**KOLLAM DISTRICT COOPERATIVE HOSPITAL SOCIETY LTD Q 952**

**Palathara, Kollam**

**Pin: 691020**

# TENDER DOCUMENT

## For

## Supply & Installation of

# MEDICAL EQUIPMENTS & FURNITURE

**Tender No: PDT -6/2019-20/- 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 | : | **15.06.2019** | **10am** |
| Last date for purchase of tender document | : | **25.06.2019** | **2pm** |
| Tender Submission End date | : | **25.06.2019** | **3 pm** |
| Date of Tender BID opening | : | **25.06.2019** | **4 pm** |

## Brief schedule

| Sl No | Description | EMD | Completion Period | Tender fees |
|---|---|---|---|---|
| 1 | MEDICAL EQUIPMENTS AND FURNITURE | Rs 100000/- | 3weeks | Rs 2000/- |

Tender documents can be downloaded from the website www.nshospital.org from 13.06.2019 till closing date of receipt of tender against a payment of non-refundable fee of Rs 2000/-(Rupees Two 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. 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.

## 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 2000/- |
| 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

| SlNo. | Particulars | **Date & Time** |
|---|---|---|
| 1 | Date of release of tender | 15.06.2019 10am |
| 2 | Tender submission Start Date | 15.06.2019 10am |
| 3 | Tender submission End Date | 25.06.2019 3pm |
| 4 | Date of technical bid opening | 25.06.2019 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 | OT Table Major | 01 |
| 2 | OT Table Minor | 04 |
| 3 | OT Light Dual Head Configuration | 04 |
| 4 | Portable Ventilator | 01 |
| 5 | Portable Monitor | 01 |
| 6 | Multiparamonitor | 05 |
| 7 | Advanced Multiparamonitor | 02 |
| 8 | High end Anesthesia Workstation | 01 |
| 9 | Anesthesia Workstation | 04 |
| 10 | Mayo Trolley - Large | 06 |
| 11 | Instrument Trolley | 14 |
| 12 | Surgical Diathermy | 04 |
| 13 | High End Surgical Diathermy Machine | 02 |
| 14 | Video Laryngoscope | 01 |
| 15 | Neuro endoscope with all attachments | 01 |
| 16 | High speed Pneumatic Drill for spine and neurosurgery | 01 |
| 17 | Microsope Surgical | 01 |
| 18 | Laproscopy System | 01 |

## 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* | 20 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 24 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 can be downloaded from website www.nshospital.org. from 15/06/2019 till a closing date of receipt of tender against a payment of non-refundable fee of Rs2000/-(Rupees Two 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. 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.

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, GST, 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.

6.17.2 Technical 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

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)

6.23.1 Before 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.

6.23.2 The 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.

6.23.3 The 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.

6.24.5 Assignment:-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.

6.24.6 Subcontracts: - 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.

6.24.7 Modification 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:

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

6.24.7.2 Mode of Demonstration

6.24.7.3 Incidental services to be provided by the successful tenderer

6.24.7.4 Mode 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**

6.25.1 There 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'.

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

6.25.3 Upon 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.

6.25.4 Failure 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.

6.25.5 The 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.

6.25.5.2 In 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.

6.25.5.3 In 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.

6.29.4 The 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.

6.29.5 After 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.

6.29.6 Site 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.

6.29.7 Complaints 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.

6.29.8 Upon 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.

6.29.12 The 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.

6.29.14 The 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).

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.

6.33.3 The 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.

6.33.4 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. 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 Co-operative 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 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** | | | | |
| 3 | Address | | | |

| | | | | |
|---|---|---|---|---|
| | | | | |
| | 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.**

| | |
|---|---|
| | In Case of Directors, DIN Nos. are required |

| | | | | |
|---|---|---|---|---|
| 6 | 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 *<br>(here enclose the details such as presentation on the details of the tendered in a CD preferably, please avoid submission of detailed leaflets / brochures etc, if possible) | | | |

| | | | | | |
|---|---|---|---|---|---|
| Date | | Office Seal | | Signature of the tenderer /<br><br>**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 |
|---|---|---|---|
| | | | |

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. | |
| 2 | | Telephone No: | |
| | | Fax No: | |
| | | Email ID. | |
| | | Name of the Service Engineer | |
| | | Mobile No. | |

| | | | |
|---|---|---|---|
| 3 | | Telephone No: | |
| | | Fax No: | |
| | | Email ID. | |
| | . | Name of the Service Engineer | . |
| | | 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 | 2015-16 | |
| 2 | 2016-17 | |
| 3 | 2017-18 | |
| 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 ts 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 MEDICAL EQUIPMENTS & FURNITUE 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

| | |
|---|---|
| ***Name of the Supplier:***<br>***Signature:***<br><br>***Seal:*** | ***Name of the Secretary***<br>***Signature:***<br><br>***Seal:*** |

WARRANTY CERTIFICATE

*(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;

| | Name of the accessory | Manufacturer's name | | |
|---|---|---|---|---|
| **No** | | | | |
| | | | | |
| **Item** | | | | |
| | | | | |

## TECHNICAL COMPLIANCE SHEET

## OT Table major

| General Description | | | |
|---|---|---|---|
| *OT Table major capable for multipurpose procedures with the following minimum required features* | | | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Mobile operating table shall be heavy duty base with compact foot print ; electro-mechanical / electro-hydraulic configuration | | |
| 2 | Entire table top frame and column cladding should be made of stainless steel (SS grade 306) (Supplier to specify the SS grade) | | |
| 3 | Tabletop padding shall be soft padded, easy to clean, flame and tear proof, anti-static & chemical resistant | | |
| 4 | Shall include table and necessary extensions that allow Neuro, Orthopedic Surgeries | | |
| 5 | Shall accommodate patient weight ≥ 200 kg (or better) in static and 175 kg in articulated positions | | |
| 6 | Shall have a minimum 4 table sections ; head , leg , seat and back plate sections. | | |
| 7 | The table shall have perineal cutout | | |
| 8 | The table shall have a radio translucent top for C-Arm imaging, without compromising the image clarity. | | |
| 9 | Shall have full length accessory rail on both sides | | |
| 10 | The table shall have adequate longitudinal access to facilitate C arm access | | |

| | | | |
|---|---|---|---|
| 11 | The table shall accept up to a 14” x 17” size x-ray cassettes | | |
| 12 | Shall include wired hand operated remote control ; However IR wireless remote control with remote charging device is preferred | | |
| 13 | The table shall have a facility for manual over-ride control on the table chassis | | |
| 15 | Shall be equipped with conductive heavy duty castors that are protected against soiling & accessible for cleaning | | |
| 16 | Shall be equipped with table floor locking function and should not allow any movement when engaged | | |
| 17 | Shall have both visual & audible indications | | |
| 18 | Shall be capable for various table positions (But not limited to) | | |
| | 18.1 Trendelenburg : ≥ 25° from horizontal plane | | |
| | 18.2 Reverse Trendelenburg: ≥ 25° from horizontal plane | | |
| | 18.3 Lateral tilt: ≥ 18° on both sides from horizontal plane (Or better) | | |
| | 18.4 Back section : +80 to -40 ° from horizontal plane (Or better) | | |
| | 18.5 Foot/leg section (Split Type; removable): +10 to -90 ° from horizontal plane (Or better) | | |
| | 18.6 Head Section (removable): +30 to -90 ° from horizontal plane (Or better) | | |
| | 18.7 Table top sliding function (300mm or better) | | |

| | | | |
|---|---|---|---|
| | 18.8 Adjustable Height; Low position: 60 cm (or lower), High position: 110 cm (or higher) | | |
| | 18.9 Flex / Re-Flex : 80° / 220° | | |
| 19 | **Accessories** | | |
| | Supplier shall include the general accessories (but not limited to) as part of the base offer for each major OR surgical table: | | |
| | 1. Side rails Qty (2) | | |
| | 2. Anesthesia screen Qty (1) | | |
| | 3. Arm boards with mattress Qty (2) | | |
| | 4. IV poles Qty (2) | | |
| | 5. Body restraint and straps Qty (2) | | |
| | 6. Knee straps Qty (2) | | |
| | 7. DR cassette tunnel Qty (1) | | |
| | 8. Clamps for attachments(SS grade 304)- Qty (4) | | |
| | 9. Padded shoulder support with clamps (SS grade 304) -Qty (2) | | |
| | 10. Horse shoe shaped head rest (SS grade 304) – Qty (1) | | |
| | 11. Adapter to fix three pin skull clamp (SS grade 304) – Qty (1) | | |
| | 12. Spine frame | | |
| | 13. Accessory Trolley | | |

| | | | |
|---|---|---|---|
| | 14. Knee Support & Side support with locking clamp | | |
| | 15. Counter traction post for Tibia with condylar fixation adjustable height and angle. | | |
| | All other attachements, extensions and accessories required for Neuro surgical including Surgeons Chair shall be listed with unit price | | |
| 20 | **Power supply:** | | |
| | 1.Unit shall operate on Single phase 230 VAC±6 %, 50 Hz ±2% | | |
| | 2.Shall have removable long power cord | | |
| | 3.Shall have emergency battery backup | | |
| 21 | All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations | | |
| 22 | The unit shall meet the internationally recognized quality control systems and safety standards for healthcare *(Like CE,ISO, US FDA )*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) Supplier to specify all other quality Control standards followed by the proposed model* | | |

| ITEM | OT table minor | | |
|---|---|---|---|
| **General Description** | | | |
| *OT table minor shall have the following minimum required features* | | | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Mobile operating table shall be heavy duty base with compact foot print ; electro-mechanical / electro-hydraulic configuration | | |
| 2 | Tabletop padding shall be soft padded, easy to clean, flame and tear proof, anti-static & chemical resistant | | |
| 3 | Entire table top frame and column cladding should be made of stainless steel (Supplier to specify the SS grade) | | |
| 4 | Shall have the necessary extensions for surgeries / procedures related to ENT, Urology ,Ob Gyne,General & all laparoscopic surgeries | | |
| 5 | Shall accommodate patient weight ≥ 175 kg | | |
| 6 | Shall have a minimum 4 table sections ; head , leg , seat and back plate sections. | | |
| 7 | The table shall have perineal cutout | | |
| 8 | Shall have full length accessory rail on both sides | | |
| 9 | The table shall have a radio translucent top for C-Arm imaging, without compromising the image clarity. | | |
| 10 | The table shall have adequate longitudinal access to facilitate C arm access; Shall be Supplied wit additional radiolucent table top for extened C Arm imaging length. | | |

| | | | |
|---|---|---|---|
| 11 | The table shall accept up to a 14” x 17” size x-ray cassettes | | |
| 12 | Shall be equipped with conductive heavy duty castors that are protected against soiling & accessible for cleaning | | |
| 13 | Shall be equipped with table floor locking function and should not allow any movement when engaged | | |
| 14 | Shall include wired hand operated remote control ; However IR wireless remote control with remote charging device is preferred | | |
| 15 | The table shall have a facility for manual over-ride control on the table chassis | | |
| 16 | Shall have both visual & audible indications | | |
| 17 | Shall be capable for various table positions (But not limited to): | | |
| | 17.1 Trendelenburg : ≥ 25° from horizontal plane | | |
| | 17.2 Reverse Trendelenburg: ≥ 25° from horizontal plane | | |
| | 17.3 Lateral tilt: ≥ 18° on both sides from horizontal plane (Or better) | | |
| | 17.4 Back section : +80 to -40 ° from horizontal plane (Or better) | | |
| | 17.5 Foot/leg section (Split Type ; removable): +10 to -90 ° from horizontal plane (Or better) | | |
| | 17.6 Head Section (removable): +30 to -90 ° from horizontal plane (Or better) | | |
| | 17.7 Adjustable Height; Low position: 70 cm (or lower), High position: 90 cm (or higher) | | |
| | 17.8. Flex / Re-Flex : 80° / 220° | | |
| 18 | **Accessories** | | |

| | | | |
|---|---|---|---|
| | Supplier shall include the general accessories (but not limited to) for each minor OR surgical table: | | |
| | 18.1 Side rails Qty (2),3 set Lithotomy Stirrups | | |
| | 18.2 Anesthesia screen Qty (1) | | |
| | 18.3 Arm boards with mattress Qty (2) | | |
| | 18.4 IV poles Qty (2) | | |
| | 18.5 Body restraint and straps Qty (2) | | |
| | 18.6 Knee straps Qty (2) | | |
| | 18.7 X-ray cassette tunnel Qty (1) | | |
| | 18.8 Clamps for attachments(SS grade 304)- Qty (4) | | |
| | 18.9 Head Section for ophthalmic Surgery | | |
| | 18.10 Urethroscopy Table Top | | |
| | 18.11 SS Washing Tray | | |
| | 18.12 PCNL Table top attachment with floor support | | |
| | 18.13 Pair of Goepel knee crutches (1) | | |
| 19 | All other attachements, extensions and accessories required for ENT, Urology ,Ob Gyne,General & all laparoscopic surgeries with unit price. | | |
| 20 | **Power supply:** | | |
| | 1.Unit shall operate on Single phase 230 VAC±6 %, 50 Hz ±2% | | |
| | 2.Shall have removable long power cord | | |

| | | | |
|---|---|---|---|
| | 3.Shall have emergency battery backup | | |
| 21 | All mechanical and electrical components need to be pre-wired, factory tested and delivered to site with singular terminations | | |
| 22 | The unit shall meet the internationally recognized quality control systems and safety standards for healthcare *(Like CE, ISO, US FDA,TUV )*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) Supplier to specify all other quality Control standards followed by the proposed model* | | |

| TECHNICAL COMPLIANCE SHEET | | | |
|---|---|---|---|
| **ITEM** | **OT Light- dual head configuration** | | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | The unit required to be ceiling mounted dual head configuration | | |
| 2 | Shall have an advanced LED light technology with UV and IR free radiation. | | |
| 3 | Shall provide shadow free Illumination; Specify the number of LEDs | | |
| 4 | Light intensity shall be adjustable from 5% to 100% at light head control panel as well as remotely | | |
| 5 | The illumination of one light head minimum 100,000 Lux (Or better) at 1m with lamp head diameter not less 48cm<br>The illumination of second light head minimum 120,000 Lux (Or better) at 1m with lamp head diametter not less then 63cm | | |
| 6 | The light field diameter shall be 150-350 mm; Supplier to specify | | |
| 7 | Field depth of illumination (100 cm or more) shall be of sufficient intensity without requiring a refocusing of the light. Supplier to Specify the filed of depth | | |
| 8 | Color Temperature shall be adjustable in the range 4000 K - 5000 K (Or Better) | | |
| 9 | Color Rendering index (CRI) 95 (or higher) ;Supplier to Specify | | |
| 10 | R9 value shall be not less than 95 (or higher),Supplier to Specify | | |

| | | | |
|---|---|---|---|
| 11 | The life time of the LED 50,000 Hour (or better),Supplier to Specify | | |
| 12 | The temperature increase in the staff's head area shall not be more than 1 °C<br>Supplier to specify the Maximum irradiance at 1 m, in W/m2 | | |
| 13 | Supplier to specify the heat-to-light ratio in mW/m2.lx (Preferably <3.6) | | |
| 14 | Shall be integrated with a background illumination lamp for providing auxiliary light source in case of laparoscopic operations | | |
| 15 | Supplier to specify the reflector and filter materials used with the proposed models | | |
| 16 | The Ceiling light arm rotation should be 360° with multiposition spring arms | | |
| 17 | Support arms shall have total stability at all positions with brakes | | |
| 18 | Operating panel at light head for the light controls like on/off, light intensity adjustment, changes in the operating field focus & pattern, switching off dome 1 or dome 2 or vice versa.Shall be possible to interface with the thid party OT control panel for Light on/off, light intensity adjustment functions. | | |
| 19 | Light head shall have provision to accommodate Camera and all video cabling shall be priorly routed | | |
| 20 | The design of the domes shall be such that it will not interfere with the laminar flows of the operating room | | |
| 21 | Shall be supplied with detachable sterilizable handles 6 nos. with each unit | | |
| 22 | The total weight of the unit in Kg shall be specified | | |
| 24 | The fixture set, the interconnection flange, electrical supply interface and the opening required in suspended ceilings are covered by a ceiling hood or a flat cover | | |

| | | | |
|---|---|---|---|
| 25 | Finishes: Shall be compliant with infection control requirements, resistant to corrosion and disinfectants and fire resistant | | |
| 26 | All cabling shall be channeled internally through respective conduits with in the arms. | | |
| 27 | The proposed EQUIPMENT must be fit within allocated space | | |
| 28 | The proposed unit shall function with 200-240Vac, 50/60 Hz input power supply | | |
| 29 | All mechanical and electrical components need to be pre-piped, pre-wired, factory tested and delivered to site with singular terminations.<br>The plates , Screw rods, Anchor bolts requied for the installation of the Celing mounted sugical Light shall be supplied along with the Celing mounted sugical Light units | | |
| 30 | Any intensity reduction in the LEDs of the light heads during the warranty period shall be replaced by the supplier at free of cost | | |
| 31 | Quality Standards<br>The unit shall meet the internationally recognized quality control systems and safety standards for Surgical Light systems ; CE Certification mandatory;<br>1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify<br>2) However Supplier to specify all other quality Control standards followed by the proposed model | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **PORTABLE VENTILATOR** | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Shall be capable when ventilator-dependent patients transported to other areas of the hospital or to other healthcare facilities in emergency situations | | |
| 2 | Microprocessor-controlled, time-cycled, volume-controlled and pressure-controlled high quality and durable portable ventilator | | |
| 3 | Capable for ventilation from Pead-Adult Range | | |
| 4 | Switches, Knobs shall be clearly identifiable and their functions shall be self-evident (preferably touch screen with rotatory trim knobe) | | |
| 5 | Control panel lock feature to prevent accidental settings | | |
| 6 | Control panel shall be fluid resistant to prevent accidental fluid penetration | | |
| 7 | Unit shall be small in dimensions and light weight for easy transportation; Supplier to specify the dimensions | | |
| 8 | Capable for various mounting options in different orientations in patient transfer stretchers, patient beds, ambulance rails without any constraints | | |
| 9 | **Ventilation modes** (but not limited to): | | |
| A | Assist/Control mode (volume breathes, Pressure Breaths) | | |
| B | SIMV mode (Volume breaths, Pressure breaths, Pressure Support) | | |
| C | CPAP , NIV mode | | |
| D | Shall have special modes applicable for emergency (Setting of automatic ventilator parameters based on patient body weight) | | |
| 10 | **Controlled parameters & settings**: | | |
| A | Tidal Volume: 20-2000 ml ( Or wider range) | | |
| B | Frequency : 1-60 BPM | | |

| | | | |
|---|---|---|---|
| C | Inspiratory flow level: > 60L/min | | |
| D | Pressure level: 0-80 cm H2O | | |
| E | Inspiratory time:0.2 to 5 s | | |
| F | I: E Ratio: 1:1 to 1:8 ; Or Ti configurable, for all ventilation modes | | |
| G | FiO2: 40-100% | | |
| H | Pressure Support level: 0-35 cm H2O (Or better) | | |
| I | Trigger mechanism: Flow ( 1 to 15 L/min) or Pressure triggered | | |
| J | PEEP: 0-20 cm H2O | | |
| K | O2 concentration: 40 to 100 Vol.% | | |
| 11 | Unit Shall be able to monitor (but not limited to): PIP, MAP, PEEP, Inspiratory & expiratory Tidal volume, minute volume, FiO2, respiratory rate, inspiratory & expiratory time, I: E ratio .Supplier to specify | | |
| 12 | **Audible and visual alarms : Shall have the following minimum conditions** | | |
| A | High / Low FiO2 | | |
| B | High/Low Minute volume | | |
| C | High/Low Inspiratory pressure levels | | |
| D | High PEEP | | |
| E | Apnea | | |
| F | High Respiration rate | | |

| | | | |
|---|---|---|---|
| G | Inverse IE | | |
| H | Breathing Circuit disconnection | | |
| I | Power failure | | |
| J | Low battery | | |
| K | Ventilator Inoperative | | |
| L | Gas supply failure | | |
| 13 | Alarm silencing feature, it shall be reactivated until the fault condition is corrected | | |
| 14 | Shall have clear LCD for the settings, Graphs, alarms, monitoring parameters, error codes,Trends (supplier to specify the Visible screen size) | | |
| 15 | Unit shall be equipped with rechargeable battery with minimum battery operating time of 4 hours. Supplier to Specify | | |
| 16 | Less recharging time for the battery (Supplier to state the recharging time for full battery status) | | |
| 17 | Aluminium Oxygen cylinder (size D), pressure regulators, High pressure hoses and Probes (British Standards) And any other item required for the basic equipment function shall be supplied | | |
| 18 | Unit shall include all required accessories & consumables for the full functionality of the machine | | |
| 19 | Disposable patient Circuits required for adult, pediatric patient categories unit Prices for all types shall be listed | | |
| 20 | Unit shall include Test lungs for Adult & Pediatric | | |

| | | | |
|---|---|---|---|
| 21 | Unit shall be equipped with inbuilt air source (Small Internal Air compressor/Small turbine drive unit), and compressed Oxygen Inlet port (Pressure range: 2.5 to 5.0 bar) | | |
| 22 | Unit shall operate on both Single phase 230 VAC±6 %, 50 Hz ±2% and on ambulance battery during transportation (Shall have auxiliary DC supply inlet) | | |
| 23 | Shall supply carry bag and other related accessories required for the full functionality of the unit | | |
| 24 | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare ***Respiratory Therapy devices ; CE*** *Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*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; (ISO9001/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 | **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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **PORTABLE MONITOR** | | |
| **Equipment Description** | Portable Patient monitor to be utilized for Inter & Intra hospital transfer of patients | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | The unit required to be fully functional for Adult, Pediatric & Neonatal Patients | | |
| 2 | **Preconfigured** system with compact and light weight design for the prupose of transport. | | |
| | The unit shall be capable (software ready/enabled) to **monitor the following parameters**: | | |
| 3 | **ECG & Heart Rate** features: | | |
| A | Five (5) leads monitoring (I, II, III, aVR, aVF and aVL) | | |
| B | The number of waveforms displayed shall be user selectable | | |
| C | Heart rate measuring range: 30 – 250 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 | | |
| 4 | **SpO2** and **Pulse** Rate: | | |
| A | SpO2 measuring range: 1 – 100% | | |
| B | SpO2 accuracy: ± 3 digits | | |
| C | Pulse rate: 25 – 250 bpm | | |

| | | | |
|---|---|---|---|
| D | Pulse rate accuracy: ± 3 digits | | |
| E | High accuracy even during motion artifacts and low perfusion rates | | |
| F | Adjustable alarm limits | | |
| 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) | | |
| H | Inflation pressure (approximately): Adults: 270 mmHg; Pediatric: 180 mmHg | | |
| I | Accuracy: ± 3 mmHg | | |
| J | Automatic cuff deflation if measurement is not obtained after: 120 – 170 sec | | |
| K | 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 | | |
| D | Adjustable alarm limits | | |
| 7 | **Arrhythmia** monitoring features: | | |
| A | Basic detection & classification of different types of arrhythmias for adults & pediatrics | | |
| 8 | **Respiration** monitoring features: | | |
| | Respiration monitoring via impedance calculation, through ECG lead | | |
| | Measuring range: 1 – 150 bpm | | |
| | Accuracy: ± 1 bpm | | |
| | Adjustable apnea time | | |
| | Adjustable alarm limits | | |
| 8 | **ST segment** analysis features: | | |
| | Basic monitoring and analysis of ST segment deviation for adults & pediatrics | | |
| | Continuous ST analysis for 5 leads | | |
| | Adjustable ISO and ST points for each lead | | |
| | Adjustable alarm limits | | |
| 10 | **EtCO2** features: | | |
| A | Non-dispersive infrared method | | |
| B | Main stream 0r side stream capability | | |

| | | | |
|---|---|---|---|
| C | Inspired and expired CO2 concentration values and waveforms | | |
| D | Measuring range: 0 to 100 mmHg | | |
| E | Accuracy: ± 5% | | |
| F | With adjustable alarm limits | | |
| 13 | **Display/screen** features: | | |
| A | Medical grade display ; Screen size: 10” (approx) | | |
| B | LCD color touch screen (newer LED screens are acceptable) | | |
| C | Operation and navigation shall be via an optical over capacitive touch screen (simple & intuitive to use) and **rotary trim knob** (preferable) | | |
| 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 or more channels/waveforms | | |
| G | The order and color of waveforms and numerical parameters shall be user selectable | | |
| 14 | The required **Recorder** features**:** | | |
| A | Two (2) channels | | |
| B | Speed: 1, 6.25, 12.5, 25, 50 mm/sec | | |
| C | Resolution: 200 dpi | | |
| D | Paper: 50 to 100 mm | | |
| E | Patient ID, date and time shall be printed | | |

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| 15 | 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 | | |
| 16 | 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 | | |
| 17 | The required features for **Trending /Events** storage: | | |
| A | Numerical and graphical trending | | |
| B | Trending capacity: 48 hours for user selectable parameters | | |
| C | Trend resolution: 1 min | | |

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|---|---|---|---|
| D | Events storage: 50 events | | |
| E | Event storage duration: 10 sec before and 10 sec after the event trigger (indicative) | | |
| F | Shall store all monitored parameters for each event | | |
| 18 | **Mounting** features**:** | | |
| A | Unit shall have various mounting options for bed rails, patient transfer stretcher rails during patient transport | | |
| 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 | For monitors in wards separate montior rolling stand shall be supplied | | |
| E | All poratble monitors shall have sturdy carrying handle | | |
| 19 | **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 | | |
| 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)* | | |
| | *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)* | | |
| E | *Accessories for **EtCo2:*** | | |
| | *Accessories for EtCO2: Capnostat sensor (x1) ,Reusable airway adapter for adult and pediatric,Disposable S-cannula (x50) ,Calibration kit (x1)* | | |
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| 21 | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare ***Monitoring systems ; CE*** *Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item 1** | **Multipara monitor** | | |
| **Equipment Description** | | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 2 | The unit required to be fully functional for **Neonatal, Pediatric and Adult patients** | | |
| 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 | | |
| 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 Masimo) | | |
| 6 | **Invasive Blood Pressure** | | |

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|---|---|---|---|
| A | Simultaneous measurement and display of a minimum of 4 channels, such as (ART, CVP, ICP, LA) | | |
| 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 | | |

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| 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 / 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: 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 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. | | |
| 15 | 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 | | |
| 16 | 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 | | |
| 17 | **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 | Facilitate multi format report generation via networked printer and recorder | | |
| G | Defibrillation synchronizing capability | | |
| 18 | **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 | | |

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| | 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 | | |
| 19 | **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 | | |
| 20 | **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 | | |
| 21 | **Required Specific Accessories** | | |
| A | Accessories for **ECG/respiration**: | | |
| | All ECG leads to be color coded as per AHA standards | | |
| | Reusable 5/12 lead ECG cables for adult and pediatric (x1 each) (decided by the end user) | | |
| | 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) | | |
| 22 | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare **Monitoring systems**<br>1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify<br>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; ISO9001 OR 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.<br>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; | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **Advanced multipara monitor** | | |
| **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.<br>All modules shall be with data storage including patient details. Supplier to specify the data storage in Hrs.<br>Also supplier to clearly state how the seamless data transfer is enabled in OR-ICU-CCU environment with the proposed monitors/ detachable portable 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, AGM (Anesthesia Gas Monitoring Module) | | |
| 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 Masimo OR Better) | | |
| 6 | **Invasive Blood Pressure** | | |
| A | Simultaneous measurement and display of a minimum of 4 channels, such as (ART, CVP, ICP, LA) | | |
| 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 /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 | **AGM** Module features: | | |
| A | Micro stream sampling method measurement for Co2,N2O,anesthetic gas agents | | |
| B | Shall have short warm-up time ( Supplier to Specify), wave form & numeric display | | |
| C | Shall continuously sample and measure inspired and expired concentrations of all respiratory and anesthetic gases | | |
| D | Shall have automatic anesthetic agent identification | | |
| E | Capable to display the $CO_2$ waveform, Real time pressure and flow waveforms, Trends | | |
| 14 | **Display / screen** | | |
| A | LCD color touch screen with better resolution (newer LED screens are acceptable); Supplier to spcify | | |

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| 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 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. | | |
| 15 | 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 | | |
| 16 | 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 | | |

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| 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 | | |
| 17 | **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 | | |
| 18 | **Trending /Events** storage: | | |
| A | Numerical and graphical trending | | |
| B | Trending capacity: 48 hours (or more) for user selectable parameters | | |
| C | Trend resolution: 1 min | | |

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| 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 | | |
| 19 | **Mounting** features**:** | | |
| A | Mounted on Anesthesia workstation;The unit shall be with mounting brackets & arms for both screen and module server. Successful bidder to coordinate with end user to ensure the monitors are professionally fixed in anesthesia work station | | |
| 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 | | |
| 20 | **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: | | |

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| 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 | | |
| 21 | **Required Specific Accessories** | | |
| A | Accessories for **ECG/respiration**: | | |
| | All ECG leads to be color coded as per AHA standards | | |
| | Reusable 5/12 lead ECG cables for adult and pediatric (x1 each)(decided by end user) | | |
| | 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:** | | |

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| | 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) | | |
| 22 | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare **Monitoring systems**<br>1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify<br>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 OR ISO9001 OR 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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated (in Watts) | | |

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| | Any additional electro-mechanical and Data /network requirement for the offered system shall be clearly stated in the Proposal; | | |
| | **TECHNICAL COMPLIANCE SHEET** | | |
| **Item** | **High End Anesthesia Workstation** | | |
| Equipment Description | | Date | |
| Clause No. | Clause | Comply Yes/ No/NA | Remarks |
| A | Configuration & General features | | |
| 1 | The unit required to be fully functional for Adult to Neonatal Patient range | | |
| 2 | Advanced anesthesia delivery unit having seemless integration with anesthesia gas monitoring system | | |
| 3 | Configuration : Compact Design , Mobile unit with locking castors / central break | | |
| 4 | Shall have integrated compact breathing unit capable for low flow anesthesia | | |

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| 5 | Breathing System shall be capable to assemble and disassemble without any tools. | | |
| 6 | Shall have integrated electronic flowmeter with controls and electronic gas mixing | | |
| 7 | Medical Gas pipeline Inlets for Air,O2 ,N2O,Centralized medical air ,O2,N2O connectivity compliance with the hospital medical gas schedule ;the required probes & High pressure flexible tubes shall be supplied | | |
| 8 | Medical gas cylinder Yokes for Air,O2 ,N2O hanger yokes with the proper pin index safety system and check valve | | |
| 9 | Pipeline & Cylinder gas pressure levels must be displayed in the main display in addition to pressure guages | | |
| 10 | Number of vaporizers to be provided as part of base offer shall be two.<br>(1) Isoflurane and (1) Sevoflurane vaporizer . Supplier to provide the unit price for all the vaporizers | | |
| 11 | Interlock feature for vaporizers | | |
| 12 | Anesthetic vapor concentration delivered to the common gas outlet shall be accurate to within 0.2% vapor concentration of agent or 10% of the set value | | |
| 13 | Shall be with integrated active anesthesia scavenging system | | |
| 14 | Shall be equipped with safety mechanism for Oxygen failure | | |
| 15 | There shall be a mechanism to prevent hypoxic condition | | |
| 16 | Shall have integrated adjustable pressure limiting valve with 0.5-70cmH2O Adj. | | |

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| 17 | Shall be equipped with arm  or similar facility to route patient tubing and accessories cables | | |
| 18 | Shall be equipped with auxiliary common gas outlet | | |
| 19 | Shall include reusable Co2 absorber with trap | | |
| 20 | Shall be equipped with minimum 2 drawers accessory storage | | |
| 21 | Shall have intelligent prediction function for FiO2 and Anesthetic Agents | | |
| B | Ventilator features: | | |
| 1 | Electronically controlled ventilator capable for adult ,pediatric & neonatal application | | |
| 2 | Ventilation modes (but not limited thereto) : Volume Controlled Ventilation, Pressure Controlled Ventilation, SIMV (VC & PC) , Manual / Spontaneous, PSV with backup ventilation | | |
| 3 | Tidal volume range: 20-1500 mL ( Supplier to Specify value in both VCV & PCV) | | |
| 4 | Minute volume range : > 20 L/min  ( Supplier to Specify) | | |
| 5 | Inspiratory flow :  Variable from 0 to 180 L/min | | |
| 6 | Frequency range : 5-60 bpm(or better) | | |

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| 7 | I:E ratio 4:1 to 1:4 (or better) | | |
| 8 | Electronically controlled PEEP : 0-20 cm of H2O with increments of 1 cm of H2O | | |
| 9 | Adjustable Inspiratory pause 0-60% of Ti | | |
| 10 | Adjustable high pressure alarm limits | | |
| 11 | Adjustable pressure limit <80 cm of H2O | | |
| 12 | FiO2 & Flow measurement technology shall be clearly stated in the remarks. | | |
| 13 | Flow trigger :1-15 LPM (or better) | | |
| 14 | Shall have breath-to-breath tidal volume compensation | | |
| 15 | Adjustable alarm limits for all parameters | | |
| 16 | Shall be monitoring parameters but not limited to airway pressure, Tidal Volume, rate, expiratory flow and volume, minute volume, oxygen concentration, Peak, mean, plateau and PEEP | | |
| 17 | Shall be equipped with audible & visual alarm for conditions (But not limited to) High Pressure, PEEP high, Low pressure / apnea, Rate, Reverse flow ,High/low flow, High/ low minute volume, High/ low FiO2 | | |
| 18 | Shall be equipped with 12 "or better. central LCD colour touch screen capable to control various parameters (both ventilator & Anesthesia delivery unit) & display of flow, pressure waveforms, numeric / graphical trends,PV & FV Loops | | |

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| 19 | Graphical & Tabular trending is required for all parameters, Trends available for minimum 24Hrs | | |
| 20 | Preset and configurable Graphical User interfaces/layouts | | |
| 21 | Shall be capable to schedule complete automatic self test | | |
| C | Shall have Anesthesia Gas Monitoring module with the following features: | | |
| 1 | Micro stream sampling method measurement for Co2,N2O,anesthetic gas agents | | |
| 2 | Shall have short warm-up time ( Supplier to Specify), wave form & numeric display | | |
| 3 | Shall continuously sample and measure inspired and expired concentrations of all respiratory and anesthetic gases | | |
| 4 | Shall have automatic anesthetic agent identification | | |
| 5 | Capable to display the CO2 waveform, Real time pressure and flow waveforms, Trends | | |
| 6 | Units of CO2 concentration shall be changed between mm Hg and % of CO2 | | |
| 7 | There shall be a facility for exhaust gas from the monitoring module to be scavenged | | |
| 8 | Shall have mechanism to reduce the emission of anesthetic gases into the atmosphere | | |

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| 9 | Monitor shall be able to measure and the accuracy that it should achieve for each of the analyzed gases should be as follows | | |
| | Ø 0-6% isoflurane with an accuracy of 0.25 volume %. | | |
| | Ø 0-10% sevoflurane with an accuracy of 0.25 volume %. | | |
| | Ø 0-80% nitrous oxide with an accuracy of 10% or 5 volume %, whichever is greater. | | |
| | Ø 0-10% carbon dioxide with an accuracy of 10% or 0.4 volume %, whichever is greater. | | |
| | Ø 0-100% oxygen with an accuracy of 5% of reading or 2 volume %, whichever is greater | | |
| D | Connectivity | | |
| 1 | Capable for Connection to other slave monitors | | |
| 2 | Appropriate data communication port (Ethernet /RS232 / USB standards) shall be incorporated & connectivity to HIS (HL7 Standards) | | |
| 3 | Networkable to AIS Server via Local area Network (LAN) or wireless, All patient data shall be available at the AIS ( Anesthesia Information System) from Anesthesia Monitor - (Future Provision)<br>Facilitate multi format report generation via networked printer and recorder | | |
| 4 | Shall be with battery backup with automatic low-battery alarm indication (Suppiler to specify the battery back up time) | | |
| E | Mounting features: | | |

| | | | |
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| 1 | Unit shall be with mounting brackets / Spring arm for both Anesthesia monitor and module server. Successful supplier to coordinate with end user to ensure the monitors are professionally fastened | | |
| 2 | Supplier shall provide all required adapters, interfaces between the monitor and bracket | | |
| 3 | All brackets used should enable the devices quick and simple removal, preferably without the need for any tools | | |
| F | General features required: | | |
| 1 | The unit shall include all required accessories, modules, cables, software, licenses for full functionality | | |
| 2 | All surfaces of the unit required to be resistant to common disinfectants | | |
| 3 | The unit shall be flexible and upgradable | | |
| G | QUALITY STANDARDS | | |
| 1 | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare Respiratory Therapy devices<br>1.IEC 60601-1,2 : Basic Safety & Essential Performance for Medical Equipment<br>2.IEC 60601-8 General Requirements, tests , Alarms and guidance for medical equipments<br>3.ISO 10651-2 Basic Safety and essential performance Lung ventilators for medical use<br>4) Standards related to Patient Safety and EMC shall be followed.Supplier to specify<br>However Supplier to specify all other quality Control standards followed by the proposed model | | |
| 2 | 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, | | |

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| H | 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. | | |
| I | GENERIC POINTS | | |
| 1 | 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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **Anesthesia Workstation** | | |
| **Equipment Description** | | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| **A** | **Configuration & General features** | | |
| 1 | The unit required to be fully functional for Adult to Pediatric Patient range | | |
| 3 | Configuration : Compact Design , Mobile unit with locking castors / central break | | |
| 4 | Shall have integrated compact breathing unit | | |
| 5 | Breathing System shall be capable to assemble and disassemble without any tools. | | |
| 6 | Shall have integrated float-type flowmeter with controls | | |
| 7 | Medical Gas pipeline Inlets for Air,O2 ,N2O,Centralized medical air ,O2,N2O connectivity compliance with the hospital medical gas schedule ;the required probes & High pressure flexible tubes shall be supplied | | |
| 8 | Medical gas cylinder Yokes for Air,O2 ,N2O hanger yokes with the proper pin index safety system and check valve | | |
| 9 | Pipeline & Cylinder gas pressure levels must be displayed in the main display in addition to pressure guages | | |

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| 10 | Number of vaporizers to be provided as part of base offer shall be two.<br>(1) Isoflurane and (1) Sevoflurane vaporizer . Supplier to provide the unit price for all the vaporizers | | |
| 11 | Shall have Interlock feature for vaporizers | | |
| 12 | Anesthetic vapor concentration delivered to the common gas outlet shall be accurate to within 0.2% vapor concentration of agent or 10% of the set value | | |
| 14 | Shall be equipped with safety mechanism for Oxygen failure | | |
| 15 | There shall be a mechanism to prevent hypoxic condition | | |
| 16 | Shall have integrated adjustable pressure limiting valve with 0.5-70cmH2O Adj. | | |
| 17 | Shall be equipped with arm or similar facility to route patient tubing and accessories cables | | |
| 18 | Shall be equipped with auxiliary common gas outlet | | |
| 19 | Shall include reusable Co2 absorber with trap | | |
| 20 | Shall be equipped with minimum 2 drawers accessory storage | | |
| **B** | **Ventilator features:** | | |
| 1 | Electronically controlled ventilator capable for adult to pediatric application | | |
| 2 | Ventilation modes (but not limited thereto) : Volume Controlled Ventilation, Pressure Controlled Ventilation, SIMV (VC & PC) , Manual / Spontaneous ventilation | | |
| 3 | Tidal volume range: 20-1500 mL ( Supplier to Specify value in both VCV & PCV) | | |
| 4 | Minute volume range : > 20 L/min ( Supplier to Specify) | | |
| 5 | Inspiratory flow : Variable from 0 to 75 L/min (Or better) | | |

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| 6 | Frequency range : 5-60 bpm(or better) | | |
| 7 | I:E ratio 2 :1 to 1 : 5 (or better) | | |
| 8 | Electronically controlled PEEP : 0-20 cm of H2O with increments of 1 cm of H2O | | |
| 9 | Adjustable Inspiratory pause 0-60% of Ti | | |
| 10 | Adjustable high pressure alarm limits | | |
| 11 | Adjustable pressure limit <70 cm of H2O | | |
| 12 | FiO2 & Flow measurement technology shall be clearly stated in the remarks. | | |
| 13 | Flow trigger :1-15 LPM (or better) | | |
| 14 | Adjustable alarm limits for all parameters | | |
| 15 | Shall be monitoring parameters but not limited to airway pressure, Tidal Volume, rate, expiratory flow and volume, minute volume, oxygen concentration, Peak, mean and PEEP | | |
| 16 | Shall be equipped with audible & visual alarm for conditions (But not limited to) High Pressure, PEEP high, Low pressure / apnea, Rate, Reverse flow ,High/low flow, High/ low minute volume, High/ low FiO2 | | |
| 17 | Shall be equipped with 6.5 " (Or better) LCD colour display various parameter. | | |
| 18 | Shall be capable to adjust alarm limits for all parameters | | |
| **D** | **Connectivity** | | |
| 2 | Appropriate data communication port (Ethernet /RS232 / USB standards) shall be incorporated & connectivity to HIS (HL7 Standards) | | |

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| 3 | Networkable to AIS Server via Local area Network (LAN) or wireless, All patient data shall be available at the AIS ( Anesthesia Information System) from Anesthesia unit - (Future Provision)<br>Facilitate multi format report generation via networked printer and recorder | | |
| **E** | **Mounting** features**:** | | |
| 1 | Unit shall be with mounting brackets / Spring arm for both Anesthesia monitor and module server. Successful supplier to coordinate with end user to ensure the monitors are professionally fastened | | |
| 2 | Supplier shall provide all required adapters, interfaces between the monitor and bracket | | |
| 3 | All brackets used should enable the devices quick and simple removal, preferably without the need for any tools | | |
| **F** | **General** features required: | | |
| 1 | The unit shall include all required accessories, modules, cables, software, licenses for full functionality | | |
| 2 | All surfaces of the unit required to be resistant to common disinfectants | | |
| **G** | **QUALITY STANDARDS** | | |
| 1 | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare ***Respiratory Therapy devices***<br>*1.IEC 60601-1,2 : Basic Safety & Essential Performance for Medical Equipment*<br>*2.IEC 60601-8 General Requirements, tests , Alarms and guidance for medical equipments*<br>*3.ISO 10651-2 Basic Safety and essential performance Lung ventilators for medical use*<br>*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* | | |
| 2 | 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 | | |

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| **H** | **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. | | |
| **I** | **GENERIC POINTS** | | |
| 1 | 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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

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| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **Mayo Trolley- Large** | **Date** | |
| **Equipment Description** | | | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| **1** | The whole unit shall be constructed of 18-gauge 304 stainless steel<br>(Specify specification for the SS used to manufacture the proposed item) | | |
| **2** | Double stand configuration from base frame | | |
| **3** | All welded stainless steel construction | | |
| **4** | Mayo stand with (approx.) 75 X 55 cm stainless steel tray | | |
| **5** | Height adjustment (approx.) 75-130 cm | | |
| **7** | Shall not have sharp edges | | |
| **6** | Base shall be designed in a way to move under low clearance equipment | | |
| **7** | Trolley mounted on swivel castors with castor diameter of approximately 5cm | | |
| **8** | Supplier to specify the recognized quality control systems / safety standards followed by the proposed model | | |
| **9** | Shall be compliant with infection control requirements, resistant to corrosion and disinfectants.(Supplier to specify the type of disinfectants) | | |

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| | **TECHNICAL COMPLIANCE SHEET** | | |
| **Item** | **Instrument Trolley-60"** | Date | |
| **Clause No.** | Clause | Comply Yes/ No/NA | Remarks |
| **1** | Shall be durable and high quality finishing instrument table to be used in surgical departments | | |
| **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** | Legs and reinforcement braces shall be with fully welded joints | | |
| **7** | Shall not have sharp edges | | |
| **8** | With four conductive, lockable , swiveling and noise free castors | | |

| | | | |
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| **9** | Casters diameter: 7.5 cm approximately | | |
| **10** | Dimensions (LxWxH): 150 x 60 x 85 cm approximately | | |
| **11** | 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.(Supplier to specify the type of disinfectants) | | |

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| **Item** | **Surgical Diathermy Machine** | | |
| **Equipment Description** | | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| **1** | The unit required to be fully digital and microprocessor controlled to be used in operation theaters for all surgical applications (general, endoscopy, plastic,,ortho pediatric, transurethral resection, under water) | | |
| **2** | The unit required to have automatic continuous power control due to tissue impedance variations to insure lowest effective dose delivery and constant homeostasis effect | | |
| **3** | The required Generator features Type: solid-state;Frequency range: 300-1000 kHz | | |
| **4** | **The required outputs** | | |
| 4.1 | Two (2) Isolated Monopolar outputs controlled by hand-switch and splash-proof cut/coag footswitch to be furnished as part of the base bid offer for each machine | | |
| 4.2 | Two (2) Bipolar outputs and splash-proof bipolar footswitch to be furnished as part of the base bid offer for each machine. | | |
| **5** | ***Monopolar required features :*** | | |
| 5.1 | For cutting: Max power at (500 Ω): 300 watt and maximum voltage (Vp-p):2000 Volt | | |
| 5.2 | 10 levels user selectable blended cutting: 200 watt at 500 Ω | | |
| 5.3 | For coagulating: Max power at (500 Ω): 120 watt and maximum voltage (Vp-p): 6000 Volt | | |
| 5.4 | Spray coagulation: 120 Watt at 500 Ω | | |
| 5.5 | Capability of automatic coagulation activation upon contact with tissue | | |
| **6** | ***Bipolar required features:*** | | |
| 6.1 | For cutting: Max power at (500 Ω): 100 watt and maximum voltage (Vp-p): 1000 Volt better) | | |

| | | | |
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| 6.2 | For coagulating: Max power at (100 Ω): 50 watt and maximum voltage (Vp-p):300 Volt | | |
| 6.3 | Ligation mode. To be used in both laparoscopic and open surgical procedures. | | |
| **7** | ***Display features:*** | | |
| 7.1 | Colored LCD /LED Segmant screen | | |
| 7.2 | Comprehensive overview of monitored, set parameters and alarms | | |
| 7.3 | Simple interface with color coding and self-explanatory icons | | |
| **8** | ***Indicators*** | | |
| 8.1 | Visual | | |
| 8.2 | Audible with volume control > 45 dBA @ 1 meter | | |
| 8.3 | Defeatable - inaudible volume | | |
| **9** | ***Safety features:*** | | |
| 9.1 | The unit protective circuit to have be Return Electrode Contact-Quality Monitor (RECQM) and warn the user if improper placement of neutral electrode or high power loss (current leakage) | | |
| 9.2 | Continues self-test mode and independent outputs | | |
| 9.3 | Errors documentation | | |
| 9.4 | Audible and visual alarm system required | | |
| **10** | The unit required to warn the user in case of (but not limited to): | | |
| 10.1 | System error | | |

| | | | |
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| 10.2 | Power failure | | |
| 10.3 | neutral electrode fault (Terminate the activation of the unit in this case) | | |
| **11** | The unit must be well constructed with durable materials that can be cleanable/disinfecting | | |
| **12** | Shall have user programmable modes not less than 10 | | |
| **13** | The cooling manner required have to be convection or fan | | |
| **14** | Shall provide dedicated mobile cart for the ESU | | |
| **15** | ***Accessories for ESU ( End user will select Qty upon final P.O)*** | | |
| 16.1 | Reusable hand-piece for cutting and coagulation with cables | | |
| 16.2 | Reusable bipolar forceps with cable | | |
| 16.3 | Reusable laparoscope hand-piece with standard electrodes, forceps and cables | | |
| 16.4 | Set of reusable standard electrodes: blade, needle, ball, loop with sterilization container | | |
| 16.5 | Disposable hand-piece for cutting and coagulation | | |
| 16.6 | Disposable standard electrodes: blade, needle, ball, loop | | |
| 16.7 | Disposable split neutral electrodes | | |

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| 16.8 | Disposable ligation laparoscopic instrument | | |
| 16.9 | Reusable ligation forceps suitable for general open procedures | | |
| 16.10 | Reusable dispersive electrode cables (to connect from the ESU to the disposable split-patient pads) | | |
| 16.11 | Reusable cable for disposable hand-piece | | |
| 16.12 | Disposable split-patient pads to be selected by the end-user from the Manufacturer's product range without limitation. These are to be supplied during the course of the defects liability period. | | |
| **16** | All required accessories for the full functionality of the equipment shall be included in this offer | | |
| **17** | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*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 ( Supplier to provide relevant data sheets) | | |
| **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** | | |

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| | 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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **High End Surgical Diathermy Machine** | | |
| **Equipment Description** | | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Fully digital, microprocessor controlled and advanced Electro-Surgical Unit (ESU) with argon plasma to be used in operating theatres | | |
| 2 | The unit required to be used in operation theaters for open and laparoscopic surgical applications (general, endoscopy, plastic, pediatric, transurethral resection, under water) | | |
| 3 | Solid-state generator technology;Frequency range: 300-1000 kHz | | |
| 4 | Shall facilitate monopolar (2 outputs), bipolar (2 outputs) and argon enhanced coagulation and cutting applications | | |
| 5 | **Monopolar** features: | | |
| | 1. Number of outputs: 2 (isolated) | | |
| | 2 . Cutting (maximum power): 300 Watt (nominal) | | |
| | 3. Ten (10) levels user selectable blended cutting: 200 Watt (nominal) | | |
| | 4. Coagulation (maximum power): 120 Watt (nominal) | | |
| | 5. Spray coagulation: 120 Watt (nominal) | | |

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| | 6. Capability of automatic coagulation activation upon contact with tissue | | |
| 6 | **Bipolar** features: | | |
| | 1 Number of outputs: 2 (isolated) | | |
| | 2. Cutting (maximum power): 100 Watt (nominal) | | |
| | 3. Coagulation (maximum power): 100 Watt (nominal) | | |
| 7 | **Argon enhanced** ESU general features: | | |
| | 1. Shall fit ergonomically under the main ESU unit | | |
| | 2. Cutting and coagulation applications | | |
| | 3. Argon applications/settings shall be interfaced and controlled from the main ESU unit | | |
| | 4. Purging time: 3 seconds | | |
| 8 | **The Argon gas system features:** | | |
| | 1. Flow range: 0.1-10 L/min | | |
| | 2. Filter pore size: 0.2 µm (or better) | | |
| | 3. Tank capacity: 1200 L (Or better) | | |
| | 4. Low-pressure alarm | | |
| | 5. Two (2) cylinders (size E) | | |
| | 6. Working pressure: 2.5 to 4.5 bar | | |

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| | 7. Pressure reducer with hose and gas connection to BS standard | | |
| | 8. Over pressure monitoring | | |
| 9 | **Display features:** | | |
| | 1.LCD screen (Touch Screen Preferred) ; Supplier to specify the Screen Size | | |
| | 2.Comprehensive overview of monitored, set parameters, Programs and alarms | | |
| | 3.Simple interface with color coding and self-explanatory icons | | |
| | 4.Shall have self-test mode | | |
| 10 | **Warnings & Safety features** | | |
| | 1.System error | | |
| | 2.Power failure | | |
| | 3.Continuous self-testing system | | |
| | 4. Error documentation | | |
| | 5.Audio and visual alarming system | | |
| | 6.Continuous impedance and power loss monitoring of neutral electrode: | | |
| | 7.Warn the user in case of improper placement of neutral electrode or high leakage current | | |

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| | 8.Shall terminate activation of the unit in case of neutral electrode fault | | |
| | 9.Tone coded alerts for cutting, coagulation, error | | |
| | 10.Both visual & audiable indicators ; Audible with volume control > 45 dBA @ 1 meter | | |
| 11 | **Cart Mounted Mounted Configuration with the following features:** | | |
| | 1. Ergonomic design | | |
| | 2.Cord management | | |
| | 3.Antistatic swiveling casters (10cm) with brakes | | |
| | 4.Hold the ESU , Argon enhanced ESU module, 2 argon cylinders | | |
| | 5.Basket for accessories | | |
| | 6.Cylinder fastening straps | | |
| 12 | The cooling manner required to be convection or fan | | |
| 13 | The unit required to have splash proof footswitch to activate cutting, coagulation and Argon applications | | |
| 14 | The unit required to have continuous automatic power control according to tissue impedance variation (for all modes) that insure the lowest effective dose delivery (constant power) and consistent homeostasis effect | | |
| 15 | Shall have pre programmed modes along with user programmable modes<br>Supplier to specify the number of modes avaliavble | | |
| 16 | Shall have an Open platform for future upgrade | | |

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| 17 | Following **accessories** to be provided as part of base offer | | |
| | 1.Reusable hand-piece for cutting and coagulation, with cable (x2) | | |
| | 2.Reusable hand-piece for cutting, coagulation and argon coagulation and cutting, with cable | | |
| | 3.Reusable bipolar forceps, with cable (x2) | | |
| | 4.Set of reusable standard argon cutting and coagulation electrodes for open surgery | | |
| | 5.Reusable argon hand-piece for laparoscopic surgery with standard electrodes, with cable | | |
| | 6.Reusable laparoscopic hand-piece with standard electrodes and forceps, with cable | | |
| | 7.Set of reusable standard electrodes: blade, needle, ball, loop…etc with sterilizing container | | |
| | 8.Disposable hand pieces for cutting and coagulation (x50) | | |
| | 9.Disposable standard electrodes: blade, needle, ball, loop…etc (50 each) | | |
| | 10.Disposable split neutral electrodes (x50) | | |
| | 11.Cable for disposable neutral electrode | | |
| | 12.Cable for disposable hand-piece | | |
| 18 | **QUALITY STANDARDS** | | |
| A | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) However Supplier to specify all other quality Control standards followed by the proposed model* | | |

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| B | Should be FDA / CE approved product with Electrical safety conforms to standards for electrical safety IEC-60601-1 ( Supplier to provide relevant data sheets) | | |
| 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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| | TECHNICAL COMPLIANCE SHEET | | |
|---|---|---|---|
| **Item** | **Video laryngoscope** | | |
| **Equipment Description** | | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Light weight,portable Video laryengoscope system capable for visualising the airway for routine or during difficult intubations | | |
| 2 | Ergonomically designed hand held video laryengoscope to provide minimal lifting of soft tissue and impact on teeth during intubations | | |
| 3 | CMOS technology with Camera Resolution 640 x 480 VGA (or better) | | |
| 4 | Shall have USB interface for the data transfer to PC/ Laptop for recording | | |
| 5 | Shall have light source (White LED) with automatic white balance | | |
| 6 | Shall be water-resistant, IPX8 protection class | | |
| 7 | Shall be battery operated, with charging unit | | |
| 8 | Battery Backup of 60 min. with battery charge indications, , Supplier to Specify | | |
| 9 | Shall have full-colour,non-glare LCD / LED display | | |
| 10 | Display Screen Size 6.1 cm / 2.4" diagonal (Or better) , Supplier to Specify | | |
| 11 | Display Resolution 320 x 240 (QVGA) (Or better) , Supplier to Specify | | |
| 12 | Video Refresh Rate 30 frames per second (or better), Supplier to Specify | | |
| 13 | Video output capability is compatible with external monitor and recording devices | | |
| 14 | Full range of macintosh blade sizes capable to cover cases from infants to adults | | |

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| 15 | Supplier to specify the type of disinfection standards applicable | | |
| 16 | **QUALITY STANDARDS** | | |
| | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) However Supplier to specify all other quality Control standards followed by the proposed model* | | |
| | 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 | | |
| 17 | **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. | | |

| TECHNICAL COMPLIANCE SHEET | Date | |
|---|---|---|
| **Nueroendoscopy System** | **Qty** | **1** |
| **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| **FULL HD IMAGE/VIDEO RECORDING SYSTEM** | | |
| Shall be a system having user friendly work flow built in medical grade unit, light weight sleek and compact design and dedicated to Neurosurgery cranial work. | | |
| Shall be microprocessor based operation | | |
| Shall have membrane button or touch screen control ; supplier to specify. | | |
| Shall be capable to capture still images and video sequences. | | |
| Shall be capable to record still images and video in FULL HD at resolution of 1920x1080P (or better). | | |
| The unit shall be sealed and fluid resistant in design. | | |
| The system shall be automatically optimize all settings. The system shall be ready-to-use as soon as it is connected to the camera control unit. | | |
| The system shall be menu driven thus allowing the surgeon to program the camera head functions as per the surgical needs & requirement. | | |
| Shall be able to install and remove from the cart very easily | | |

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| Shall supports network storage on file servers. | | |
| Network protocol shall be TCP/IP | | |
| Shall be capable for USB support for storage on USB drives | | |
| Shall be capable to do customizable print –outs for the documented information | | |
| Shall have quick print function for fast print of images | | |
| Shall have USB Silicon keyboard with touchpad for smooth data entry. | | |
| Shall be capable for OR integration | | |
| Video signal inputs: DVI-I Dual link, HD-SDI, Composite, S-Video, RGB, YPbPr, Supplier to specify the inputs available in detail. | | |
| Video Out: DVI-I Dual link, Supplier to specify the output available in detail. | | |
| Video output resolution: 1920x1080, 1280x1021, 1280x720, 1024x768, 800x600,640x480. | | |
| Shall have internal hard drive: 320 GB (or better) | | |
| Shall have USB ports: USB 3.0 or higher (preferably 1 on front panel, 2 on rear panel) | | |
| Shall have network: RJ45/ connection as network drive | | |
| Shall have recording formats: Videos: H.264mp4 images: JPG, TIFF, BMP, Supplier to specify if any other fromats available. | | |
| Patient data: Saved as txt file and / or in EXIF format, Supplier to specify any other if any other formats available | | |

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| **XENON LIGHT SOURCE** | | |
| Lamp type- Xenon , 300 Watts: Supplier to specify | | |
| Color temperatures 6000K or better | | |
| Light Outlets - One ; Supplier to specify | | |
| Shall have automatic as well as manual light intensity adjustment. | | |
| Lamp life 500 hours (or better) | | |
| Shall have noise free operation | | |
| Light Weight : 4 Kg (or less) | | |
| Shall have Intuitive simple user interface with LCD touch screen standby mode. | | |
| **Digital Camera- Full HD 3 chip Camera** | | |
| High definition camera with integrated image processing module, resolution 1920X1080 (or better) with integrated ICM (Image Capture Module) | | |
| Shall be a truly digital HDTV endoscopic video camera. | | |
| Shall have progressive scan and the consistent use of 16: 9 formats for Input & Output to guarantee genuine HDTV | | |
| **Shall have the following Features:** | | |
| CCD sensing chip should optimize image quality & Digital Source Sampling for maximizing hi-fidelity image transmission | | |

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| Shall have Optical zoom to enhance the quality of image size & cross specialty standardization of the camera system, regardless of the telescope used. | | |
| Shall have the facility to use a single camera control unit for all camera heads (either single chip or three chips) thus minimizing preparation & maximizes inter specialty standardization | | |
| Shall be compatible with communication bus system for remote controlled operation of the various features of the camera along with other equipment. | | |
| Image sensor: 3X1/3” CCD-Chip. | | |
| Pixels: 1920 x 1080 or better. | | |
| AGC: Microprocessor controlled | | |
| Lens: integrated para focal zoom lens | | |
| Shall have two freely programmable head buttons for use with color system PAL/NTSC | | |
| Shall be autoclavable, gas sterilizable and plasma sterilizable. | | |
| **Monitor- High Definition Color medical grade flat Panel Monitor** | | |
| Monitor shall be color monitor compatible HDTV 26” Flat Screen TFT Monitor with color system PAL/NTSC. | | |
| Resolution 1920 x 1200 or better | | |
| Ratio 16:10 HD format or better | | |

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| Brightness :500 CD/M2 or better | | |
| Resolution over 1100 lines or better | | |
| 16 Million Display colors or better | | |
| Maximum viewing angle: 178 deg vertical | | |
| Contrast ratio: 1400: 1 (or better) | | |
| Video inputs : SDI, Composite, S-Video, RGB, DVI and VGA Inputs | | |
| The monitor shall support direct fiber Input | | |
| Video Output: DVI, SDI, S-Video,HD-SDI | | |
| Compact & Light weight design: Supplier to specify the dimension and weight | | |
| On Screen Menu for monitor setting | | |
| Anti Reflection coaled front glass | | |
| Easy to access control buttons on the front panel | | |
| Dustproof housing design | | |
| Low voltage Protection via external 24VDC Main power supply | | |
| Shall support Picture in Picture display (PIP),Mirror imaging | | |

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| Upto 5 different users profile can be stored | | |
| **Cart- High quality medical grade anti corrosive cart.** | | |
| The cart shall be high quality medical grade anti corrosive cart. | | |
| Maximum shelf load 20 kg per Shelf or better | | |
| Shall have extendible arm for Monitor Mount. | | |
| Total loading capacity of arm 20 kg or better. | | |
| Shall have isolation transformer along with the unit | | |
| Shall have high quality castor wheels with dual breaks. | | |
| Shall have Inbuilt electric switches channeled through isolation Transformer. | | |
| **Upgradeability** | | |
| Imaging system upgradable to 4k camera and 3D image output upgrading facility and with the single stacks which shall be complete with all accessories so as to connect 4K, 3D, FHD,Flexible scopes,process and display the signals in their native resolution will be preferred | | |
| **Required Specific Accessories** | | |
| Shall include Neuro Endoscopy Set for the Treatment of Obstructive Hydrocephalus, Marsupilization of the Archanoid cysts, Colloid Cyst, Ventricular Biopsy<br>- For both Adult & Pediatric | | |

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| All the other required accessories including Telescopes & Sheaths, Hand instruements, Monopolar, Bipolar & cords, Sterilization contatiners for the full functionality of the equipment shall be included in this offer | | |
| **QUALITY STANDARDS** | | |
| The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) However Supplier to specify all other quality Control standards followed by the proposed model* | | |
| Should be FDA / CE approved product with Electrical safety conforms to standards for electrical safety IEC-60601-1 ( Supplier to provide relevant data sheets) | | |
| **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. | | |
| **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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |

| Document | TECHNICAL COMPLIANCE SHEET | Date | |
|---|---|---|---|
| Item | Surgical High Speed Drill System | Qty | 1 |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| 1 | Electrically driven surgical high speed drill system used for Neuro & Spine Endoscopy surgical procedures | | |
| 2 | Surgical drive console shall accommodate drills operating in a speed range of up to 100000 rpm | | |
| 3 | Shall be equipped with built-in irrigation system with user adjustable irrigation levels | | |
| 4 | Electrically driven hand pieces shall be controlled via foot controls in addition to console | | |
| 5 | Surgical drive console shall accommodate minimum two electrically driven hand pieces simultaneously | | |
| 6 | Shall be capable to select hand piece running modes (High & Low ) and directions (Forward & Reverse) | | |
| 7 | Headpiece shall accept wide variety of micro blades, drills, burrs and saw | | |
| 8 | Shall provide constant speed with various types of headpiece loads | | |
| 9 | All headpieces supplied shall be autoclaveable | | |
| 10 | Shall display motor speed, irrigation flow rate, mode of operation & drill direction | | |
| 11 | User interface shall be LCD color touch screen | | |

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| 12 | Shall have both audible and visual alarm indications | | |
| 13 | The required hardware, software, adaptors and cables must be included in the base bid | | |
| 14 | Shall have smaller and lighter design for easy maneuvering and handling in the OT | | |
| 15 | Shall have low sound level,not above 85db close to the operating field. | | |
| 16 | Shall have easily visible markings to identify matching attachments and tools. | | |
| 17 | Shall have fast and safe tool less changing system for attachments and dissecting tips. | | |
| 18 | **Required Specific Accessories** | | |
| | Shall include all standard accessories (but not limited to) High-Speed Micro-Motor, max. speed 60,000 rpm along with connecting cable,Cleaning and Sterilization tray. Supplier to supply all the required cutting burrs,Shaver blades, drills for Neuro & Spine Endoscopy surgical procedures along with all required accessories | | |
| | Shall should provide the unit cost for the following items including Perforator Handpiece,Craniotome Handpiece including protector ,Spine Handpiece ,High-Speed Handpiece long angled ,High-Speed Handpiece short straight , High-Speed Handpiece medium angled | | |
| 19 | **QUALITY STANDARDS** | | |
| | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) However Supplier to specify all other quality Control standards followed by the proposed model* | | |
| | Should be FDA / CE approved product with Electrical safety conforms to standards for electrical safety IEC-60601-1 and General Requirements. ( Supplier to provide relevant data sheets) | | |

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| 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 | | |

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| **Description: MICROSCOPE,SURGICAL** | | **DATE** | |
| **Equipment Specification:** | | Qty | 1 |
| **Description:** Surgical microscopes used for magnifying minute structures during surgical procedures, when high magnification and adjustable focusing is required. Surgical microscope capable for multiple surgical specialties like ENT, Plastic & reconstructive, Spine, Vascular and other general surgeries. Surgical microscope shall be compatible with the surgical navigation system (Future) | | **Comply Yes/No** | **Remarks** |
| **Minimum required features:** | | | |
| 1 | Surgical microscopes shall be ergonomically designed for multiple surgical specialties (but not limited to) ENT, Plastic & reconstructive, Spine, Vascular, and other general surgeries | | |
| 2 | Floor stand, mobile configuration | | |
| 3 | Floor stands should use at least two lockable casters to ensure stability | | |
| 4 | Shall use high quality apochromatic optics | | |
| 5 | Shall have inclinable binocular tube (180° or better) | | |
| 6 | Shall include stereo assistant microscope with the required coupling device | | |
| 7 | Shall be capable for adjusting the inter pupillary distance in the range of 52-75 mm | | |
| 8 | Shall have eye piece diopter adjustment (range -5 D to +5 D) | | |
| 9 | Eye piece (with eye caps) power shall be ≥ 10x wide angle | | |
| 10 | Shall be equipped with automatic magnification; the total magnification range shall be 1.2 x-12.8 ,24x | | |
| 11 | Shall have continuous zoom (ratio 1:6 ) | | |
| 12 | Shall have FOV diameter: 15 -140 mm (or better) with 12.5x eyepiece | | |
| 13 | Shall have motorized focusing function with adjustable focusing speed | | |

| | | | |
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| 14 | There shall be manual methods for zoom and focusing functions in addition to the motorized facility | | |
| 15 | Working distance shall be in the range of 200-450 mm (or better) approximately | | |
| 16 | Microscope shall have lateral tilt range ± 45° (Or better) and inclination tilt -30° /+120° (Or better) | | |
| 17 | Shall be equipped with electromagnetic lock system activated via hand control with auto balancing function | | |
| 18 | Shall be equipped with control display to control the overall microscope functions (but not limited to) Illumination adjustment, define individual user preferences, Settings for foot and hand control, Zoom / Focus settings, video parameters, display & recording functions | | |
| 19 | Shall have multifunctional foot control, hand control | | |
| 20 | Foot control functions shall include (but not limited to) Zoom, Focus, X-Y, illumination ON/OFF, Snap shots | | |
| 21 | Shall have Xenon 300 W fiber optic Illumination with automatic emergency backup illumination of the same level as the primary illumination | | |
| 22 | Shall have automatic Iris control feature for limiting illumination level in FOV | | |
| 23 | Shall be equipped with filters (but not limited to); IR, UV | | |
| 24 | Shall be equipped with integrated 3CCD HD video camera (sony camera beem split 30:70) | | |
| 25 | Shall have digital video recording function with USB in MPEG4 format & still images shall be in JPEG format | | |
| 26 | Shall provide HD video output; compatible with surgical Integration system (Future) | | |
| 27 | Shall be capable for video signal routing to display on slave monitors in OR environment supplier to specify the Output standards | | |
| 28 | Motorized X-Y coupling system for precise movements in wide X-Y plane with automatic centering feature | | |

| | | | |
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| 29 | Shall be compatible with the surgical navigation system (Future) | | |
| 30 | Floor stand shall have an integrated flexible monitor arm should be fixed in trolley with 24 “full HD monitor/ sony bravia HD 32" | | |
| 32 | Shall be capable for future upgrades to accommodate additional accessories and devices | | |
| 33 | **Accessories** | | |
| | Supplier shall include all accessories (but not limited to) cables, hardware, software, sterile knobs, sterile drapes, dust cover, lenses, adaptors required for the full functionality | | |
| 34 | **Power** | | |
| | Unit shall operate on single phase 230 VAC±6 %, 50 Hz ±2%, Shall include long length power cable | | |
| 35 | **Assembly:** All facilities to be incorporated within the Unit are to be manufacturer assembled | | |

| | TECHNICAL COMPLIANCE SHEET | | |
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| **Item** | **LAPROSCOPY SYSTEM** | **Date** | |
| **Clause No.** | **Clause** | **Comply Yes/ No/NA** | **Remarks** |
| **A** | **VIDEO PROCESSING SYSTEM, LAPAROSCOPIC** | | |
| **1** | Video processing system for surgical (rigid) endoscopy system for minimal invasive procedures | | |
| **2** | Unit shall be compatible with full High Definition (1080P) 3 CCD camera | | |
| **3** | Unit shall have Pixel resolution 1920 x 1080p (or better) | | |
| **4** | Unit Shall have control features (But not limited to) Hue adjustments, Auto adjusting Illumination, Automatic white balancing , Automatic video gain control, Zoom Functions, Image sharpness enhancement features | | |
| **5** | Unit shall be equipped with signal outputs (But not limited to): RGB, Y/C, Composite, Digital (DVI, SDI, HD-SDI), Fiber optic | | |
| **6** | Unit shall be equipped with Image noise reduction feature with automatic shutter speed control (1/50 to 1/10,000s) (or better). Any advanced Image noise reduction feature available other than conventional shall be clearly explanined in the remarks column | | |
| **7** | Unit shall have customizable settings for various surgical procedures in addition to the automatic setting | | |
| **8** | Unit shall be equipped with a keyboard for patient data entry shall include (but not limited to) Patient name, Sex, Age / DOB, Patient ID, Physician name, Comments | | |

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| **9** | Unit shall be fully compatible for the proposed surgical integration system | | |
| **10** | Video processing system shall be interfaced to Color video printer / recording device, Light source & medical grade LCD displays. | | |
| **11** | Unit shall operate on Single phase 230 VAC±6 %, 50 Hz ±2% | | |
| **12** | The unit shall include all required hardware components, cables & accessories for full functionality. | | |
| **13** | Mounting to be furnished with a mobile laproscopy procedure cart. Mounting: Supplier shall ensure that the associated video processing system, the xenon endoscopic light source, the color video image printers, Insufflators and the video monitors (21” minimum size) can be suitably mounted to the shelves of a mobile laproscopy procedure cart. The Supplier to include one (1) mobile laproscopy procedure cart and submit datasheet accordingly as per the following minimum requirements: | | |
| | 13.1 Isolation transformer | | |
| | 13.2 Built-in video cable wraps. | | |
| | 13.3 Front mounted power switch for six (6) outlet power strip | | |
| | 13.4 LCD monitor arm with monitor fixing kit for the supplied LCD monitor | | |
| | 13.5 One drawer | | |
| | 13.6 Three (3) shelves | | |
| | 13.7 Two (2) of the four (4) casters to be with brakes. | | |

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| **14** | **<u>Image Archiving software</u>**<br>Shall be provided with a full featured PC / laptop based image archiving software with necessary licenses having digital documentation of patient cases. The patient data parameters are to be transferred accordingly to the digital recordings.Shall be capable for the preparation of procedure reports | | |
| **B** | **CAMERA HEAD, LAPAROSCOPIC** | | |
| 1 | High definition Camera head to be used with rigid scopes in laparoscopic surgeries. HD Camera head compatible with the Camera control units to provide high definition images, and each camera head to be provided with a suitable coupler to fasten to the supplied rigid telescopes | | |
| 2 | High Definition 3 CCD Camera Head with Pixel resolution 1920 x 1080p (Or better) | | |
| 3 | Autoclavable, protection against electrical shock | | |
| 4 | Camera Head cable Length shall be minimum 3.5 meters | | |
| 5 | Video output format shall be fully HD | | |
| 6 | Compatible with the High Definition Camera Control Unit | | |
| 7 | Camera head shall be light weight and capable for safe and secure handling | | |
| 8 | Resistant to all external electrical interferences | | |
| 8 | Camera head and coupler shall be compatible with major telescope brands available in the market | | |
| 9 | The couplers are to be autoclavable and HD compatible. | | |
| 10 | There shall be an anti-fog feature. | | |

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| 11 | Shall reproduce natural color even at limited light conditions | | |
| 12 | There shall be programmable buttons for assigning various functions (but not Limited to) Zoom, White balancing, Capture of Images, Print, Store….. | | |
| 13 | Shall have CF classification for highest patient safety | | |
| | **Accessories** | | |
| 14 | A tray suitable for sterilization shall be provided with each individual camera head. | | |
| 15 | All laparoscopy instruments/accessories supplied shall be suitable to work with the provided electrosurgical generators. | | |
| 16 | The list of telescopes avaiable with in the manufacturer's product portfolio shall be listed with unit prices in the financial bid.in conjunction with the supplied laparoscopic camera heads and couplers. The telescopes shall be autoclavable and interface accordingly to the cameras/couplers.Enduser will select the preferred models at the time of finalization of Supplier. | | |
| **C** | **LIGHT SOURCE, XENON , LAPAROSCOPIC** | | |
| 1 | Lamp type: Xenon (or better LED type ) | | |
| 2 | Power: 300W (or better). Supplier to stipulate the proposed lux output. | | |
| 3 | Backup lamp facility in the event of main lamp failed | | |
| 4 | Color temperature shall be in the range of 5700-6000 °K (or better) | | |
| 5 | Lamp life shall not be less than 500 hrs.;Supplier to specify the lamp life in Hrs | | |

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| 6 | Illumination level must be continuously adjustable | | |
| 7 | Unit shall be equipped with the manual & automatic light level adjustment | | |
| 8 | Unit shall have standby mode function | | |
| 9 | All controls on the front panel shall be clearly visible even at low light environments | | |
| 10 | Unit shall be with equipped with (but not limited to) failure lamp indication, auto/manual mode indication, lamp life indication, light output indication | | |
| 11 | Shall have one light output port with turret or universal clamp port type | | |
| 12 | Unit shall have mechanism to prevent the output of the light when the light cables are disconnected from the port | | |
| 13 | Unit shall be compatible with variety of light guides standards (but not limited to) ACMI, Olympus, Storz, Stryker, Wolf standards, and the all the compatible light adapters must be included. | | |
| 14 | Shall be equipped with an adequate cooling mechanism | | |
| 15 | **Accessories**<br>Along with laparoscopic light source, three (3) reusable autoclavable fiber optic cables are required to be supplied as part of the proposal. The fiber optic cables shall be compatible with the supplied camera heads/telescopes. | | |
| **D** | **MONITOR, VIDEO 24-26”** | | |
| 1 | Medical grade high definition LCD (or better) for laparoscopic and flexible endoscopic imaging | | |
| 2 | Shall be compatible with the high definition Video processing system | | |

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| 3 | Minimum screen size shall be: 24-26” | | |
| 4 | Resolution: 1920 x 1080 | | |
| 5 | Aspect ratio: 16:9 | | |
| 6 | Shall be equipped with video inputs ( but not limited to ) DVI, HD-SDI, S-Video, RGBS, BNC | | |
| 7 | Shall be equipped with video outputs (but not limited to) DVI, HD-SDI, S-Video, RGBS, BNC | | |
| 8 | Capable to display Multi images (Picture–in- Picture) | | |
| 9 | Shall have 10 bit signal processing standard | | |
| 10 | Display shall have anti-glare feature | | |
| 11 | Shall be capable for easy cleaning and fluid resistant | | |
| 12 | Shall be capable for customized settings for various users | | |
| 13 | Shall accepts multiple type of signals, analog, digital or SD and HD signals | | |
| 14 | Control panel functions shall be clearly visible and self-explanatory | | |
| 15 | There shall be keypad functions (but not limited to): Menu, Signal Source selection, Brightness & contrast adjustments, Chroma, Phase control, Color temperature adjustments, User memory | | |
| 16 | Monitor weight shall be ≤ 12 Kg | | |
| 17 | Monitor shall meet compliance related to EN / IEC / UL / CSA standards | | |

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| 18 | Monitor shall be located in mobile cart with relevant mounting stand / Base must be supplied | | |
| 19 | Unit shall be suitable to operate on 230V±6%, 50Hz AC single phase power supply | | |
| 20 | Supply of all standard accessories (Power cables, Data cables, Video cables, video / power adaptors) required for the full functionality shall be included in the base proposal | | |
| **E** | **SURGICAL IRRIGATOR** | | |
| 1 | The unit shall be durable, “whisper” quiet and be suitable for use in laparoscopic and arthroscopic surgical procedures | | |
| 2 | Capability for Continuous operation | | |
| 3 | Configuration : Shall be located on mobile cart / IV pole | | |
| 4 | Unit shall be fluid resistant construction to prevent damage as a result of fluid spillage | | |
| 5 | All controls and connections should be clearly labeled | | |
| 6 | Auto-priming of irrigation set. | | |
| 7 | Variable adjustment of irrigation flow in 0.1 LPM increments (or better). | | |
| 8 | Digital display of the target irrigation flow rate. | | |
| 9 | Occlusion and low-flow alarms. | | |
| 10 | Maximum irrigation flow rate: 2.0 LPM (or more) | | |
| 11 | Irrigation bottle: 1 L or better. One irrigation bottle to be supplied per surgical irrigator. | | |

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| 12 | **Accessories**<br>Irrigation sets – 50 nos. of disposable irrigation tubing/sets and sets for all surgical irrigators to be supplied | | |
| **F** | **INSUFFLATOR, Co2** | | |
| 1 | Electronic configuration, Co2 gas type | | |
| 2 | Insufflation pressure setting range: < 30 mmHg | | |
| 3 | Maximum pressure setting shall be in the range: 12-15 mmHg | | |
| 4 | Flow settings range: 0-30 LPM | | |
| 5 | Unit shall have over pressure protection feature | | |
| 6 | Unit shall be equipped with audible & visual alarms | | |
| 7 | A mechanism to set the pressure level for the over pressure protection, and the time delay shall be < 5 Seconds | | |
| 8 | Unit shall be equipped with electronic venting feature | | |
| 8 | Unit shall be equipped with gas warming feature prevents hypothermia, fogging of telescope lens | | |
| 9 | Numeric display/ Gauge for the peritoneal pressure level measurement | | |
| 10 | Shall have Gas flow indication | | |

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| 11 | Shall be used in conjunction with Centralized Co2 gas outlets as per hospital MGPS standard.However supplier shall provide high pressure tubing and cylinder yokes/regulators inorder to use with Co2 cylinders. (Yoke pin index type ). | | |
| 12 | Low pressure alarm for the empty cylinder | | |
| 13 | Hydrophobic Bacterial filters, autoclavable Insufflation tubing with luer attachment must be included | | |
| 14 | One Co2 cylinder holder shall be provided with a proper fixation to the laproscopic mobile cart | | |
| **G** | **QUALITY STANDARDS** | | |
| | The unit shall meet the internationally recognized quality control systems and safety standards for Healthcare *systems ; CE Certification mandatory;*<br>*1) Standards related to Patient Safety and EMC shall be followed.Supplier to specify*<br>*2) However Supplier to specify all other quality Control standards followed by the proposed model* | | |
| | Should be FDA / CE approved product with Electrical safety conforms to standards for electrical safety IEC-60601-1 ( Supplier to provide relevant data sheets) | | |
| **H** | **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. | | |
| **I** | **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.<br>The electrical requirement & Power Consumption for the offered system shall be clearly stated | | |