both audible & visual alarms with alarm silencing facility		
B	Alarm silence feature must reactivate automatically within two minutes if the alarm condition is not corrected		
C	Shall have equipment related alarms but not limited to Gas supply failure, Power failure, Vent inoperative, Low battery, Self-diagnostics, Valve leak, sensor failures		
D	There shall be alarms for (but not limited to) high /low FiO2,high/ low minute volume, low inspiratory pressure / tube disconnection, high PIP, high PEEP, loss of PEEP,Continious high pressure/ occlusion, high respiration rate, inverse I:E ratio		
E	Shall be equipped with 3 prioritized alarms levels (Caution, advisory, alarm)		
F	Shall have inbulit advisory / help message feature		
20	**Power & data communication features**		

A	Operate on Single phase 230 VAC±6 %, 50 Hz ±2%		
B	Battery operation for at least 1 hour (or more) with automatic low-battery alarm indication		
C	Battery shall recharge completely and charging time not more than 16 hours		
D	Shall be equipped with data communication ports but not limited to RS232,RJ45 Ethernet for EMR / Charting connectivity solutions, USB, VGA/DVI display output for slave monitors		
21	**General** features required:		
A	The unit shall include all required accessories, cables, software, licenses for full functionality		
B	All surfaces of the unit required to be resistant to common disinfectants		
C	Upgradablity; Supplier to Specify the future upgrades possible with the proposed model		
D	Shall have fully automated test for monitoring the error functions		
E	Internal rechargeable batteries shall be included, Battery run time:Supplier to specify) ;Visual and audible low batteries alarm indications		
F	The unit **accessories** and **modules** applied parts shall be:		
	BF type for noninvasive applied parts		
	CF type for invasive applied parts		
	Internal rechargeable batteries shall be included, Battery run time:Supplier to specify) ;Visual and audible low batteries alarm indications		

22	**Accessories : Shall include all standard accessories required for the full monitoring parameters included** **Supplier to provide a separate unit price list for accessories**		
	Reusable breathing circuit for Adults & Pediatric, Flow Sensors,Test Lung, External Humidifiers / HME		
23	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare ***Respiratory Therapy devices*** *1.IEC 60601-1,2 : Basic Safety & Essential Performance for Medical Equipment* *2.IEC 60601-8 General Requirements, tests , Alarms and guidance for medical equipments* *3.ISO 10651-2 Basic Safety and essential performance Lung ventilators for medical use* *4) Standards related to Patient Safety and EMC shall be followed.Supplier to specify However Supplier to specify all other quality Control standards followed by the proposed model*		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
24	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
25	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		

	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal		
26	**Assembly**		
	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
27	**Electro-Mechanical**		
	All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations		
28	**PRODUCT HIGHLIGHTS FOR THE PROPOSED MODEL**		
	List ten (10) main product highlights for the proposed model apart from the base technical features		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Syringe Pump**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
	Syringe Pump		
1	**Configuration**		
1.1	Shall have Microprocessor controlled operation		
1.2	Shall have Syringe Driving mechanism Supplier to specify stepper motor or lead screw based		
1.3	Shall have Capability for both IV Pole and Docking station Mounting Options		
1.4	Shall have fluid resistant construction		

1.5	Shall have light weight and portable design		
2	**Display & Control.**		
2.1	Shall have LCD display and can display and not limited to Total Infused volume, alarms, event history, Flow rates, Drug name		
2.2	Shall have Illuminated & well organized key pads with lock out feature		
3	**Pump capabilities**		
3.1	Shall have adjustable flow rates with increments of 0.1 mL/hr		
3.2	Shall have Capability to accommodate syringe sizes of 5, 10, 20, 30, 50, 60 mL.		
3.3	The syringe pump shall be compatible with all common syringe Manufacturers - Supplier to list the syringe brands/sizes that are certified to be used with the offered syringe pump.		
3.4	Shall have Flow rate range 0.1 to 99.9 ml/Hr		
3.5	Shall have Accuracy of ±5 % or better		
3.6	Shall have KVO (Keep Vein Open) rate: 0.1-5 mL/hr		
3.7	Shall have Automatic syringe size detection		
3.8	Shall have Capability for Bolus-dose functions		
3.9	Shall have Adjustable Bolus rates		
3.10	Shall be Equipped with Drug library / Dose calculation functions		
3.11	Shall have Prime / Purge control function		

3.12	Shall have mechanism for free flow protection		
3.13	Occlusion alarm setting selectable from 50 -1000 mm of Hg		
4	**Alarms & Other Features**		
4.1	Both audible and visual alarms and alarm Silencing mechanisms		
4.2	Shall have Volume adjustable feature for audio alarms		
4.3	Shall have Alarm **conditions** for: (but not limited to) infusion near end, infusion end, syringe empty, occlusion, system malfunction, flow errors, air inline, syringe unlocked, plunger disengaged and low / depleted battery		
4.4	Shall have Capability of storing error codes, alarm conditions, amount infused, and program settings for at least 200 events (or up to 24 hrs)		
4.5	Shall have event storage and include: key strokes, error codes, alarms, rate, amount infused, program settings		
4.6	Shall have equipped with user-configurable dose-error-reduction software. Supplier to provide software that will permit the end-users, at their sole discretion, to develop a customized library that can be uploaded to all syringe infusion pumps. Supplier to provide datasheets/brochures of the offered dose-error reduction software.		
5	**Power & Data features**		
5.1	Shall be Operate on Single phase 230 VAC ±6 %, 50 Hz ±2%		
5.2	Shall have Appropriate Data communication port compatible with central Station/ EMR facility (Ethernet, RS232/Wireless/USB) (For OR, Critical care areas), All necessary driver softwares, hardwares and cables shall be included		
5.3	Shall have recharging time not more than 10 Hrs,Supplier to specify the time		
5.4	Shall be capable to operate on Battery for 5 Hrs @ 10ml/Hr flow rate or better, supplier to specify the time		

6	**Consumables**		
6.1	The Supplier shall provide datasheets for all available syringes and IV lines that are available in the Manufacturer's product range. These infusion sets shall be listed in and priced accordingly.Quantity required will be notified during P.O issue		
6.2	All syringes and associated IV extension lines are luer-lock connections		
7	**QUALITY STANDARDS**		
	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare systems ; CE Certification mandatory; 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
8	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Infusion Pump**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
	Infusion Pump		
1	**Configuration**		
1.1	Shall have Microprocessor controlled		
1.2	Shall have Peristaltic Pump Mechanism		
1.3	Shall have Single Channel configuration		
1.4	Shall be Capable for both Pole and Docking station Mounting Options		
1.5	Shall have fluid resistant construction		
1.6	Shall have Light weight and portable design		

2	**Display & Control features**		
2.1	Shall have LCD Display, and can display (but not be limited to) Total Infused volume, VTBI (Volume to be Infused) alarms, event history, flow rates, User prompts, Drug Name		
2.2	Shall have illuminated & well organized Key pads with front panel lockout feature		
3	**Pump Capabilities**		
3.1	Shall have Adjustable flow rates with increments of 0.1 mL in Micro and 1 mL in normal mode		
3.2	Shall have VTBI (Volume to be infused) selector in the range of 1-9999 mL		
3.3	Shall have Flow rate range 0.1 to 999 ml/Hr		
3.4	Shall have Accuracy of flow rates with in 5% of the flow settings		
3.5	Shall have KVO (Keep vein Open) RATE 0.1-5 mL/hr		
3.6	Shall be Capable for Bolus-dose functions		
3.7	Shall have Automatic piggybacking feature		
3.8	Shall be Equipped with Drug library / Dose calculation functions		
3.9	Shall have Prime/ Purge control function		
3.10	Shall be a mechanism for set based free flow protection		
4	**Alarms & Other Features**		
4.1	Shall have Both audible and visual alarms also alarm Silencing mechanisms		

4.2	Shall have Volume adjustable feature for audio alarms		
4.3	Shall have Alarm and terminate flow if 50 to 100 µL of air enters the infusion line.		
4.4	Shall have Alarm conditions for .(But not limited to) infusion end / Complete, empty fluid container,Occlusion(for both upstream and downstream), System malfunction, Flow errors, air inline, Set disengaged, Door open, low / depleted battery.		
4.5	Shall be Capable of storing error codes, Key strokes, alarm conditions, amount infused, and program Settings for at least 200 events (or up to 24 hrs).		
4.6	Shall be equipped with the storage of date- and time-stamped event log		
4.7	Shall be Equipped with user-configurable dose-error-reduction software. Supplier to provide software that will permit the end-users, at their sole discretion, to develop a customized library that can be uploaded to all infusion pumps. Supplier to provide datasheets/brochures of the offered dose-error reduction software.		
5	**Power & data features**		
5.1	shall be Operate on Single phase 230 VAC±6 %, 50 Hz ±2%		
5.2	Shall have Appropriate Data communication port compatible with central Station/ EMR facility (Ethernet, RS232/Wireless/USB) (For OR, Critical care areas), All necessary driver softwares, hardwares and cables shall be included		
5.3	Shall have Recharging time not more than 10 Hrs Supplier to specify the time		
5.4	Shall be Capable to operate on battery for 4 Hrs or better @ 125 ml/Hr flow rate,Supplier to specify the time		
6	**Consumables**		

6.1	The Supplier shall provide datasheets for all available infusion sets that are available in the Manufacturer's product range. These infusion sets shall be listed and priced accordingly.		
7	**QUALITY STANDARDS**		
	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare systems ; CE Certification mandatory; 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
8	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**PATIENT WARMER**		
	Equipment Description	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The system shall consist of warming unit and a full range of different blankets		
2	This shall be a convective air warming blanket system to manage and regulate the body temperature of patients suffering from hypothermia		
3	The blanket shall provide efficient full-body warming		
4	The blanket shall be made from light, strong and tear resistant material and low profile that contours to the patient without billowing up		
5	Shall have a scoop neck cut-out and tuckable shoulder flaps for improved patient warming		
6	Unit scahll have digital control panel with LCD display of time and temperature		
7	Approximate blanket temperature range: from 34 C° up to 43 C°, with boost capability of higher temperatures that should be time limited with an alarm		
8	Temperature regulation: within ± 1.0 °C measured at hose end; Supplier to specify the accuracy		
9	Shall require minimum warm-up time (approximately 2 - 5 minutes(or better))		

10	It shall have over temperature sensors that shut down heater (accompanied by an audible alarm) when the temperature exceeds the preset level for increased accuracy and safety		
11	Shall have high efficiency air filter		
12	Shall have an hour meter display to indicate visually when a service is due		
13	Mounting accessories to bed rails or stands or operating tables shall be provided (silent operation and easy attachment to infusion stands or operating tables)		
14	Shall be supplied complete with necessary hoses and blanket connection plugs		
15	**The unit shall the following alarms (but not limit to):**		
A	High-temperature limit		
B	Low-temperature limit		
C	Patient temperature set		
D	Patient temperature probe		
16	**The unit shall be supplied with the following blankets:**		
A	Adults/pediatric, disposable (50 Sets)		
B	Patient blanket for the entire body (top patient cover) (50 Sets)		
C	Underbody blankets (50 Sets)		
17	Blankets preferred to be shall be made of hypoallergenic material (latex free)		
18	**Assembly**		

	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
19	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare related warming systems 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
20	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
21	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated Shall include long length power cable		
20	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**WARMER, BLOOD - FLUID, PORTABLE**		
	Equipment Description	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The unit shall be a digitally-controlled blood -fluid warmer of all infusions and transfusions application		
2	Unit shall be with dry heat technology		
3	Shall have adjustable temperature level from 35°C to 42°C		
4	Warming-up time: ≤ 4 minute; Supplier to specify		
5	Safety features: Temperature cut-off at 42°C		

6	Shall be capable for 0.5°C increments (or better)		
7	Type of operation mode: Continuous operation		
8	Digital and illuminated temperature display		
9	Automatic function test with each heater start (Preferred)		
10	Warmer shall have a screen displaying for actual fluid temperature, Over and under temperature readings		
11	Independent over heat safety switch off		
12	Capable for flowrate up to 20ml / min (or better)		
13	Audible/visual alarms and indicators for High/Low temperatures , System faults		
14	Shall have splash proof panel		
15	Shall be capable to use with commonly used infusion sets (preferred)		
16	Universal fixation for fast and safe fixation on IV poles and medical fixation rail		
17	**Assembly**		
	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
18	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare related warming systems 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		

B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
19	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
20	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated Shall include long length power cable		
21	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**ENTERAL FEEDING PUMP**		
	Equipment Description	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be capable for delivering enteral feeding solutions for patients in critical care areas		
2	**Pump features**		
A	Configuration :Microprocessor controlled, Portable		
B	Pump Principle : Peristaltic		
C	Shall be capable to use with patient range from pediatric to adult		
D	Shall be capable for programming		
E	Accurate volumetric delivery		
F	Volume range: 1-9999ml		
G	Flow range shall be in the range of 1-300 ml/hr. in 5mL/hr. increments		

H	Accuracy of +/-10% or 0.5ml/hr. whichever is larger ; Supplier to Specify		
3	Shall have automatic flush feature		
4	Shall be capable to sense the Occlusion press in the range of 12-25 psi (or better)		
5	Shall be incorporated with self-diagnostics feature		
6	Shall have LED/ LCD display ; Supplier to Specify		
7	Shall be capable for the event storage including (but not limited to) Rate, dose, volume ,Delivered, Error codes , total run time		
8	Shall display parameters including (but not limited to) delivered volume, feeding rate,Battery / power indication and various alarms		
9	Shall be capable for the battery operation in the range of 2-4 hours		
10	Battery recharging time shall not exceed 8 hours ; Supplier to Specify		
11	**Alarms features:** Shall have various alarms including (but not limited to)		
A	Low battery		
B	Upstream and downstream Occlusion		
C	Infusion/ feeding complete		
D	Door open		
E	Set incorrectly inserted		
F	Preset volume delivered		
G	Feed or Flush containers empty		

H	System errors		
I	Shall have both audible and visual alarm indications		
12	**Safety features**		
A	Over infusion safeguard		
B	Shall be capable to use only with dedicated sets		
C	Shall have incompatibility with IV connectors		
D	Shall have free flow protection		
E	Shall have built-in pole clamp		
F	All consumables must be dedicated, Non-IV compatible components with no-free flow feature		
13	**Assembly**		
A	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
14	**QUALITY STANDARDS**		
A	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare related infusion systems 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
15	**General Accessories & Consumables**		

	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
16	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated Shall include long length power cable		
17	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Crash cart**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	The unit should be an advanced design that is maneuverable, tightly organized with easy access to all of its parts		
2	Fully SS construction / double-wall steel body with powder coated finish that is resistant to flaking, chemicals dents and chipping		
3	Shall have minimum 5 full extension drawers with a safety stop		
4	Drawer sizes shall be 3" drawers (2) , 6 " drawers (2), 9" drawer (1)		
5	Shall have divider kit for drawers		
6	Molded integral handle for ease of maneuverability		
7	Cart shall be lockable with breakaway type seal lock in emergencies		
8	Shall have defibrillator and portable suction machine shelves		
9	Shall have sharp container		
10	Shall have Oxygen tank holder		
11	Shall have IV pole (with 2 hooks)		
12	Shall have waste bag holder		
13	Shall have CPR board with holder on the rear side of the cart		

14	Shall have protective bumper & integrated push handle for transportation		
15	Shall have minimum noise free 12.5 cm four swivel casters including two with brakes		
16	Approximate dimensions (H x W x D): 110 x 80 x 60 cm		
17	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants .		
18	**Assembly :**All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
19	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Portable suction machine**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Configuration :Compact and light weight portable unit		
2	The unit shall be durable and powerful suction/aspirator for various medical procedures including emergency and resuscitation cart applications		
3	Pump type : Diaphragm / Piston		
4	Capacity of the collection canister not less than 1 Liter		
5	Collection canister shall be properly graduated		
6	Shall have mechanical overflow protection valve: shut off valve when jar is full		
7	Continuous operation capability		
8	Shall have adjustable vacuum range of 0 to ≥ 400 mm of Hg		
9	Minimum time required to attain vacuum level of 300 mm of Hg shall be ≤ 4 sec		
10	Flow rate at maximum vacuum shall be > 25 L/min		

11	Shall have vacuum gauge with an accuracy of ± 10 %		
12	Shall operate on both battery and AC power, Battery operation time ≥30 minutes at maximum vacuum		
13	Shall have integral battery charger with battery charging indications		
14	Shall have both audible and visual low battery indication		
15	All front panel controls shall be clearly visible and self-explanatory		
16	Total weight including all accessories shall not exceed 6 kg		
17	High quality and low noise pump with noise level ≤ 50 dB		
18	Dimensions and weight of the unit shall be compatible in order to accommodate the suction machine in the resuscitation cart suction machine tray / holder		
19	**General Accessories & Consumables**		
	All Standard accessories & consumables including (but not limited to) Suction tubes, filters, Canisters, Holders required for the smooth operation of the unit shall be included the base bid		
20	**Power Supply :**		
	Shall be designed for a power supply of 240 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency		
21	**QUALITY STANDARDS**		

	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare devices 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
22	**PRODUCT HIGHLIGHTS FOR THE PROPOSED MODEL**		
	List ten (10) main product highlights for the proposed model apart from the base technical features		
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	TECHNICAL COMPLIANCE SHEET		
Item	**CENTRAL STATION MONITORING**		
Equipment Description	Advanced patient monitoring central station to be used with patient bedside monitors in high acuity areas for the complete patient monitoring parameters review and analysis.	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Central monitoring workstation shall provide access to all patient data including physiologic waveforms, hemodynamics and demographics of up to 16 bedside monitors		
2	Shall collect and display real-time data from bedside monitors		
3	The unit shall be user friendly and capable for future upgrades and updates		
4	**Central monitoring**:		
A	Simultaneous display of 16 bedside monitors (refer to required configurations as below).		
B	Central station shall be capable of displaying a minimum of two waveforms together with full numeric data per patient sector. Bidder to state the maximum no. of waveforms and patient data that can be displayed per patient sector.		
C	Capability to preview all monitored parameters at bedside monitor such as: ECG (all channels), SpO2, Respiration, Temperature, NIBP, IBP, etCO2, EEG.		
D	Audiovisual alarming (even if alarms are deactivated at bedside monitor)		
E	Capability to preview and adjust alarm limits		
F	Alarm silence at central station and bedside monitor		
5	**Full disclosure**:		
A	Duration: ≥ 24 hours		
B	Capacity: 16 patients		

C	Shall store all monitored waveforms and numerical values for all patients		
6	**Trending:**		
A	Duration: 24 hours (Or better) ;Supplier to specify		
B	Capacity: 16 patients		
C	Numerical and graphical trending for all monitored parameters		
7	**Events:**		
A	Duration: 72 hours (Or more) Supplier to specify		
B	Capacity: 1000 event per patient for 16 patients		
8	**ST segment analysis**		
A	Advanced monitoring and analysis of ST segment deviation for adults and pediatrics		
B	Continuous for all monitored leads		
C	Adjustable ISO and ST points for each lead		
9	**Arrhythmia analysis:**		
A	Advanced detection and classification of different types of arrhythmias for adults and pediatrics		
B	Shall detect and classify arrhythmias including (but not limited to):		
	➢ Ventricular Fibrillation		
	➢ Ventricular Tachycardia		
	➢ Supraventricular Tachycardia		
	➢ Ventricular bigeminy		
	➢ Sinus Bradycardia		
	➢ Sinus Tachycardia		
	➢ Asystole		
10	**Minimum work station Specifications:**		

A	Processor: latest compatible at time of delivery		
B	Processor speed: 3GHz (or highest compatible)		
C	RAM: 4 GB DDR2 (Or better)		
D	Hard disk: 500 GB (Or better)		
E	Ethernet communication ports		
F	Shall be capable for both wired and wireless based networking		
G	Color laser printer (1200 x 1200 dpi)		
H	Latest compatible Widows operating system		
I	All required software and licenses for fully functional system		
11	**Display/screen:**		
A	Color LCD screen, screen size: 21”		
B	Preset and configurable interfaces/layouts		
C	Simultaneous display of 16 patients		
D	Capability to display full data for one patient		
12	**Recorder / Printer:**		
A	Shall support network or USB Printer (Laser, Inkjet etc)		
B	Patient ID, date and time data shall be printed on reports		
13	**Networking and connectivity**		
A	Shall be fully compatible and interfaced with patient bedside monitors		
B	Shall be networkable to share data with hospital networks (bidirectional) such as HIS (HL7 compliant), LIS and PACS		
C	Shall be networkable to the bedside monitors via RJ45 data points		
D	Shall facilitate connection to other slave monitors		

E	Shall facilitate multi format report generation via printer		
F	Shall be capable for multiple central stations communication within the hospital		
G	Capability to preview bedside monitors from physicians' offices PCs via Web browser based application		
14	The unit shall include all required servers, hardware,accessories, installation materials/cables, switches/routers software, licenses..etc for full functionality		
15	There shall be system security feature to protect the workstation and connected devices from software threats		
16	Configuration of the respective central monitors: The below dictates the number of beds per department that are required to have central monitoring facilities. Bidder to stipulate the proposed configuration solution for each respective nurse station Intensive Care Unit - ICU1 -12 bed Cardiac Care Unit- CCU- 16 bed		
17	**QUALITY STANDARDS**		
	The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare systems ; CE Certification mandatory; 1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify 2) However Supplier to specify all other quality Control standards followed by the proposed model		
18	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
19	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts,		

	single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		
	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal		
20	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**BIPAP MACHINE**		
Equipment Description		**Date**	
		comply Yes/ No/NA	
Clause No.	**Clause**		**Remarks**
1	Configuration : Compact and light weight unit		
2	Modes : Bi-level Positive Airway Pressure ,CPAP, Pressure Support (S/T)		
3	Shall be capable for various mask configurations including full face, nasal		
4	Shall be capable to adjust the both Inspiratory and expiratory pressure levels		
5	Inspiratory and expiratory pressure levels shall be adjustable in the range of 3-25 cm H2O		
6	Trigger sensitivity : automatic / adjustable		
7	Shall have automatic leak compensation		
8	Shall be capable to monitor and store including (but not limited to) Inspiratory pressure, expiratory pressure, respiratory rate, flow range, I: E ratio, Pressures and air leaks.		
9	Shall have both audible and visual alarms including (but not limited to) power failure, overheat, Mask alarm, fault and low battery		
10	The priority of the alarms shall be indicated by different audible tones and visual indicators		
11	All front panel controls shall be clearly visible and self-explanatory		
12	Shall have LCD/ LED display, Supplier to specify the screen size		
13	Operation of the unit shall not be affected by electromagnetic interference and electrostatic discharge		
14	Shall be equipped with panel lock feature to protect against accidental change of settings		
15	Noise level shall be ≤ 30 dB		

16	Shall be capable for the automatic altitude adjustment		
17	Shall be equipped with air inlet filter and integrated heated humidifier		
18	Shall have removable data storage allows physician to review running hours, pressures, leak via software (Software and data card shall be included in the base bid)		
20	Shall be capable for the battery operation with minimum 1 hour (or more) battery back up		
21	All standard features and components required for the smooth operation of the entire unit shall be included in the base bid		
22 A	QUALITY STANDARDS The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare Respiratory Therapy devices 1.IEC 60601-1,2 : Basic Safety & Essential Performance for Medical Equipment 2.IEC 60601-8 General Requirements, tests , Alarms and guidance for medical equipments 3.ISO 10651-2 Basic Safety and essential performance Lung ventilators for medical use 4) Standards related to Patient Safety and EMC shall be followed.Supplier to specify However Supplier to specify all other quality Control standards followed by the proposed model		
B	Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
23	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
24	**GENERIC POINTS**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		
	Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal		
25	**Assembly**		
	All facilities to be incorporated within the Unit are to be manufacturer assembled		
26	**Electro-Mechanical**		
	All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations		

27	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**PORTABLE ECHO**		
Equipment Description		**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Compact, Lightweight and easy to use.		
2	The system shall be based on a digital architecture that provides for broad bandwidth digital beam-forming and all-digital signal processing		
3	The system must be lightweight and portable with a weight capacity less than 7.5 kilograms		
4	The system shall have upgradeable SW and HW.		
5	The system shall have Cine image (memory).		
6	**APPLICATIONS:**		
	1.Adult Echocardiography		
	2.Pediatric Echocardiography		
	3.Stress Echocardiography		
	4.Vascular (Peripheral, Cerebrovascular, and TCD)		
	5.Peripheral vascular		
7	**IMAGING TECHNOLOGIES:**		
	1.System shall provide all-digital broadband beam-forming technology using all-digital time delay circuits		
	2.The system architecture shall be designed to simultaneously process the entire bandwidth of broadband transducer received frequencies from 1 MHz to 12 MHz.		
	3.The system must be capable of acquisition frame rates up to 300 frames per second (fps).		
	4.The system must use digital broad bandwidth with parallel signal processing to reduce speckle noise and optimize tissue contrast, while retaining spatial and contrast resolution.		
8	The system shall be capable of supporting transducer technologies incorporating up to 3,000 elements, including:		
	1. Curved array		
	2. Linear array		

	3. Sector array		
	4. MATRIX Array or phased array scanning.		
9	**The system shall operate in the following modes:**		
	1.Live Bi-Plane imaging		
	2.Tissue Harmonic imaging		
	3.Chroma imaging		
	4.Contrast imaging		
	5.M-mode		
	6.Color Doppler imaging		
	7.Tissue Doppler Imaging		
	8.Color Flow imaging		
	9.Color Compare Imaging		
	10.Color Power Angio imaging (CPA)		
	11.High PRF Doppler		
	12.Simultaneous PW Doppler and 2D		
	13.Simultaneous 2D, color Doppler and PW Doppler (Triple Mode)		
10	**TISSUE HARMONIC IMAGING:**		
	1.The system shall support Tissue Harmonic Imaging capability on sector and linear array transducers.		
	2.The system shall be capable of supporting Tissue Harmonic Imaging in combination with other imaging modes.		
11	**TISSUE DOPPLER IMAGING:**		
	1.System must allow frame-by-frame review.		
	2.System must allow high frame rate acquisition of tissue motion		
	3.System must be capable of assigning high resolution 2D and Tissue Doppler from the same pulse to achieve high frame rate		
12	**SYSTEM ARCHITECTURE:**		
	1.Flicker-free 15- inch high resolution display		
	2.Easy access transducer connector ports and integrated cable storage		
	3.TGC Control		
	4.Dedicated continuous wave Doppler connector		

	5.Automatic diagnostic system check during power-up and in the background during use, to verify correct system operation		
	6.Control panel operation of on-board peripheral devices Min. 80- gigabyte hard drive.		
	7.Online Help function and system manual accessible via dedicated “Help” key on control panel.		
	8. System shall include DVD and or CD-RW drive for image export		
	9. System must be able to store JPEG and AVI file formats to DVD storage media in order to open the Images using PC		
	10. The system shall be capable to perform patient report which should include all Patient data, Measurement, analyses		
	11.Shall have minimum connectivity options :Composite video,S-video,USB port ,VGA , RS232 port		
	12.DICOM capability with print option.		
	13.Shall be able to link and compatible with Hospital Information System (HIS), HL7 and PACS system		
13	**Advanced Quantification Options:**		
	1.Cardiac 2D Quantification (2DQ)		
	2.Semi-automated border detection for cardiac chambers and vessel cavities		
	3.Adaptive semi-automatic blood pool detection algorithm with waveform display of LV volume and ejection fraction as well as first derivatives over time		
	4.Color Kinesis (CK) tool for displaying semi-automated borders over time parametrically		
	5.Display & manipulation of dynamic three-dimensional rendering and left ventricular (LV) volumes		
14	**TRANSDUCERS:** The following transducers are to be supplied with the system as standard		
	1.Matrix Array: 2D, biplane, triggered full volume, Color Doppler with 2D, biplane, Harmonic Imaging		
	2.Sector Array / Adult:		
	a. Adult cardiology applications		
	b. 4 to 1 MHz extended operating frequency range		
	c. 2D, Steerable PW and CW Doppler, High PRF Doppler, Color Doppler, Tissue Doppler, Harmonic Imaging and LVO		
	d. Tissue Doppler Imaging (TDI) – 2D		
	e. M-mode/Color M-mode/TDI M-mode		
	3.Sector Array / Pediatric:		
	a Pediatric cardiology applications		
	b. 8 to 4 MHz extended operating frequency range		

	c. 2D, Steerable PW Doppler, CW Doppler, High PRF Doppler, Color Doppler, Tissue Doppler, Harmonic Imaging		
	Note that the transducer frequencies stated above are a guide only		
15	Unit shall have built in battery backup (Supplier to specify maximum battery back up available in minutes)		
16	**ACCESSORIES AND CONSUMABLES**		
	All standard accessories and consumables for the smooth operation of the equipment in addition to the following shall be provided.		
	Standard mobile ultrasound trolley with shelves – Qty: 1 no.		
	High resolution printer (Color) which should be placed within the shelf of the trolley.		
	Printer Paper – Qty: 15 rolls		
	All probes prices shall be listed in financial offer ; However client may select the required probe at the time of P.O		
17	**Assembly :** All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
18	**ELECTRO-MECHANICAL**		
	The unit shall be suitable to operate on 230V ± 6%, 50 Hz AC single phase power supply. Additionally it shall be complete with built-in rechargeable type battery and battery charger. The electrical requirement for the offered system shall be clearly stated in the bid. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
19	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
20	**Supplier to specify ten product highlights apart from the general specs**		

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	TECHNICAL COMPLIANCE SHEET		
Item	**PORTABLE ULTRASOUND MACHINE**		
Equipment Description			
High resolution, portable ultrasound unit complete with trolley & all standard accessories. Have dynamic focusing capability suitable for all routine USG applications; Adults, Pediatric, Obstetrics, Neonatal hips/OBG measurements & Musculoskeletal related measurements.		**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Compact, Lightweight and easy to use.		
2	Suitable to be used for adult, pediatric and neonatal		
3	Integrated control panel which includes alphanumeric keyboard, trackball and other facility for data entry, scanning, viewing, recording, pan-zoom and freezing functions.		
4	Backlit keyboard for better visualization in dark conditions.		
5	Ergonomically designed, light weight multi frequency transducer with flexible cables.		
6	Easy access transducer connectors and integrated cable storage.		
7	**It shall have the following Imaging Modes:**		
	7.1 Two Dimensional (2D)		
	7.2 Motion Mode (M-Mode)		
	7.3 Directional Color Power Doppler with Velocity Color Flow Imaging		
	7.4 Tissue Harmonic Imaging and TDI		
	7.5 Pulsed Wave Doppler		
	7.6 Continuous Wave Doppler		
	7.7 Dual Imaging/ Duplex Imaging		
	7.8 Broadband Multi frequency Imaging		

8	Hygienic, rust proof trolley with integrated shelves, space for gel bottles, probe holder and lockable swivel castors for easy mobilization.		
9	User friendly measurement and analysis package for adult, peadiatric, Vascular, musculoskeletal measurements		
10	High resolution, flicker free LCD display screen (15” or better) for crisp and clear images with tilt adjustment facilities.		
11	CD/DVD recording facility		
12	Unit shall have following minimum connectivity options:Composite video,S-video,USB port , VGA , RS232 port		
13	DICOM capability with print option.		
14	High resolution printer (Black and White) which should be placed within the shelf of the trolley.		
15	Customizable normal report values thereby permitting the user to define measurement value in the report.		
16	Unit shall be able to link and compatible with Hospital Information System (HIS), HL7 and PACS system		
17	Unit shall have built in battery backup (Supplier to specify maximum battery back up available in minutes)		
18	**ACCESSORIES AND CONSUMABLES**		
	All standard accessories and consumables for the smooth operation of the equipment in addition to the following shall be provided.		
	a. Convex probe (5-2 MHz) with carry bag – Qty: 1 no.		
	b. Linear probe (10-5 MHz) with carry bag – Qty: 1 no.		
	c. Micro convex probe with carry bag – Qty: 1 no. (for neonatal head)		
	d. Pediatric probe with carry bag – Qty: 1 no. (for pediatric abdomen)		
	e. Standard mobile ultrasound trolley with shelves – Qty: 1 no.		
	f. Printer Paper – Qty: 15 rolls		
19	All probes prices shall be listed in financial offer ; However client may select the required probe at the time of P.O		

20	**Assembly :** All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
21	**ELECTRO-MECHANICAL**		
	The unit shall be suitable to operate on 230V ± 6%, 50 Hz AC single phase power supply. Additionally it shall be complete with built-in rechargeable type battery and battery charger. The electrical requirement for the offered system shall be clearly stated in the bid. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
22	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
23	**Supplier to specify ten product highlights apart from the general specs**		
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.	**TECHNICAL COMPLIANCE SHEET**		
Item	**Intra-aortic balloon pump (IABP)**		
Equipment Description			
Intra-aortic balloon pump (IABP) is a mechanical device that is used to decrease myocardial oxygen demand while at the same time increasing cardiac output,by increasing cardiac output it also increases coronary blood flow and therefore myocardial oxygen delivery.		**Date**	

Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be a Microprocessor / microcontroller based system. System shall be complete with Display Control system and pneumatic drive unit.		
2	Pneumatics Drive system: Shall be Stepper motor driven bellows drive gas- Helium (Available with disposable canister or refillable cylinder. Pumping Volume: 0.5 cc-50 cc Counter pulsation rate: 40-200 pulsations per minute		
3	Automatic Mode: System shall be capable of automatically selecting appropriate trigger i.e. ECG or Pressure and also accurately select the inflation and deflation points, in automatic mode. In automatic mode of operation user should be in control of the deflation point. In Automatic mode Advance software shall automatically adapt the timings for various rhythms and rate variations, without any user intervention. In Automatic mode it shall ,automatically identify Arrhythmias and adopt R wave deflation mode for better patient support, without any user intervention.		
4	Manual mode: In manual mode the system shall allows user control of most of the pump functions.		
5	Shall be able to trigger on 7 mm Hg of Pulse pressure when used in Pressure Trigger mode.		

6	Shall have single key start-up to make it fast, user friendly and easy to use.		
7	Shall be able to display at least 3 wave forms as ECG, invasive Pressure and Balloon Pressure wave forms.		
8	Shall have large display for brighter and very good visibility from a distance in lighting conditions.		
9	Shall have on screen indication for Helium level in the cylinder and battery level for timely intervention and correction.		
10	Shall have ECG inflation marker to indicate inflation period on ECG which can be useful when arterial pressure form is not available.		
11	Shall have On screen indication of standby time and should give alarm after 15-30 minutes, to draw user"s attention on the system being on standby		
12	Shall have optical Blood leak detect for early indication of blood coming into the balloon lumen due to IABC leak.		
13	Shall have extensive help text available during start-up to make the system easy to use even for new users.		
14	Shall give extensive Help messages to correct the alarm conditions that are specific to the alarm condition. This should help the user to overcome the alarm problems immediately and with ease.		
15	Shall be capable of removing condensation automatically without user intervention and should be maintenance free.		
16	Shall have Peripheral Vascular Doppler for detecting limb ischemia, which is attached to the main equipment.		
17	Shall have automatic altitude correction to make it safer for the use during air Transport.		
18	Shall have software which allows the user to monitor the IABP from any remote location via a modem.		
19	Shall have In-built Comprehensive Service Diagnostics to help the technician to locate the fault immediately.		
20	Shall have capability to connect on the Hospital network.		
21	Shall have Integrated Printer OR Chart recorder to print the reports.		

22	System should be transportable and compact with adequate battery backup		
23	Shall have single ECG Trigger and it is able to track various ventricular and atrial arrhythmias.		
24	shall the system automatically detect arrhythmia and adapt the R wave deflation mode accordingly.		
25	Shall be able to trigger at lower pulse pressure in patients with hypotension in pressure trigger mode.		
26	Shall have real time display of ECG, invasive blood pressure and balloon pressure wave forms.		
27	Shall have on screen indicator for helium level in the cylinder and battery level.		
28	Display shall be bright and with good visibility from distance		
29	Shall have on screen indication of standby time.		
30	Shall be upgradable to incorporate fibre optic sensor.		
31	Shall have 4 types of assist ratio like 1:1, 1:2, 1:4 & 1:8 for comfortable veining.		
32	Shall heve the following accessories along with the machine,		
33	ECG cable with lead wires		
34	Reusable invasive blood pressure transducer		
35	Refillable helium Cylinder compatible with the IABP system		
36	Intra-Aortic Balloon Catheter (Adult Size)		
37	Interface cables for connecting with patient monitor		
38	**ACCESSORIES AND CONSUMABLES**		
	All standard accessories and consumables for the smooth operation of the equipment shall be provided.		

39	**ELECTRO-MECHANICAL**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
40	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
41	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**ACT MACHINE**		
Equipment Description			
Activated Clotting Time (ACT) to measure the anticoagulation effect of heparin.To be used in and not limited to diagnostic test is in cardiac catheterization labs and open heart and Vascular surgery, where they need to keep track and have specific measures of clotting Times.		**Date**	

Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall have microprocessor controlled designe to determine coagulation end points in whole blood, Citrated blood and plasma samples		
2	Shall be one button operation and easy to use		
3	Shall be portable system for easy transportation		
4	Shall have at least one test well or dual well testing method		
5	Shall have two point clot detection facility to get accurate result.		
6	Shall have the parameters but not limited to ACT ,APTT & PT.		
7	Shall use fresh blood at the bedside.		
8	Shall require less that 3 cc of blood per sample or better.		
9	Shall have real time clot detection		
10	Shall have liquid suspended kaolin activator for uniform mixing with blood sample.		
11	Shall have multiple testing applications, Supplier to specify those applications if any.		
12	Shall have inbuilt mechanism to heat the cartridge.		
13	Shall require less than 2ml of blood for each test or better.; Supplier to specify		
14	Shall be capable of displaying two reports at one time.		
15	Shall have the measurement range 0-1500 sec.		
16	Shall have LED/LCD based screen for displaying results (fully digital display screen)		
17	Shall have an inbuilt printer.		
18	Shall have an inbuilt battery back up, Supplier to specify the type of battery and back up time.		
19	Shall have a USB connectivity.		

20	Shall provide with calibration certificate issued by the manufacturer at the time of installation and calibration certificate shall be issued for the machine by the supplier during preventive maintenance visit in the warranty/AMC period if demanded by the end user.		
21	Shall have rate of Actual Clot Formation (CR, Clot Rate: Thrombin Activity, Low Molecular Weight Heparin Management).		
22	**ACCESSORIES AND CONSUMABLES**		
	All standard accessories and consumables for the smooth operation of the equipment in addition to the following shall be provided.		
23	**ELECTRO-MECHANICAL**		
	The unit shall be suitable to operate on 230V ± 6%, 50 Hz AC single phase power supply. Additionally it shall be complete with built-in rechargeable type battery and battery charger. The electrical requirement for the offered system shall be clearly stated in the bid. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
24	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
25	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**DIGITAL MAMMOGRAPHIC SYSTEM**		
Equipment Description			
An advanced full field digital mammography system with (3D-Tomosynthesis) complete with workstation and all standard accessories suitable for High Quality Screening, Diagnostic Mammography Exams, Interventional Procedures using different projections and magnification factors providing high quality images and clinical versatility		**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1.	**Main Features:**		
	1.1 Ergonomically designed for ease of use and to speed patient through-put.		
	1.2 Excellent image quality at reasonable dose levels.		
	1.3 The system shall have both automatic and manual exposure mode.		
	1.4 Capable of calibration on five different film/screen combinations.		
	1.5 Built-in system calibration, self-check and diagnosing facility.		

	1.6 Shall be suitable to accommodate all sizes of breasts (small to large).		
	1.7 Full featured multi-modality workstation for pre and post examination procedures.		
	1.8 Easy access for wheel chair bound patients.		
	1.9 System shall be compatible with hospital Information System (HIS), HL7 and PACS system.		
	1.10 Full DICOM compatibility with store, store commit, print, query / retrieve, DICOM work list.		
	1.11 Bar code scanner.		
2.	**<u>The system shall be comprehensive with minimum following</u>:**		
	2.1 Generator		
	2.1.1 Microprocessor controlled.		
	2.1.2 High frequency generator with automatic exposure control.		
	2.1.3 Automatic voltage compensation.		
	2.1.4 Automatic and manual control of kV/mA during exposures.		
	2.1.5 mAs: 4 to 600mAs		
	2.1.6 kV: 22 to 39 kV or better (with increment in 1 kV steps)		
	2.1.7 Exposure time: 20 ms to 8 sec.		
	2.1.8 mAs shall be displayed after the exposure.		

	2.1.9 Automatic exposure: Constant optical density regardless of breast density.		
	2.2 Tube		
	2.2.1 Focal spots of sizes 0.1mm and 0.3mm		
	2.2.2 Covering field: 24 x 30cm or better.		
	2.2.3 Minimal tube heat dissipation.		
	2.2.4 Lock controls for tube movements with complete stability for any degree of tilt and height.		
	2.3 Collimator		
	2.3.1 Field of View (FOV) selection: automatic and manual.		
	2.3.2 Light centering device for precise positioning.		
	2.3.3 Collimation switches on the tube head for field of view size and location.		
	2.3.4 Bucky (24cm x 30cm) with grid shall be provided.		
	2.3.5 Fully motorized movement of grid and breast support.		
	2.3.6 Automatic positioning of the collimator to X-ray field size based on the compression plate used.		
	2.4 Gantry /Column		
	2.4.1 Double rotation of tube support arm and receptor support arm.		
	2.4.2 Isocentric arm with motorized rotation and vertical movement for fast and precise positioning.		
	2.4.3 One touch access to preset angulations for quick and easy positioning.		

	2.4.4 Rotation: -135º to +180º (or better).		
	2.4.5 Source to image distance: not less than 650mm.		
	2.4.6 Variable receptor (floor to image receptor): 60 to 140cm or better.		
	2.4.7 Ergonomic handles on both sides of the tube arm for user comfort.		
	2.4.8 Dual function foot pedals for column height and compression adjustment.		
	2.4.9 Compression modes: Motorized (dual compression) and Manual mode.		
	2.4.10 Automatic paddle detection.		
	2.4.11 Stereotactic biopsy system with facility to perform core biopsy		
	2.4.12 Advanced 3D-Tomosynthesis; Supplier to specify this feature in detail		
	2.5 Image Receptor		
	2.5.1 TFT Detector		
	2.5.2 Active area: 24cm x 30cm (or better)		
	2.5.3 Pixel size:70 µm (or better)		
	2.5.4 Acquisition bit depth: 14 bits (or better).		
	2.6 Acquisition Workstation		
	2.6.1 Advanced and state-of-art workstation complete with PC having minimum following features:		
	a. High resolution (1280 x 1024 or better) flicker free LCD monitor 17" (or better) for display of clear and crisp images with full articulating arm (Preferred) for tilt and height adjustment facilities in all directions for end user comfort.		

	b. RAM: 1 GB or better		
	c. Hard disk: 80 GB or better		
	d. CD/DVD (R/RW) in DICOM format.		
	e. Keyboard and Mouse		
	f. Ergonomically designed, user friendly clearly defined control console with minimum following features:		
	➢ Display of parameters (Tube arm support rotation angle, Compressed breast thickness, Compression force, kV, mA).		
	➢ Workstation shall be provided with adequate X-ray protective shield and face shield for user and patient safety.		
	2.6.2 Suitable to check positioning, contrast, brightness and image quality (motion blurring).		
	2.6.3 Thickness compensation algorithm suitable for displaying breast from chest wall to nipple.		
	2.6.4 Facility to store minimum of 5000 images.		
	2.6.5 Facilities for background transfer the data.		
	2.6.6 Manual and Automatic brightness, contrast adjustment at image display.		
	2.6.7 Facility for zoom and roaming of images.		
	2.6.8 Magnifying .		
	2.6.9 Flip, Rotation and Inversion of image.		
	2.6.10 Graphics and Text annotations.		
	2.6.11 Measurement tools.		

	2.6.12 Bar code reader.		
	2.7 <u>Review Workstation</u>		
	2.7.1 It shall be multimodality workstation suitable to accept images from CT, MRI.		
	2.7.2 Easy to use software with Windows XP (or higher version) based interface and multitasking capabilities.		
	2.7.3 Minimum System Configuration:		
	a. Two numbers of high resolution (2.0K x 2.5K or better) Black & White LCD monitors 17" (or better) for post images processing, patient database and network. Dual 5MP Braco Mammocoronis HD LCD is required.		
	b. RAM: 8 GB or better		
	c. Hard disk capacity: 80 GB or better.		
	d. CD/DVD (R/RW)		
	e. Keyboard, Mouse		
	2.7.4 **<u>Dedicated Mammography based reviewing software</u>**, including :Advanced Hanging protocol, Auto deletion, sessions scheduling, standard mammography worklist, user preferences, image export as TIF files, print screen capability, programmable workflow, query/retrieve, annotation archival, auto-fetching of prior studies, diagnostic printing , intelligent roaming, multi-workstation connectivity, multi-vendor mammography review.		
	2.7.5 Storing of image processing functions.		
	2.7.6 Drag and drop function of images.		
	2.7.7 Multiple display pages for easy report organization and generation.		

	2.7.8 Facility to print reports to any DICOM compatible printer.		
	2.7.9 Display QC software.		
	2.7.10 Integrated CAD display.		
	2.7.11 A separate monitor adjacent to the review-workstation for RIS functions only.		
	2.8 Magnification package:		
	2.8.1 Magnification platform.		
	2.8.2 Spot magnification paddle.		
	2.8.3 Magnification paddle.		
	2.9 Compression paddle:		
	2.9.1 24x30cm fast paddle.		
	2.9.2 18x24cm fast paddle.		
	2.9.3 7.5 Spot contact paddle.		
	2.9.4 10cm contact paddle.		
	2.9.5 Small breast paddle.		
	2.9.6 Frameless spot paddle.		
	2.10 General Requirements:		
	2.10.1 Un-interrupted Power Supply (UPS) for the entire system to be installed in order to provide back-up power in the event of a power failure.		

	2.10.2 The bidder must submit along with the bid list of existing installation of identical unit within Kerala		
	2.11 CAD system with ability to transfer the CAD findings to the radiologist reviewing station.		
3.	**ACCESSORIES AND CONSUMABLES**		
	3.1 All standard accessories and consumables for the smooth operation of the equipment shall be provided in addition to the following:		
	a. Dedicated Prone Tables for Stereotactic Mammography Systems – Qty: 1 no.		
	b. Core biopsy needle 14G – Qty: 10 nos.		
	c. Core biopsy 16G needle - Qty: 10 nos.		
	d. Core biopsy gun – Qty: 2 nos.		
	e. QC Phantom – Qty: 1 nos.		
4	**ELECTRO-MECHANICAL**		
1	All materials, equipment, fittings and accessories shall be designed for a power supply of 415 Volts, 3 phase, 50 Hz and 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
2	Any additional electro-mechanical requirement for the offered system shall be clearly stated in the bid		
3	All mechanical and electrical components (Including Stabilizer) need to be pre-wired, factory tested and delivered to site with singular terminations		
5	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		

6	**SHIELDING & LICENSING**		
	Upon award : successful Supplier is required to submit a report detailing Lead Shielding requirements for the project. This report must be drafted in accordance with the DRS & AERB and in consideration of the manufacturer's recommendations. Supplier to assit client in all formalities to acquire a license for the room and equipment DRS & AERB in consultation with hospital Radiology Unit		
7	**RADIATION WARNINGS**		
	The supplier is required to supply and install all necessary radiation warning lights, interlock door mechanisms with system power on and warning/informative signage.These items shall be included as part of the fixed lump sum price and shall comply with statutory requirements.		
8	**SHOP DRAWING SUBMISSION**		
	The Supplier/Manufacturer will be required to submit shop drawings for approval prior to commence any related work		
20	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Digital X-Ray Machine-30KW**		
Equipment Description			
To carry out all routine general radiography procedures (dedicated chest exams, table exams and all other day to day examinations).Basic Configuration : Floor Mounted X-ray tube column with elevating type patient table and floor standing chest stand with wireless Flat Panel Detector integration		**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
A	**X-ray tube and Generator**		
1	Generator output : 30 KW; 300 mA @ 100 KV		
2	Exposure voltage: 40 kV to 125 kV (or better range)		
3	High frequency with Automatic Exposure Control (AEC).		
4	mAs range: 2 to 200 mAs (or higher)		
5	Rotating Anode - Dual focal spot : (0.6 / 1.2 / 2.0mm.) Supplier to specify		
6	Anode heat storage capacity supplier to specify		

7	Anode heat cooling rate supplier to specify		
B	**Collimator**		
1	Manual collimation, angulation and rotation (Motorized Preferred).		
2	Full field light localizer (LED type preferred)		
3	Rotation ± 45 ° (or better).		
4	Inherent filtration: 1 mm AL at 70 kV.		
5	Measuring tape in cm & inches (Preferred)		
C	**Floor Mount Column with X-Ray tube Suspension**		
1	Movements with telescopic arm		
2	Position of the tube to 100 cm SID for the table		
3	Vertical travel = 150 cm (or better). Supplier to specify		
4	Longitudinal rail length = 4 m minimum. Supplier to specify		
5	Tube rotation around horizontal axis is +/- 120 degrees (or better). Supplier to specify		
6	Tube rotation around vertical axis is ± 180 °. Supplier to specify		
7	Movement of arm in all direction, multiple knobs to release lock for transverse longitudinal, horizontal movements. (central electro magnetic locks preferred)		
8	Shall have easy to handle hand grip.		
D	**Patient Table with Flat Panel Detector compatability**		

1	Minimum 4 way floating table top		
2	Fully motorized elevating table.		
3	Removable bucky for table top examination.		
4	Shall have foot switch controls on side of the table.		
5	Central Electromagnetic locks.		
6	Table Top width 80 cm (or better).		
7	Table length 200 cm (or better).		
8	Table top should be made up of low radiation absorption, water proof and stain free material		
9	Table minimum height 55 cm, maximum height 75 cm (or better).		
10	Table top transverse travel 25cm (or better)		
11	Table top longitudinal Travel = 80 cm (or better).		
12	Bucky shall travel not less than 35 cm.		
13	Oscillating grid with minimum focus 100 cm with Grid ratio=10:1 Grid lines : 60 lines / cm (or better).		
14	Automatic exposure control with minimum three Ionization chambers		
15	Table weight capacity: 200 kg (more better)		
E	**Wall Bucky Stand with Flat Panel Detector compatibility**		
1	Range of movement from 40 to 190 cm (Approx)		
2	Three AEC measuring chambers(Or more).		

3	Oscillating grid with minimum focus 100 cm with Grid ratio=10:1 Grid lines : 60 lines / cm (or better).		
4	Two patient grips on both sides of the detector component.		
5	Wall bucky stand with manual tilting function (Preferred) to place horizontally for upper extremity studies for wheelchair patients		
F	**Portable Digital Flat Panel Detector (FPD) (Wireless preferred)**		
1	Compatible with table and chest bucky examinations		
2	Active image area 35x 43 cm		
3	Resolution = 6 MP (or better)		
4	Semiconductor: Amorphous Silicon		
5	Scintillator = Cesium Iodide (CSI)		
6	Pixel Size=150 µm (or better)		
7	Pixel-matrix 2400 x 2500 (or better)		
8	Fully charged rechargeable battery to operate for at least 2 hours or at least 100 images, Supplier to specify		
9	Supplier to specify the time in seconds for preview image after an exposure		
10	Weight shall not exceed 4 kgs (Light Weight Preferred)		
11	Detector Quantum Efficiency (D.Q.E) should be more 65% @ Zero Line Pairs		
12	Shall have high shock tolerance		
13	Easy maintenance & should be “splash proof” type		
14	Low battery visual indicator		

G	**Image acquisition work station with the following features**		
1	19” (or better) flat panel color diagnostic monitor display (touch screen preferable)		
2	Shall be capable to accept the images from Wireless Flat panel Detector ; Image preview time ≤10 sec		
3	Large storage capacity not less than 5000 images. (Not less than 500GB)		
4	RAM storage capacity 4GB (or better).		
5	USB: 4 connections.		
6	Keyboard, Mouse and Functions buttons.		
7	It should have digital display of KVP & mAs.		
8	Shall have Interface cards for Flat panel detectors.		
9	All required software and hardware for digital aqusition from FPD shall be provided with life time license.		
H	**Full DICOM capabilities**		
1	DICOM print to DVD or network printer.		
2	DICOM send to view and archiving Images to PACS.		
3	DICOM query/retrieve to retrieve images from the PACS.		
4	DICOM work-list/MPPS to import patient data and registered examination from (HIS).		
5	The equipment is required to be compatible with the Hospital Information system(HIS)		
6	Complete CD ROM hardware media and DVD-RW to save images.		
I	**Complete image processing functions**		

1	Image annotations, Image magnify, rotate, zoom, roam, flip, rotate, crop, and applying shutters, Contrast control, Edge enhancement, noise reduction, and image smoothing.		
2	Tissue equalization and smart windowing function with artifact minimizing capability.		
3	Measuring distance, angles, and markers placement with automatic side detection when image is manually rotated or flipped.		
4	Technique control: kVp, mA, mAs,focus selection and AEC control.		
5	Anatomical programming selection, editing, adding, and saving new protocols.		
6	Quality control function to monitor and analyse general parameters of the system, patient radiation and dose report.		
7	Error log software and audit trial and manage local data base.		
8	Manual patient registration for emergency exams which enable user post image acquiring registration.		
J	**ACCESSORIES AND CONSUMABLES**		
	All standard accessories and consumables for the smooth operation of the equipment shall be provided.		
1	Complete set of patient positioning PADS / Sponges – Qty.: 1 Sets.		
2	AERB approved Lead Apron-S,M,L Sizes(1 sets of each size(light weight 0.5mm lead)) with stand – Qty.: 1		
3	Should be supplied along with thyroid guard (3 Nos)		
4	Radiolucent bed mattress for the examination table – Qty.: 1 Nos.		
5	Digital Cassette holder for cross table examinations – Qty.: 1 No.		
6	Battery Charger – Qty.: 1 No.		
7	Console / Workstation Table – Qty.: 1 No.		
8	Should be a threefold mobile lead protective barrier with viewing lead glass window		

9	Replacement of the X-ray tube and Flat panel detectors during Warranty / CMC Period at no extra charge		
K	**ELECTRO-MECHANICAL**		
1	All materials, equipment, fittings and accessories shall be designed for a power supply of 380 to 440Vac, 3 phase, 50 Hz and 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly indicated in the remarks column		
2	Any additional electro-mechanical requirement for the offered system shall be clearly stated in the bid		
3	All mechanical and electrical components (Including Stabilizer) need to be pre-wired, factory tested and delivered to site with singular terminations		
L	**QUALITY ASSURANCE :**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA		
M	**SHIELDING & LICENSING**		
	Upon award : successful Supplier is required to submit a report detailing Lead Shielding requirements for the project. This report must be drafted in accordance with the DRS & AERB and in consideration of the manufacturer's recommendations. Supplier to assit client in all formalities to acquire a license for the room and equipment DRS & AERB in consultation with hospital Radiology Unit		
N	**RADIATION WARNINGS**		
	The supplier is required to supply and install all necessary radiation warning lights, interlock door mechanisms with system power on and warning/informative signage.These items shall be included as part of the fixed lump sum price and shall comply with statutory requirements.		
O	**SHOP DRAWING SUBMISSION**		

	The Supplier/Manufacturer will be required to submit shop drawings for approval prior to commence any related work		
P	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE CHECK SHEET		
Item Description	**Digital Ultrasound Machine (4D)**		
General Description			
Digital ultrasound machine complete with all standard accessories suitable for the application in General Abdomen, Obstetrics & Gynecology, Vascular with blood flow measurements, Small organ imaging includes Testicle, thyroid, salivary gland, lymph nodes, pediatric and neonatal patients etc , Transcranial, Urology (Prostate, Pelvis) and Breast Imaging.			
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Suitable to be used for adult, pediatric and neonates application		
2	High resolution flat panel flicker-free LCD / Full HD LED monitor 21 inch (or better) for crisp and clear images with fully articulating arm for tilt and height adjustment facilities		
3	LCD / Full HD LED screen resolution: 1920 x 1080 (or better).		
4	User friendly clearly defined control panel with following minimum functions		
5	Alphanumeric keyboard, trackball and other facility for data entry, scanning, viewing and recording. The key board shall allow for float movement		
6	Facility to adjust brightness and contrast of the images.		

7	Backlit keyboard for better visualization in dark conditions.		
8	Control panel shall have height adjustment and swivel facilities for user comfort.		
9	High fidelity integrated speakers for excellent sound quality.		
10	Touch Screen Panel control		
11	Image Optimization for B-mode and Doppler imaging should me one stop button technology.		
12	Ergonomically designed, light weight multi frequency transducer with flexible cables.		
13	Easy access transducer connectors and integrated covered cable storage. The Probe connection shall be pin less technology.		
14	It shall have minimum of four active ports.		
15	All the probes shall have panoramic view with tissue harmonic and contrast harmonic imaging facility. Matrix technology / Similar technique is mandatory especially for linear probe/convex array probe. The system shall provide scan depths of a minimum of 1 cm to a maximum of 30 cm at least.		
16	**Imaging Modes & other features**		
a	Two Dimensional (2D)		
b	B-mode		
c	Motion Mode (M-Mode)		

d	Directional Color Power Doppler with Velocity Color Flow Imaging		
e	Tissue Harmonic Imaging and Tissue Doppler Imaging		
f	Pulsed Wave Doppler		
g	Continuous Wave Doppler		
h	Duplex Imaging & Triplex Imaging		
i	Extended field of View Imaging (Panoramic Imaging)		
j	Elastography Imaging: Capable to assess tissue stiffness of small parts, breast and gynecology with out the need of external compression		
k	Contrast enhanced ultrasound imaging capable to asses realtime organ and tumor perfusion		
l	Broadband Multifrequency Imaging		
m	Real Time, 3D and 4D Imaging		
n	B-flow imaging		
o	Grey maps		
p	B-flow imaging		
q	Power Doppler showing bidirectional flow		
17	Automatic calculation in real time mode with minimum following measurement tools.Distance, Depth, Area/Volume ,Auto Follicle Measurment		

18	Automatic Image Optimization in B-mode, Spectral mode, and Color mode by means of single key operation.		
19	Automatic optimization of TGC		
20	Shall have minimum of 30 pre-programmed protocols with facility for user definable programs.		
21	Shall have fast exam based work flow protocols that helps automatic exam planning and processing methods		
22	Magnification of 10x (or better) in real time and freeze mode.		
23	User friendly measurement and analysis package with windows based operating system.		
24	Large and upgradeable hard disk storage capacity 100 GB (or better) suitable for storing minimum of 250,000 cine frames and image manipulation.		
25	Built-in CD-RW and DVD-RW.		
26	Unit shall have following minimum connectivity options: HDMI , Composite video, S-video,USB port,VGA,RS232 port, Audio In/Out		
27	Full DICOM capability with print option – shall support sending of images to multiple DICOM destinations.		
28	Shall have high resolution thermal video printer (Black and White) & Color video printer (Optional).		
29	Shall have barcode reader connectivity to input patient data		

30	Shall have Integrated Gel Warmer		
31	Customizable normal report values thereby permitting the user to define measurement value in the report.		
32	The proposed model of the ultrasound system shall be compatible with the Hospital Information system(HIS) and PACS system.		
33	Hygienic, rust proof cart with integrated shelves and lockable swivel castors for easy mobilization.		
34	**Ultrasound Probes:**		
a	Linear Array Probe (3-12 MHz)		
b	Convex Array Probe (2-6 MHz)		
d	Endocavitory Transducer (3-10MHz)		
e	Convex 4D Volume Transducer (1-5 MHz)		
f	Biopsy kit with adaptor and 10 sets of needles to fit corresponding probes for abdomen/ prostatic/ breast biopsies.		
	All the above mentioned frequencies are Indicative for the above probes; However Supplier to State the exact frequencies available		
35	**Ultrasound Probes**		

	Warranty period shall cover the replacement of any defective ultrasound probes supplied without any additional cost		
36	**Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
37	**Quality Assurance**		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, ISO9001, CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA.		
38	**General Points**		
a	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency.The electrical requirement for the offered system shall be clearly stated		
b	All the utility services and enviroment conditions required for the effective functioning of the Diagnostic Imaging Equipments shall be clearly stated		
39	**Assembly**		
	All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
P	**Supplier to specify ten product highlights apart from the general specs**		

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	TECHNICAL COMPLIANCE SHEET		
Item	**CARDIAC STRESS TEST SYSTEM**		
Equipment Description	Stress Test System for Cardiac Function Monitoring during exercise		
Clause No.	**Clause**		**Remarks**
1	The required **General** features:		
A	Diagnostic ECG (Resting & Exercise) monitoring and advanced analysis		
B	Real time and continuous ST and arrhythmia analysis		
C	Independent non-invasive blood pressure monitoring (automatic or manual start) device shall be supplied		
D	Protocols: standard protocols including (but not limited to) Bruce, Modified Bruce, Naughton, Ellestad, Balke etc. & Customized protocols		
E	Annotation and alarming system for abnormalities and life threatening arrhythmias		
F	User friendly, comprehensive and organized screen formats, User programmable treatment profiles.		
G	Customizable screen layout		

H	Shall be networkable to export and import data from HIS (HL7); Data exporting: PDF and XML formats		
2	The required **ECG** features:		
A	ECG patient connection Cable 12 Lead (Wireless transmission preferred). The lead wires shall comply with the AHA/AAMI standards		
B	Simultaneous acquisition and analysis of 12 lead ECG during the resting & exercise ECG mode		
C	Vector Cardiography capability (Preferred)		
D	Display: 3, 6 and 12 lead ECG channels (user selectable)		
E	Gain: 5, 10 and 20 mm/mV (user selectable)		
F	Common Mode Rejection Ratio: >120 dB		
G	User activated/deactivated high-pass, low-pass and line filters		
H	Advanced filtration to reduce muscle and motion artifacts and baseline wander without affecting monitoring accuracy		
I	Automatic ECG interpretation		
J	Automatic and manual event capture		
K	Pulse detection and signal quality indicator		
L	Full disclosure for all 12 lead ECG and ST Analysis		

M	ST and HR trending		
N	Automatic ST analysis for all leads (amplitudes and slopes)		
O	Automatic advanced arrhythmia detection and analysis		
P	Automatic and user selectable J and post-J point		
Q	Heart Rate Variability Analysis (HRV)		
R	Automatic pacemaker detection		
S	Continuous lead-fail detection		
T	Shall have selectable digital filters		
3	The minimum **Computer (PC)** required features:		
A	Operating system: Highest available at time of Purchase, Supplier to specify		
B	Processor: Highest available at time of purchase , Supplier to specify		
C	RAM: Highest available at time of purchase , Supplier to specify		
D	Hard Drive: Highest available at time of Purchase , Supplier to specify		

E	CD/DVD-RW Drive		
F	Standard keyboard and mouse		
G	Screen: 19” (or better) high resolution LCD display with articulating arm		
H	Shall have clear display of speed, time, elevation, distance, heart rate etc.		
I	Laser Printer: highest specs available at time of purchase		
4	The required **reporting** features:		
A	Can be viewed, stored, printed and exported via hospital network		
B	Multi report formats: standard formats and customizable summary reports		
C	Report format shall include all information including (But not limited to) Non-invasive Blood Pressure, Heart Rate, Treadmill Speed /Grade, ST Trends relating to all stages		
D	Shall be capable to export the report in PDF format and DICOM format.		
E	Shall have post review and edit facility		
5	The minimum required **treadmill** features:		

A	Shall be medical grade with relevant certifications, Supplier to specify the certifications available		
B	All functions shall be controllable remotely from the stress test PC Software		
C	Motorized (2 Horsepower or more)		
D	Maximum load: 200 kg (or better)		
E	Speed: 0 to 15 km/h		
F	Motorized elevation: 0 to 30%		
G	Non-conductive hand rails on left and right side		
H	Integrated emergency stop button		
I	Shall have anti-slip foot board		
J	Running deck size shall be (W x D) 55 x 165 cm approximately (bidder to provide the area of proposed running deck).		
K	Shall have automatic control of tread mill during 12 lead ecg aquisition		
6	**Quality Standards**		
A	The unit shall meet the internationally recognized quality control systems and safety standards like FDA / CE 1) Standards related to Patient Safety and EMC shall be followed 2) However Supplier to specify all other quality Control standards followed by the proposed model		

B	Should be FDA / CE approved product with 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) (Supplier to provide relevant data sheets)		
7	**General Accessories & Consumables**		
	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
8	**Generic Points**		
	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency. The electrical requirement & Power Consumption for the offered system shall be clearly stated		

	TECHNICAL COMPLIANCE SHEET		
Item	ECHOCARDIOGRAPHY MACHINE		
General Description			
Echocardiography machine complete with all standard accessories suitable for the application in Cardiac, Vascular Imaging.			
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1.	**Application:** Cardiac (Adult & Pediatric Echocardiography)		
2.	Configuration: Stand alone system integrated on a hygienic, rust proof mobile cart with integrated shelves and lockable swivel castors for easy mobilization with minimum 3 active ports; Shall be capable for future upgrades		
3.	The required **Probes**: (Supplier to provide a separate list with the unit prices of all probes available and compatible with the proposed model, Whereas Client have the authority to select the appropriate probe at the time of P.O)		
	3.1 Phased array Sector Probe (Adult) : 2 - 4 MHz with minimum 512 Electronic independent channels.		

	3.2 Phased array Sector Probe (Pediatric): 3 - 8 MHz with minimum 512 Electronic independent channels.		
	3.3 Linear Array probe : 3 - 12 MHz broad band linear array probe for vascular imaging		
	All the above mentioned frequencies are Indicative for the above Probes; However Supplier to State the exact frequencies available		
4.	The required **Grayscale** levels: 256 with preprocessing and post processing		
5.	High Speed digital filter for decrease signal noise thereby preserving the integrity of weak signal information		
	The required **Imaging Modes**:		
	6.1 Two Dimensional (2-D)		
	6.2 M-mode, Color M-Mode		
	6.3 Tissue Harmonic Imaging (THI)		
6.	**6.4 Doppler features:**		
	Ø Color flow mapping		
	Ø Spectral Doppler Continuous Wave (CW)		
	Ø Spectral Doppler Pulse Wave (PW)		
	Ø Velocity display		

	Ø Duplex Imaging		
	Ø Color Power Doppler		
	Ø Tissue Doppler Imaging		
	Ø Shall have PW/CW Doppler facility in all imaging phased array sector probes.		
7.	The required **Functionality** features:		
	7.1 Distance and area digital calipers		
	7.2 Spectrum analysis		
	7.3 Selectable dynamic range		
	7.4 Adjustable transmit focus		
	7.5 Dynamic receive focus		
	7.7 LV function analysis		
	7.8 Myocardial functional analysis		
8	The required **Display Function**:		
	8.1 Real-time imaging 8.2 Frozen image 8.3 cine		
9.	The monitor required to be single 17”(or better) LCD, High definition with articulated arm for tilt and height adjustment facilities in all direction ; Capable to view images in all angles at all directions without glare. Shall have dual and quad split screen facilities		

	The required **Image Storage** features:		
10.	10.1 Method: Built in HD, DVD/CD, USB		
	10.2 Hard disc capacity: > 80 GB		
11.	The unit required to have at least 3-leads ECG		
12.	The required Analysis Packages:		
	12.1 Cardiac scanning		
	12.2 Stress echo		
13.	The unit to have full DICOM 3.0 features		
14.	The unit required to be compatible with the hospital PACS,HIS, RIS and printers		
15.	User friendly clearly defined Control Panel with following minimum functions:		
	15.1 Alphanumeric keyboard, trackball and other facility for data entry, scanning, viewing and recording		
	15.2 Facility to adjust brightness and contrast of the images		
	15.3 Backlit keyboard for better visualization in dark conditions		
	15.4 Control panel shall have height adjustment and swivel facilities for user comfort		
	15.5 High fidelity integrated speakers for excellent sound quality		
16.	Other requirements:		
	16.1 video recording.		

	16.2 Color Printer		
	16.3 Thermal video printer (black & white)		
	16.4 Shall have option to connect external printer.		
17.	Customizable normal report values thereby permitting the user to define measurement values in the report.		
	Unit shall have following minimum connectivity options:		
18.	18.1 Composite Video		
	18.2 S-video		
	18.3 USB port		
	18.4 VGA		
	18.5 RS232 port		
	18.6 Audio In/Out		
19	Ultrasound Probes		
	All types of ultrasound probes compatabile with the proposed model shall be listed in Financial. Separatly with unit cost.The required probes will be confirmed during final order issue		
	Warranty period shall cover the replacement of any defective ultrasound probes supplied without any additional cost		
20	Accessories & Consumables		

	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
21	Quality Assurance		
	The Bidder shall verify that the manufacturer of the Equipment complies with internationally recognized quality control systems; such as; FDA, (ISO9001), CE in accordance with the European Active Medical Device and the Directives issued by British Standards Institute (BSI) or Canadian Standards Association (CSA) or UL-Underwriters Laboratory, USA.		
22	General Points		
a	All materials, equipment, fittings and accessories shall be designed for a power supply of 230 Volts, single phase, 50 Hz with a tolerance of ± 6% for voltage and ± 2% for frequency.The electrical requirement for the offered system shall be clearly stated		
b	All the utility services and enviroment conditions required for the effective functioning of the Diagnostic Imaging Equipments shall be clearly stated		

	TECHNICAL COMPLIANCE SHEET		
Item	**ETO Sterilizer**		
Equipment Description			
Clause No.	**Clause**	**Comply Yes/ No/NA**	
1	Micro controller/ PLC -based control system with fully automatic operation.		
2	Single-door , Side openging , Floor Standing configuration		
3	Chamber capacity shall be in the range of **200-230L**		
4	Double walled chamber required to be made of corrosion resistant metal with smooth internal surfaces		
5	Used sterilant shall be 100% EO (Ethylene Oxide)		
6	Shall be capable for the sterilization of high temperature sensitive materials		
7	Shall have variable temperature from 33-55 deg C / Dual temperature option Supplier to specify		
8	Shall have built- in calibration using internal sources and validation port for		
9	Shall have direct access for emergency areation function in addition to the automatic		
10	Shall have door interlock safety feature		

11	Shall have suitable vacuum pump and gas trap to separate and evacuate the gas		
12	Shall be capable for monitoring RH ,Temperature, Vacuum & Time		
13	The unit shall have touch-sensitive, color (Preferred) operator control panel / LCD with membrane key control capable to display all parameters		
14	Unit must have ink printer(Or External printer shall be interfaced) the print out shall show the important cycle data during operation		
15	The programmable control system shall have minimum four (4) access levels with pass code protection for (operator,		
16	Audible and visual alarms required for all vital functions		
17	**Quality Standards:**		
	The unit shall meet the internationally recognized quality control systems and safety standards for ***sterilization;*** ***ISO/ISI/CE/EN ISO*** *Certification mandatory; Any of the EPA(environmeal protection agency) such as* ***OSHA／NIOSH*** *is also preferred .Supplier to Specify the quality standards*		
	Accessories & Consumables		

18	All other standard accessories and consumables for the smooth operation of the equipment shall be included with the offer and shall be offered with the equipment without any additional cost.		
	Power Data		
19	All materials, equipment, fittings and accessories shall be designed for a power supply of 415 V±6%, 50Hz AC three (3)phase power supply / 230 Volts, single phase, 50 Hz with a tolerance of ±6% for voltage and ±2% for frequency.The electrical requirement &		
	Any Data /network requirement for the offered system shall be clearly stated in the Proposal		

	TECHNICAL COMPLIANCE SHEET		
Item	**Stretcher Trolley fully SS**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Frame shall be constructed of rust free heavy-gauge Stainless steel (Relevant certifications mandatory) CRC tubes mounted on 15 cm castors.		
2	Shall have removable stretcher top with chrome plated handle.		
3	Shall have minimal gap between stretchers during patient transfer		
4	Shall have 2 IV pole receptacles diagonally located		
5	Shall have durable roller safety bumpers in all corners (preferred)		
6	Shall be equipped with push handles		
7	**Dimensions:**		

	1.Shall have patient weight capacity: 150 Kg (or better)		
	2.Stretcher overall dimensions (LxWxH): 200 x 60 x 80 cm (approximately)		
8	**Side rail:**		
	1. Shall be fold-down type		
	2. With latching mechanism in the upper position		
	3. Side rail length: 120 cm approximately		
	4. Side rail height (when in upper position): 35 cm approximately		
9	**Casters and brake pedals**:		
	1.Heavy duty casters with breakes caster size: 15 cm approximately		
	3.Finished with non-marking and noise preventing material when moving over vinyl type flooring		
10	**Mattress:**		
	1. Mattress dimensions shall match the bed platform		
	2. Mattress shall have thickness: 8 cm (or better)		
11	**Quality Standards**		
	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
12	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants		
13	**Accessories & Consumables**: All Standard accessories & consumables required for the smooth operation of the unit shall be included the proposal		
	1. IV pole with dual hooks		

	2. Collection device hook on both sides		
	3. Oxygen cylinder holder		
	4. Transport Restraint straps		
14	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
15	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Wheel Chair fully SS**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Configuration : manual,rigid, high-strength, rust free fully SS construction		
2	Shall have soft arm rests		
3	Foot rests : Fold up / flip up		
4	Seat /back composition :High quality SS construction with cushions		
5	Back support height range : 14-20” approximately		
6	Seat width shall be in the range of 20-25” approximately		
7	Seat depth shall be in the range of 16-20” approximately		
8	Heavy duty casters with patient controlled hand brakes on both sides		
9	Shall have Push handle		
10	Shall have IV pole holder		
11	Shall have patient weight capacity not less than 100 Kg		
12	**Assembly :**All facilities to be incorporated within the **Unit** are to be manufacturer assembled		
13	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Emergency Patient Transfer Strectcher**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be designed for intra-hospital transport applications		
2	Frame shall be constructed of rust free heavy-gauge steel or equivalent material (Relevant certifications mandatory) with all metal part shall be treated by epoxy powder coating		
3	All movements shall be hydraulically operated from both sides		
4	Shall have minimal gap between stretchers during patient transfer		

5	Shall have 4 IV pole receptacles		
6	Shall have durable roller safety bumpers in all corners		
7	Shall be equipped with push handles		
8	Shall include a shock absorbing mechanism to maximize patient comfort		
9	Platform material shall be composed for taking X-Ray		
10	**Position control: Hydro- Mechanical**		
	1. Shall have height adjustment range: 55 to 85 cm (approximately)		
	2. Shall have backrest elevation: 70° approximately (pneumatic)		
	3.Shall have Trendelenburg / Reverse-Trendelenburg: ±10° (approximately)		
	4.Shall have knee elevation: 30° (approximately)		
11	**Dimensions:**		
	1.Stretcher shall have patient weight capacity: 150 Kg (or better)		
	2.Stretcher overall dimensions (LxW): 195 x 65 cm (approximately)		
12	**Side rail:**		
	1. Shall be fold-down type		
	2. With latching mechanism in the upper position		
	3. Side rail length: 120 cm approximately		
	4. Side rail height (when in upper position): 35 cm approximately		

13	**Casters and brake pedals**:		
	1.Caster size: 20 cm approximately		
	2.Conductive casters		
	3.Finished with non-marking and noise preventing material when moving over vinyl type flooring		
	4.With dual-locking brake and steer pedals in four sides		
14	**Mattress:**		
	1. High density foam mattress with anti microbial cover		
	2. Fire retardant (Preferable) and disinfectable layer		
	3. Mattress dimensions shall match the bed platform		
	4. Mattress shall have tthickness: 8 cm (or better)		
15	**Quality Standards**		
	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
16	**Aesthetic Appeal:** Color schemes shall match with the beds, bedhead units & room furnishing colors		
17	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants		
18	Supplier is required to submit color scheme for approval prior to shipment and delivery		
19	**Accessories & Consumables**: All Standard accessories & consumables required for the smooth operation of the unit shall be included the proposal		
	1. IV pole with dual hooks		

	2. Collection device hook on both sides		
	3. Oxygen cylinder holder		
	4. Transport Restraint straps		
	5. X ray Cassette holder		
20	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
21	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Examination Couch with foot step**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Shall be designed to use in OPDs		
2	Shall have gas spring operated head rest (0 to 45 deg inclination)		
3	Frame shall be constructed of rust free heavy-gauge steel or equivalent material (Relevant certifications mandatory) with all metal part shall be treated by epoxy powder coating with no dents and sharpned edges.		
4	Shall be capable for accommodating patients with weight 150 kg		
5	Over all dimensions shall be approximately (L x W x H) 185 x 60 x 85 cm		
6	Shall have minimum 3 lockable drawers		
7	Shall have minimum 3 lockable cabinets		
8	Shall include 8 cm thick ,fire retardant, disinfectable reversible foam mattress		
9	Shall have integrated sliding stepping stool		
10	Shall have IV pole receptacles with atleast one on each side		
11	Shall have integrated paper roll holder		
12	**Quality Standards**		
	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		

13	**Aesthetic Appeal:**		
a	Color schemes shall match with the room furnishing colors		
b	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		
c	Supplier is required to submit color scheme for approval prior to shipment and delivery of Beds to the site		
14	**Accessories & Consumables**: All Standard accessories & consumables required for the smooth operation of the unit shall be included		
15	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
16	**Supplier to specify ten product highlights apart from the general specs**		
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	TECHNICAL COMPLIANCE SHEET		
Item	**Spot Light, Exam, Wall-Mount**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Configuration : Wall Mounted single head		
2	The central illumination of the unit (light Intensity) shall be not less than 50,000 lux at 1m		
3	The color quality (Temperature) shall be in the range 3,000K - 4,500K		
4	The spot size of the light required to be between 10-25cm (4-10inch) at a distance of 40 cm (16inch)		
5	LED (light emitting diode) Technology		
6	The light field at the distance of 1 meter shall not be less than 150mm		
7	Light control switch (on/off) shall be incorporate at light head		
8	**Quality Standards**		
	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
9	**Electro Mechanical**		
	All mechanical and electrical components need to be pre-piped, pre-wired, factory tested and delivered to site with singular terminations wherever possible		
10	**Power Supply:**		
	Unit shall be suitable to operate on 230V±6%, 50Hz AC single phase power supply. Supplier to provide the current (ampere) requirement.		
11	**Accessories & Consumables:**		
	All Standard accessories & consumables required for the smooth operation of the unit shall be included		
12	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
13	**Supplier to specify ten product highlights apart from the general specs**		
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FIVE FUNCTION MANUAL BED	**Comply Yes/ No/NA**	**Remarks**
Overall Size: Approx 2160mm L x 1020 mm W x 520 mm To 750 mm H (Without		
Mattress). Bed Platform frame size *Approx* 2070mmL x 960mm W		
Mattress Platform size : 1900mm L x 865mm W		
Four Section Bed top with perforations for sufficient air flow, and easy movement for all functionalities made of epoxy coated 18G cold rolled steel sheet.		
Manual adjustments : Height, backrest, knee rest and trendelenberg / Reverse trendelenburg through collapsible, foldable ABS Cranks		
Backrest and leg rest both shall have mattress guards for ensuring correct fit of mattresses.		
Backrest and Height operating systems shall have a counter load balancing mechanism.		
Back rest - min 45 % of the frame length.		
Bed frame made from 50x25mm x 2 mm Thick ERW tube shall have proper support. This frame shall be fitted on the base frame mainly made of 60 x 30 x 2 mm ERW tubes on various supporting links.		
The base frame shall be mounted on 125mm dia non-rusting high grade castor wheels two with brakes and two without brake.		
Castor wheels made from high grade non floor-staining synthetic materials with integrated thread guards. Wheel centre having precision ball bearing to run smoothly.		

A pair of swing down type patient safety high quality SS side rails which covers 3/4th of the frame.		
The bed shall have easily detachable ABS head and foot side panels. Four corner rubber buffers & provision to hold rods at all corners for mosquito nets if required		
There shall be four locations on the bed near corners of the bed to hold stainless steel Telescopic Saline rod 12mm dia with 31.7mm dia, 18 g stainless steel outer covering tube with a knob to mount syringe pump.		
Finishing & workmanship in the medical furniture is of prime importance and must be of high standard. All corners shall be rounded off so that there shall be no sharp corners and holes should be burr free		
M.S. tubular parts, linkages, flats are to be In-house, pretreated, shot blasted and Epoxy powder coated as per ISI standards, 50 to 60 microns.		
All processes and parameters follow the ISO 13485 – Medical Equipments, ISO 9001 QMS		

Accessories:			
1	12mm diameter Stainless Steel SS304 Telescopic Heavy Duty I.V.Rod to hold syringe pumps and IV fluid bottles with 2 hooks - 1no. (Stainless Steel) with provision to park when not in use.		
2	Urine Bag Holder - 1no.		
3	Chart Holder – 1 No.		
4	Four Section Mattress with 4" thick PU Foam of 40 Density covered with PVC Rexine - 1no. Including mattress for bed extension.		
5	Oxygen cage cylinder cage.		
6	Traction pulley attachment for trauma cases.		

7	X-Ray permeable backrest with cassette holder in lieu of backrest with PP top.		
8	12 mm diameter rods for mosquito nets (ss)		

MANUAL THREE FUNCTION BED	**Comply Yes/ No/NA**	**Remarks**
Over all Size: Approx 2090mm L x 1010 mm W x 600 mm H with buffers. (Without Mattress).		
Bed frame size *Approx*2005mmL x 920mm W		
Two section top of 18 G thick C.R.C.A. M.S. sheets should be perforated with uniformly spaced holes in each section. Perforation should be Burr free & shouldn't have sharp edges.		
Outer top frame should be made from 60mm x 30mm x 16 G ERW M.S. rectangular tube		
Manual adjustments : backrest , Knee rest & Height adjustment three screw system with thrust bearings individually manouvred by a singe handle		
Back rest should be 45% of the total length		
Outer top frame is mainly made from 60 x30 mm x 1.6 mm Thick ERW tube shall have proper support. This frame shall be fitted on legs fitted with high quality PVC shoes with nylon reinforcement		
A pair of collapsible type patient safety railing shall cover more than 2/3 part of top frame made mainly from ERW tube of 25.4x 18g / 25 x 6 flats.		
The bed shall have easily detachable head and foot side bows.Pre- treated & epoxy powder coated shall be made from M.S. 31.7mm dia x 18 G tube.Both head and the leg bows should have one tubular horizontal support 25mm dia x 18G, M.S. ERW tube and three vertical supports of 15.80mm dia x 18G, M.S. ERW tubes.		
Four corner rubber buffers.		
There shall be four locations on the bed frame to hold one stainless steel Saline rod 12mm dia shall		

telescope in SS socket tube 15.8 mm dia x 18G welded on angular base bracket of 14G SS sheet. Nylon bracket provided to prevent colour damage			
All MS parts are passed through 8 tank Pretreatment and should be Epoxy powder coated.			
Finishing & workmanship of the medical furniture is of prime importance and must be of high standard. All corners shall be rounded off so that there shall be no sharp corners. Burr Free holes			
All Process Parameters to be as per documented IMS Procedures for Quality Assurance (ISO 9001:2008, ISO 13485:2003).			
Accessories:			
2	12mm diameter Stainless Steel Heavy Duty Rod to hold syringe pumps and IV fluid bottles with 2 hooks - 1no.		
3	Urine Bag Holder - 1no.		
4	Chart Holder – 1 No.		
5	Two Section Mattress with 4" thick PU Foam of 40 Density covered with PVC Rexine - 1no.		
6	Traction Pulley		

	TECHNICAL COMPLIANCE SHEET		
Item	**IV hanger (Height Adjustable)**	**Date**	
Clause No.	**Clause**	**Comply Yes/ No/NA**	**Remarks**
1	Heavy duty stainless steel construction		
2	Shall have minimum of four welded IV hooks		
3	Shall have an overall weight capacity of 10kg (or better)		
4	Five leg base frame with overall diameter of 50cm (or better)		
5	Height adjustment by means of a telescoping upright rod		
6	Height shall be adjustable in the range of 120-250 cm approximately		
7	Height adjustment shall be secured in place with a twist lock / knob handle		
8	Shall have five (5) anti-static noise free swivel castors (2-3" size .approximately)		
9	Supplier to specify the recognized quality control systems / safety standards followed by the proposed model		
10	Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants)		
11	**Assembly:** All facilities to be incorporated within the unit is manufacturer assembled		
12	**Supplier to specify ten product highlights apart from the general specs**		
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